INPLASY

Effectiveness of exercise interventions to improve sleep quality in children with autism spectrum disorders: a systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023110095

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 November 2023 and was last updated on 23 November 2023.

INTRODUCTION

Review question / Objective To systematically evaluate the effectiveness of exercise intervention in improving sleep quality in children with autism spectrum disorder.

Condition being studied Autism Spectrum Disorder usually begins in early childhood and is a lifelong neurological disorder. The core symptoms mainly showed the decline of executive function, sleep quality and physical health. At present, the cause of autism is not clear, can not be completely cured, how to effectively improve and improve the quality of sleep has become the focus of research on ASD.

METHODS

Participant or population The subjects included in this study must be children with ASD diagnosed by authoritative institutions, aged from 3-12years old, with the same characteristics before and after the experiment, with no restrictions on nationality, gender, and race.

Intervention The interventions were exercise therapy, including aerobic, anaerobic, organized exercise and other physical exercises.

Comparator The control group received routine rehabilitation treatment.

Study designs to be included Randomized controlled trial (RCT) or controlled trial.

Eligibility criteria P:The patients from special education school or diagnosis criteria for DSM-IV.I:Exercise intervention was performed in the experimental group, and there were no specific requirements for intervention measures except for low exercise intensity requirements.C:The control group received only the usual treatment.O:Sleep efficiency,Wake after sleep onset,Sleep duration,Sleep onset latency.S:Randomized controlled trial (RCT) or controlled trial.

Information sources Cochrane Library, PubMed, EBSCO, Science Direct, CNKI, ScienceNet.

Main outcome(s) Sleep efficiency:Actigraphy asessment and Sleep log ;Wake after sleep onset:Actigraphy asessment and Sleep log;Sleep duration:Actigraphy asessment and Sleep log and CSHQ; Sleep onset latency: Sleep log.

Quality assessment / Risk of bias analysis Cochrane 5.1 Handbook.

Strategy of data synthesis Data analysis using Review Manager 5.4 software. The square of I statistic was used to test for heterogeneity among studies, and when the square of I $\leq$ 50%, it indicated no heterogeneity among similar studies, and meta-analysis was performed using a fixed effects model; when the square of I > 50%, it indicated the existence of heterogeneity among studies.

Subgroup analysis Age of subject (3$\leq$6$\leq$12 years old);One intervention time: (30$\leq$45$\leq$60 minutes); Type of sport: (Aerobic exercise or no aerobic exercise).

Sensitivity analysis The heterogeneity sources of the articles were explored, and the sensitivity analysis of the included studies was conducted. Stata software was used to remove the included studies one by one, and the effect size of the remaining studies was pooled to check the impact of the results.

Country(ies) involved China.

Keywords physical activity interventions; children with ASD;Sleep quality;meta-analysis.

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