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ADMINISTRATIVE INFORMATION**Support** - Philosophy and Social Science.**Review Stage at time of this submission** - Formal screening of search results against eligibility criteria.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202520049**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 9 February 2025 and was last updated on 9 February 2025.**INTRODUCTION**

Review question / Objective The purpose of this review is to (1) provide readers with insights on the promotion of health among children and adolescents in various regions and school Settings in China; and (2) propose physical activity strategies for children and adolescents at different levels of schooling, such as primary, junior high and senior high school, as well as for different health conditions, and to provide schools and other entities involved in physical activity with specific, operational and targeted physical activity promotion program, by reviewing current studies on prevention, intervention, and health promotion in children and adolescents in China, such as peer-reviewed literature on physical activity for health, and used MTSS for literature analysis.

Background Physical inactivity among children and adolescents probably contributes to key global health problems, including physical health

and mental health disorders, and is currently a hot topic in society[]. WHO statistics show that 80% of adolescents worldwide are physically inactive, particularly during and after the COVID-19 pandemic[]. However, evidence suggests that children's and adolescents' Physical inactivity will lead to broader negative consequences, such as a higher risk of developing non-communicable diseases like type 2 diabetes, high blood pressure, overweight or obesity, and mental disorders like depression and anxiety. More importantly, adolescence is generally considered a healthy period in a person's life, issues that begin in childhood can persist into adulthood, leading to strained social relationships and elevated mortality rates later.

Rationale "China Youth Sports and the Integration of Sports and Education Public Policy Research Center" is a team of policy consulting experts under the General Administration of Sport of China, with the following specific research

conditions: (1) Conducting research with distinctive features, paying long-term attention to major theoretical and practical issues of overall, strategic and forward-looking nature in the field of sport, with outstanding strengths and distinctive research areas, and being able to play a stronger function of decision-making and consulting services in the field of such research.(2) Have sustained and stable funding sources, independent office space, necessary facilities and equipment, etc., and have good conditions for conducting think tank research. It has chief experts with greater influence and visibility at home and abroad and a more stable research team. (3) The management mechanism is scientific and reasonable, and the rules and regulations on research, fund management, evaluation of achievements, rewards and incentives are sound.To further investigate the current prevention, intervention and promotion programs, we conducted a scoping review, searching six databases (three in English and three in Chinese) up to Jan 2025. A total of 43 eligible studies were included. Our findings highlight several gaps in current practices, such as regional disparities in the physical activity for adolescent physical health programs, insufficient focus on younger children and developmental issues, limited comprehensive pathways from screening to classification, prevention, intervention, and promotion.

METHODS

Strategy of data synthesis Search terms were organized around three primary concepts: physical activity, adolescent health, and promotion/intervention programs, linked by the Boolean operator "AND." Within each of these concepts, general terms such as "physical activity," "adolescent health," "promotion, intervention, program, therapy," and "China" were used, along with common phrases including "physical fitness, mental health, obesity, cardiovascular health, academic performance," "promotion, intervention, exercise, program, service, training," and their synonyms. These terms were combined in various ways to identify relevant literature across multiple databases (for further details, see Supplementary).

Eligibility criteria Studies were eligible for inclusion if they met the following criteria: 1) The research was conducted exclusively with adolescents in Mainland China; 2) The focus of the study was on school- or community-based physical activity promotion or intervention programs targeting adolescent health issues, including mental health, physical fitness, obesity prevention, cardiovascular health, and academic

performance, with these as primary or secondary outcomes; 3) Only empirical studies published in peer-reviewed journals were considered, including randomized controlled trials, case-control studies, cohort studies, case series, and case reports; 4) Studies were published between January 1, 2000, and January 31, 2025; 5) Articles were published in English or Chinese, with Chinese-language articles only considered if published in high-quality journals (i.e., Chinese Core Journals).

Source of evidence screening and selection

Study inclusion and exclusion were independently assessed by two reviewers, with a third reviewer resolving any disagreements (ML, LP, DL). Two reviewers independently searched the target databases according to the search strategy and performed a two-step screening process on the retrieved papers and literature (LP, DL). The first step involved screening titles and abstracts based on the inclusion and exclusion criteria, while the second step involved full text screening of studies that met the research objectives. Any discrepancies or inconsistencies identified during the screening process were resolved in a joint meeting with the third reviewer to determine the cause and reach a consensus (ML, DL).

Data management The collected data encompass bibliographic details (e.g., author name, publication year, and language), study design characteristics (e.g., population, selection or indication-based screening strategies, study type, and sample size), and intervention specifics (e.g., treatment approach, intervention provider, follow-up duration, and outcome measures). Data are presented in tabular format and analyzed narratively in relation to the review objectives. Studies included in this review are cited accordingly and listed in the supplementary materials, denoted by "s."

Reporting results / Analysis of the evidence Two independent reviewers (LP, DL) assessed the intervention quality of eligible studies using standardized critical appraisal instruments. For RCT studies, the RoB 2 tool was used to identify sources of bias related to the randomization process, deviations from assigned interventions, missing data, outcome measurement, and the selection of reported results. For single-arm cohort studies, the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Case Series was applied to evaluate the risk of bias. For quasi-experimental studies, the JBI Critical Appraisal Checklist for Quasi Experimental Studies was used to assess the risk of bias. Any disagreements that arose between the reviewers were resolved through

discussion or with the assistance of a third reviewer (NK). All previous sections were cross-checked by an independent researcher (ML).

Presentation of the results 1.Spatiotemporal distribution and timeline of included publications: Between January 2000 and January 2025, a total of 45 publications were conducted across 20 provinces in Mainland China. Among the publications with specific geographic information, most originated from institutions in the more developed eastern and south western provinces of Mainland China. The top eight locations were Shanghai (N =10), Hongkong (N = 10), Beijing (N =8), Guangdong (N = 6), Shandong (N=6), Chongqing (N=4), Hunan(N=3) and Jiangsu(N=3). As shown in Fig. 2, the number of published studies has sharply increased over the years.

Language restriction No limitations to language.

Country(ies) involved China.

Keywords Implementing; Review; Prevention and intervention program; promotion program; physical activity; Youth.

Contributions of each author

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