International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

The positive effects of natural education activities on children: systematic review and meta-analysis

INPLASY202450118

doi: 10.37766/inplasy2024.5.0118

Received: 25 May 2024

Published: 25 May 2024

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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: INPLASY202450118

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 May 2024 and was last updated on 25 May 2024.

INTRODUCTION

Review question / Objective What are the health benefits of nature education activities for children? Which health benefits are more significant? What are the differences between different types of nature education activities?

Condition being studied Nature education is a thematic education process based on natural environment, relying on natural resources and providing facilities and personnel services to guide the public to get close to nature, recognize nature and protect nature. Nature education is an education to understand and experience nature in nature and to advocate the harmonious coexistence between man and nature. Nature education is an effective way for people to know, understand and understand nature, and an effective way to promote the whole society to form values and behaviors that respect nature, conform to nature and protect nature.

The PICOS format is used to clearly define the inclusion and exclusion criteria for the selection of studies. Inclusion criteria applied in the selection process are (1) population:children(aged below 14 years old);(2) Intervention: All types of nature education activities(3) comparison: comparison: interventions that are compared with either “placebo” therapy, no treatment, waitlist control or standard care control; (4) outcome measurement:any health-related outcomes such as emotional intelligence, creativity, stress, natural friendliness(5) Study type: only RCTs and CCTs will be included.

METHODS

Participant or population The United Nations Convention on the Rights of the Child defines a child as anyone under the age of 18. According to the Interpretation of the Supreme People's Court on Several Issues concerning the Specific Application of Law in the Trial of Criminal Cases Involving the Abduction of Women and Children, children refer to persons under 14 years of age.

According to the Medium - and long-term Youth Development Plan (2016-2025), the age range of young people is 14-35 years old. Similarly, in the "Statistical consultation" on the official website of the National Bureau of Statistics of China, you can get relevant answers, "The bureau generally divides the age into three stages in demography, 0-14 years old for the juvenile population, 15-64 years old for the working-age population, and over 65 years old for the elderly population." That is to say, 14 years old is a dividing line in our country. Under the law of China, criminal responsibility is not assumed under the age of 14, which means that the mental development of citizens before the age of 14 is generally not mature.Children are therefore defined as all persons under the age of 14.

Intervention Nature education: With natural environment as the background, relying on natural resources, through the provision of facilities and personnel services to guide the public to get close to nature, recognize nature, and protect nature.
According to the main contents of nature education, it is classified into three parts: (1) cognitive learning content, including ecological space, production space and living space; (2) Content of ability improvement: including three parts: nature observation, nature experience, and nature creation; (3) Behavior guidance content: including green life and green development.

Comparator Interventions that are compared with either “placebo” therapy, no treatment, waitlist control or standard care control.

Study designs to be included All relevant controlled trials in either experimental or quasi-experimental design, including RCTs and CCTs will be considered for inclusion.

Eligibility criteria (1)children with autism spectrum disorder (aged below 14 years old); (2)RCTs and CCTs ; (3) All types of nature education activities)；(4) Outcomes related to positive effects in children (i.e., social functioning, behavioral functioning, emotional functioning, resilience to stress, environmental attitudes.

Information sources CNKI、CPVIP、WF、JST、EBSCO、Web of Science、PUBMED、Cocraine.

Main outcome(s) All health-related outcomes of Children will be included.

Quality assessment / Risk of bias analysis The risk of bias of all eligible trails will be assessed by two independent reviewers in following items (1) random sequence generation; (2) allocation concealment; blinding of participants and personnel; (4) blinding of outcome assessment; (5) completeness of outcome data; (6) selective reporting; and (7) other sources of bias, using the revised version of the Cochrane’s Risk of Bias Tool. Discussion with the third reviewer will be suggested if disagreement is indicated.

Strategy of data synthesis If appropriate, a meta-analyses utilizing risk ratio for dichotomous outcomes aln the software, the literature was removed one by one.nd SMD for continuous outcomes will be conducted suing RevMan Web. A fixed effect model will be used initially for all analyses. If a common effect size is not tenable due to a substantial amount of heterogeneity, a random effects model will be adopted followed by fixed-effect analyses to examine where random-effects analyses will have altered the results by conducting sensitivity analyses. The inverse variance method will be use in all analyses of continuous outcomes. The Mantel-Haenszel method will be used in fixed-effect meta-analyses of dichotomous outcomes.

Subgroup analysis The impact of participants' age, intensity of therapy, and treatment quality will be examined if substantial heterogeneity is indicated ($I^2 \geq 50\%$).

Sensitivity analysis In the software, the literature was removed one by one.

Country(ies) involved China.

Keywords Nature education; Children; Positive effects; Meta-analysis.

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