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The Efficacy and Safety of Complementary and Alternative Medicine for depression: An Umbrella Review

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ADMINISTRATIVE INFORMATION

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 February 2024 and was last updated on 01 February 2024.

INTRODUCTION

Review question / Objective We aimed to perform an umbrella review to evaluate the efficacy and safety of complementary and alternative medicine (CAM) for depression.

Condition being studied Depression is one of the common mental illnesses that can seriously affect a patient's physical health, mental health and quality of life, and even jeopardize life. The most common treatments for depression are medication and psychotherapy, but both of these treatment strategies suffer from price per regulation, significant side effects, and low compliance. With the increasing mainstreaming of CAM, there have been many studies evaluating the safety and efficacy of CAM, but the clinical data are largely inconsistent. Therefore, it is necessary to summarize and analyze the information from published clinical studies in this field.

METHODS

Participant or population Two independent investigators search for meta-analyses and systematic reviews on PubMed, EMBASE, the Cochrane Library and Web of Science to address this issue. Disagreements, if any, were resolved by consensus with the third investigator. We examined effective rate/respond rate of CAM and depression assessment scales to assess efficacy, and the incidence of adverse events to assess safety.

Intervention Twenty-two eligible papers were included in the umbrella review, including S-adenosyl methionine, Couples therapy, Mindfulness yoga, Homeopathic Remedies, Omega-3 fatty acids, Exercise, Manual acupuncture, Electro-acupuncture, Shuganjieyu capsule, Dance movement therapy, Saffron (Crocus sativus L.), Chai Hu Shu Gan San, Hypericum mono-preparations, Probiotics, Yueju antidepressant, Curcumin, Relaxation, Vitamin D, Wendan Decoction, Guipi Decoction, Adjunctive zinc, Adjunctive folic, Music therapy,Inositol.

Comparator Antidepressants, placebo, usual treatment, or no treatment.

Study designs to be included Inclusion criteria were:1) articles written in English; 2) published systematic reviews or meta-analyses; 3) articles included any evaluation of clinical assessment scales for depression or of adverse effects and response rates; and 4) articles published in peer-reviewed journals. Studies were excluded if 1) there were no published studies; 2) lack of necessary sample data; 3) patients were diagnosed with other mental disorders; and 4) the study reported insufficient details and other outcomes.

Eligibility criteria The depression we studied was major depression/clinical depression, not prenatal depression, postpartum depression or post-stroke depression, etc.

Information sources PubMed, EMBASE, Web of science, the Cochrane Library and references to existing articles.

Main outcome(s) 1) Effective rate/respond rate of CATs; 2) Depression assessment scales included Hamilton Depression Scale (HAMD), Self-rating Depression Scale (SDS), Beck Depression Rating Scale (BDI), etc; 3) Incidence of adverse events.

Quality assessment / Risk of bias analysis We selected the AMSTAR2 tool to evaluate the quality of articles in systematic reviews and meta-analyses. The AMSTAR-2 quality assessment tool has 16 items, of which 7 are critical items including 1) protocol registered before commencement of the review (item 2); 2) adequacy of the literature search (item 4); 3) justification for excluding individual studies (item 7); 4) risk of bias from individual studies being included in the review (item 9); 5) appropriation of meta-analytical methods (item 11); 6) consideration of risk of bias when interpreting the results of the review (item 13); and 7) assessment of presence and likely impact of publication bias (item 15). The quality was rated as high (no or one non-critical weakness), moderate (more than one non-critical weakness), low (one critical flaw with or without non-critical weaknesses) and critically low (more than one critical flaw with or without non-critical weaknesses).

Strategy of data synthesis We searched for related articles using keywords and filtering titles, and two investigators screened the literature independently. Articles were downloaded and the abstracts screened using inclusion criteria, deleting any irrelevant or repetitive articles. Disagreements, if any, were resolved by consensus with the third investigator. Thereafter, we manually searched the reference lists of the chosen studies for any other relevant studies not found in our initial search. Finally, a full-text search was performed to extract and then analyze the data from articles.

Subgroup analysis Three investigators independently selected trials that met the inclusion criteria. The main characteristics of the selected study were extracted in a table including the year of publication, number of studies, number of patients, and regimens for the treatment. We included results with at least one of the following outcomes:1) effective rate/respond rate of CATs; 2) depression assessment scales included Hamilton Depression Scale (HAMD), Self-rating Depression Scale (SDS), Beck Depression Rating Scale (BDI), etc; 3) incidence of adverse events. In addition, we also extracted the number of studies, the number of patients, mean difference (MD), relative risk (RR), 95% confidence interval (CI), and heterogeneity (I2) from the meta-analysis.

Sensitivity analysis The response of depressed patients to CATs was evaluated according to the effective rate. The improvement of depressive symptoms by CATs was evaluated according to the Depression Rating Scale score. And the incidence of adverse events reflected the safety of CATs. A percentage of 0%-25% was classified as mild, 26%-50% was classified as moderate, and 51%-75% was classified as significant between-study heterogeneity. If I2 > 50%, a random-effects model was used for the analysis, or the data was analyzed on a fixed-effects model.

Language restriction English.

Country(ies) involved China.

Keywords depression, complementary and alternative medicine, clinical trial, systematic review, umbrella review.

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