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Comparative the effectiveness of body-mind practices and various psychological therapies on occupational stress among healthcare workers: A network meta-analysis of randomized controlled trials

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ADMINISTRATIVE INFORMATION

Support - The Project of Science and Technology of Shaanxi Provincial(No. 2023-YBSF-616).

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 September 2023 and was last updated on 12 September 2023.

INTRODUCTION

Review question / Objective 1) Are mind-body practices more effective than psychological interventions for stress reduction in healthcare workers? 2) Are there are specific mind-body practices or psychological interventions that are more effective than others for stress reduction in healthcare workers?

Condition being studied The majority of healthcare workers experienced moderate to severe occupational stress, which correlated with a great high risk of mental disorders and physical disease. Various psychological therapies have been recommended to relieve the work-related stress of medical workers. Currently, mind-body practices integrating physical exercise with mind-based practice has been proved to be a strategy to relieve the level of stress of medical staffs in recent

years. However, there was few studies to compared the efficacy of mind-body practices and psychological interventions. Besides, it can be unclear which specific intervention was the best for stress reduction of healthcare workers.

METHODS

Participant or population Participants in these studies were healthcare workers, including doctors, nurses, and other professions engaged in medical work. Studies in medical college students were excluded.

Intervention 1) Psychological intervention included mindfulness related training, such as mindfulness-based interventions (MBIs), mindfulness-based stress reduction (MBSR), modified MBSR, mindfulness awareness, and mindfulness combined other strategies, and cognitive behavior

therapy (CBT), psychoeducation therapy (PT) and other psychological methods. 2) Mind-body practices include yoga, meditation, body stretch, biofeedback training, Qigong and Taiji. Besides, there were some studies combined two or three psychological methods, which were classified as comprehensive therapy (CT).

Comparator We compared all kinds of interventions with control group or themselves. In general, the control group was usual care, such as have a rest, entertainment activities, no intervention, and regular health educations, etc. Usual care and waiting list are control group.

Study designs to be included The trials included in this study were required to be RCTs and full-text papers. There was to be no limitation on publication time, but the language of trials was only for English and Chinese. Protocols without relevant data and results were excluded. Randomized controlled trials (RCTs) will be included.

Eligibility criteria None.

Information sources We will search articles in six electronic database including PubMed, EMBASE, Cochrane Library, PsycINFO, Chinese National Knowledge Infrastructure (CNKI) and web of science. All the publications will be searched without any restriction of countries or article type from inception to September 20, 2023. We will use Boolean search strategy with the operators AND, OR, NOT, and the search strategy will include terms describing or relating to intervention, participants, and study design. Reference list of all selected articles will independently screen to identify additional studies left out in the initial search.

Main outcome(s) Studies using Perceived Stress Scale (PSS) as a primary or secondary outcome and containing extractable data to evaluate stress were included. Other scales for assessment stress levels also be considered, such as PSS-10, PSS-14, DASS-21 (Depression, Anxiety, and Stress Scale), BJSQ (Brief Job Stress Questionnaire), OSI (Occupational Stress Indicator), PSQ (Perceived Stress Questionnaire) and the like.

Quality assessment / Risk of bias analysis Study quality in terms of sequence generation, allocation concealment, blinding, the completeness of outcome data, selective reporting and other biases will be assessed with the Cochrane Collaboration risk of bias tool. The quality assessment of the studies will be done independently by two

reviewers (Yinjuan Zhang and Chao Wu). The discrepancies that happen to arise from this process will be solved by consensus for careful analysis of the studies. Publication bias was examined with the funnel plot method.

Strategy of data synthesis We will estimate the summary the standardized mean difference of continuous outcomes (SMD, 95%CI) and odds ratio (OR) of dichotomous outcomes. The binomial likelihood is used for dichotomous outcomes and the normal likelihood for continuous outcomes. We will draw a bias risk assessment map for all the trials by R software. STATA16.0 is used for network meta-analysis. The node cutting method will be adopted for direct and indirect comparison of various interventions. If there is no significant difference ($P > 0.05$), it indicates that the results of direct and indirect comparison are consistent. The consistency model is used for the following analysis, otherwise the inconsistency model is used instead. As an index for predicting probability by ranking the targeted intervention, the surface under the cumulative ranking curve (SUCRA) is represented as a simple numerical summary statistics cumulative ranking probability map for each approach. We will also compare the adjusted funnel plot to assess the risk of publication bias under specific circumstances.

Subgroup analysis None.

Sensitivity analysis This study will use the elimination method for analysis for sensitivity analysis. Removing one literature in sequence, and integrating the remaining ones through meta-analysis. We will evaluate whether the original meta-analysis results have undergone significant changes due to the influence of certain studies.

Country(ies) involved China.

Keywords healthcare workers; network meta-analysis; stress.

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