

# INPLASY PROTOCOL

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**Support:** None.

**Review Stage at time of this submission:** Piloting of the study selection process.

**Conflicts of interest:**  
None declared.

## How many Chinese children and adolescents meet the 24-hour movement guidelines? A meta-analysis

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**Review question / Objective:** How many Chinese children and adolescents meet the 24-hour movement guidelines?

**Condition being studied:** Inclusion criteria for identified studies were consistent with the following criteria: 1) population: Chinese healthy preschoolers, children, and adolescents aged 3 to 18 years; 2) study design: observational study; 3) outcome: meeting the overall 24-Hour Movement Guidelines.

**Information sources:** Electronic databases including the MEDLINE, Ebsco Host, Web of Science, Elsevier, CNKI and personal library were used.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 February 2023 and was last updated on 04 February 2023 (registration number INPLASY202320020).

### INTRODUCTION

**Review question / Objective:** How many Chinese children and adolescents meet the 24-hour movement guidelines?

**Condition being studied:** Not applicable.

### METHODS

**Participant or population:** General Chinese children and adolescents.

**Intervention:** None.

**Comparator:** None.

**Study designs to be included:** Observational studies.

**Eligibility criteria:** Inclusion criteria for identified studies were consistent with the following criteria: 1) population: Chinese healthy preschoolers, children, and

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adolescents aged 3 to 18 years; 2) study design: observational study; 3) outcome: meeting the overall 24-Hour Movement Guidelines.

**Information sources:** Electronic databases including the MEDLINE, Ebsco Host, Web of Science, Elsevier, CNKI and personal library were used.

**Main outcome(s):** The main outcome of this meta-analysis was the prevalence of meeting the 24-hour movement guidelines.

**Data management:** Data management will be conducted by Endnote, Microsoft Excel and STATA.

**Quality assessment / Risk of bias analysis:** The Quality Assessment Tool for Observational Cohort and Cross-sectional Studies was used. This checklist was comprised of 14 items for longitudinal studies, of which 11 could be applied to observational and cross-sectional studies (except Items 7, 10, and 13). This tool consists of 14 items that measure the following elements: (a) research question; (b and c) study population; (d) groups recruited from the same population and uniform eligibility criteria; (e) sample size justification; (f) exposure assessed prior to outcome measurement; (g) sufficient timeframe to see an effect; (h) different levels of the exposure of interest; (i) exposure measures and assessment; (j) repeated exposure assessment; (k) outcome measures; (l) blinding of outcome assessors; (m) follow-up rate; and (n) statistical analyses.

**Strategy of data synthesis:** Using Stata (Version 16.1; StataCorp., College Station, TX, USA) and the metaprop procedure, the prevalence of multiple studies was pooled by applying a random-effects model that displayed the results as forest plots using the DerSimonian and Laird method. The exact method was used to establish 95% confidence intervals (95%CI) for prevalence from the selected individual studies, and a Freeman-Tukey transformation was used to normalize the results before calculating the pooled prevalence. An analysis of variance

(ANOVA)-like random-effects model developed for meta-analytic research was also used to compare differences in prevalence of meeting the 24-hour movement guidelines according to demographics if possible. Outcome prevalence and respective 95%CIs are presented.

**Subgroup analysis:** Subgroup analysis will be performed if possible.

**Sensitivity analysis:** Sensitivity analysis will be performed if possible.

**Language restriction:** Chinese and English.

**Country(ies) involved:** Australia, China and Japan.

**Keywords:** 24-hour movement guidelines; prevalence; China; child; adolescent; pooled estimate.

**Contributions of each author:**

Author 1 - Can Jiao.

Author 2 - Xinyi Cai.

Author 3 - Jiameng Ma.

Author 4 - Hyunshik Kim.

Author 5 - Sitong Chen.

Author 6 - Yanjie Zhang.