INPLASY PROTOCOL

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None declared.

Online Mindfulness-based Interventions for Improving People's Mental Health during the COVID-19 pandemic: A Meta-analysis of Randomized Controlled Trials

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Review question / Objective: **Participants had to be aged 18 years or older.Both clinical (e.g., individuals with chronic pain or psychosis) and non-clinical (e.g., university students, healthy controls) populations were eligible.Participants had to be randomised to either a treatment condition or a control condition.Treatment conditions had to involve online mindfulness-based interventions,Both active and non-active control conditions that did not involve any online mindfulness-based interventions techniques were the control group.The results of this study will report the quality assessment, publication bias, and effect size of stress, anxiety, and depression.Subgroup analysis reported the results of region and sample type, and meta-regression analysis reported average age, gender (proportion of women) and dose (training length).**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 March 2023 and was last updated on 26 March 2023 (registration number INPLASY202330103).

INTRODUCTION

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size of stress, anxiety, and depression. Subgroup analysis reported the results of region and sample type, and meta-regression analysis reported average age, gender (proportion of women) and dose (training length).

Condition being studied: To conduct a systematic review of the literature that can be found in the database up until March 2023. Published articles were selected from the major database including Google Scholar, PubMed, PsycINFO, and Web of Science. Keywords used include "mindfulness," "online," "intervention," "mental health," "RCT," and "COVID-19." In the full-text browsing phase of study selection, two coders respectively evaluated the inclusion of articles and the first author determined the final inclusion of articles. Data extraction was encoded independently by two coders according to coding rules. For quality assessment, we used bias risk assessment tools recommended by the Cochrane Collaboration. The analysis made use of the random effects model, Hedge's as the effect size, and CMA3.3 for the evaluation of publication bias and the moderating effect analysis.

METHODS

Participant or population: Participants had to be aged 18 years or older.Both clinical (e.g., individuals with chronic pain or psychosis) and non-clinical (e.g., university students, healthy controls) populations were eligible.

Intervention: Online mindfulness-based interventions.

Comparator: No online mindfulness-based intervention technology.

Study designs to be included: Randomized Controlled Trials.

Eligibility criteria: The study must include at least one scale measuring anxiety, depression and stress.

Information sources: Published articles were selected from the major database including Google Scholar, PubMed, PsycINFO, and Web of Science.

Main outcome(s): Our research revealed that the effects of 34 randomized controlled trials on stress (effect size =18; Sample size =3140), anxiety (effect size =29; Sample size =3581), and depression (effect size =19; Sample size =2520) were all statistically significant. The online mindfulness-based psychological intervention proved successful and had a medium to large effect on stress, anxiety, and depression during the epidemic (Hedge's = 0.278, 0.459, and 0.458, respectively). The findings of the heterogeneity study demonstrated that our analysis is appropriate for the random effects model. The results of the subgroup analysis in the moderating analysis showed that the participant's region moderated the effects of the interventions for anxiety and depression. The results of stress-related interventions varied depending on the sample type. In the meta-regression study, gender only affected how depression-related interventions turned out. The effects of therapies for stress, anxiety, and depression didn't seem to be mediated by dose or age.

Quality assessment / Risk of bias analysis: The Cochrane Collaboration recommends the use of bias risk assessment tools.Cochrane Tools.

Strategy of data synthesis: We choose CMA3.3 software for data analysis and use Hedges 's as our effect size.When Q is significant and I2 ≥ 75 %, it shows that there is non-negligible heterogeneity between studies, and it is more reasonable to choose a random effect model.The Knapp-Hartung method was used to test our moderating variables in the meta-regression analysis.

Subgroup analysis: In the region where the sample is located, the sample source is used as a moderating variable for subgroup analysis.

Sensitivity analysis: CMA software was used for sensitivity analysis, and the sensitivity of the article was reflected by deleting the change of the effect size after one of the articles.

Country(ies) involved: China.

Keywords: Mindfulness-based online intervention; stress; anxiety; depression; COVID-19.

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