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Effects of Mind-Body Exercise on Intermediate Disease Markers in Overweight or Obese People: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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ADMINISTRATIVE INFORMATION

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

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 04 July 2023 and was last updated on 04 July 2023.

INTRODUCTION

Review question / Objective (P) Population: 25 kg/m2 ≤ BMI < 30 kg/m2 for overweight, BMI ≥ 30 kg/m2 for obese, diagnosed as overweight and obese according to WHO standards; (I) Intervention: Various mind-body therapy interventions, including Pilates, Yoga, Baduanjin, Taiji, and Qigong; (C) Comparator: control group with only daily exercise or blank control; (O) Outcomes: The Body Mass Index, Low-Density Lipoprotein, Hemoglobin A1C, Systolic Blood Pressure, Diastolic Blood Pressure, Fasting Blood Glucose, Fat Mass, Triglyceride, Waist Circumference of the study population were used as the outcome indicators for this study; (S) Study type: RCTs.

Condition being studied Disease Markers in Overweight or Obese People.

METHODS

Participant or population P) Population: 25 kg/m2 ≤ BMI < 30 kg/m2 for overweight, BMI ≥ 30 kg/m2 for obese, diagnosed as overweight and obese according to WHO standards.

Intervention Various mind-body therapy interventions, including Pilates, Yoga, Baduanjin, Taiji, and Qigong.

Comparator Control group with only daily exercise or blank control.

Study designs to be included RCT.

Eligibility criteria overweight and obese according to WHO standards.

Information sources Cochrane Library, PubMed, Web of Science, andEmbase.

Main outcome(s) Body Mass Index (BMI), Low-Density Lipoprotein (LDL), Hemoglobin A1C (HbA1C), Systolic Blood Pressure(SBP), Diastolic Blood Pressure(DBP), Fasting Blood Glucose (FG), Fat Mass (FM), Triglyceride (TG), Waist Circumference (WC).

Quality assessment / Risk of bias analysis Cochrance tool.

Strategy of data synthesis Stata15.1 and Review Manager 5.4 software were used for data processing.Meta-analysis results were presented using forest plots, through which the heterogeneity of the pooled results, effect sizes, and statistical results were reflected; potential publication bias was assessed in combination with inverted funnel plots; The heterogeneity of the included studies was assessed by p-values and I2 statistics in the forest plot, with small heterogeneity for $I2 < 25\%$, moderate heterogeneity for $25 \leq I2 \leq 75\%$, and high heterogeneity for $I2 > 75\%$. I2 judged the size of heterogeneity, and when $p > 0.1$, $I2 < 50\%$, there was no statistical heterogeneity, and Meta-analysis was performed using a fixed-effects model; when $p \leq 0.1$, $I2 \geq 50\%$, it suggested the existence of statistical heterogeneity between studies, and Meta-analysis was performed using a random-effects model.

Subgroup analysis No subgroup studies were conducted.

Sensitivity analysis For the included publications, a case-by-case exclusion technique was applied to evaluate the stability and reliability of the pooled results and prevent heterogeneity between studies brought about by a single study. The combined results were compared with those before the exclusion, and there was no significant change, indicating low sensitivity.

Country(ies) involved China.

Keywords mind-body exercise; overweight and obesity; intermediate disease markers; a systematic review; meta-analysis.

Contributions of each author
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Author 3 - Chen Long.
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