

INPLASY PROTOCOL

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None declared.

Suicidal and self-injurious related behaviors in Chinese adolescents: A systematic review and meta-analysis

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Review question / Objective: What are the suicide related behaviors in Chinese adolescents? What are the prevalence and methods of suicide related behaviors in Chinese adolescents? What are the risk factors of suicide related behaviors in Chinese adolescents? To summarize current condition about suicide related behaviors among adolescents and to discuss evidence-based strategy for suicide intervention in this population.

Condition being studied: As a global mental health problem for people of all ages, suicide is also one of the most common causes of death among young people worldwide. Especially in China, which accounts for 15% of the global suicide death toll. However, China's suicide research efforts are not well known internationally. The extreme nature of suicide implies the complexity of its related behaviors for adolescents in particular. Therefore, it is important to summarize current condition about suicide related behaviors among Chinese adolescents.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 May 2023 and was last updated on 20 February 2024 (registration number INPLASY202350069).

INTRODUCTION

Review question / Objective: What are the suicidal and self-injurious related behaviors (SSIRBs) in Chinese adolescents? What are the prevalence and methods of SSIRBs in Chinese adolescents? What are the risk factors of SSIRBs in Chinese adolescents?

To summarize SSIRBs among adolescents and evidence-based strategy for intervention in this population.

Condition being studied: As the main cause of adolescents 'death, SSIRBs is a devastating global population health concern, especially among patients with

psychiatric disorders (PDs). The extreme nature of SSIRBs implies the complexity of its related behaviors for adolescents in particular. Therefore, it is important to summarize SSIRBs among Chinese adolescents.

METHODS

Search strategy: Literature searching in twelve databases (PubMed, CINAHL, ScienceDirect, PsycINFO, EMBASE, Cochrane Library, Clinical Trial, Web of Science, CEPS, SinoMed, Wanfang and CNKI) was independently carried out by two groups of reviewers. The literature searching was conducted from inception to January 31, 2023 and an updating was from January 31 to September 17, 2023.

Additional studies were identified through manual search among citations in the included articles, previous systematic reviews, and meta-analyses. we also searched conference papers. The search strategy will be built as follow: ("auto mutilat*" OR "cutt*" OR "headbang*" OR "overdos*" OR "selfdestruct*" OR "selfharm*" OR "selfimmolat*" OR "selfinflict*" OR "selfinjur*" OR "selfpoison*" OR "suicid*" OR "suicide, attempted" OR "suicidal ideation") AND ("adolescent" OR "teen" OR "youth" OR "teenager") AND ("China" OR "Chinese").

Participant or population: Chinese adolescents (aged 18 years old and below or the sum of average age and $SD \leq 18$ years old).

Intervention: For exposures: prevalence and risk factors of SSIRBs in Chinese adolescents. For interventions: we are searching multiple interventions, which can be provided to relieve symptoms among Chinese adolescents with SSIRBs.

Comparator: No-treatment control or active control.

Study designs to be included: Observational studies (cross-sectional, case-control, and cohort studies) for the prevalence and risk factors of SSIRBs; randomized controlled trials and non-

randomized controlled trials (e.g., qualitative studies, clinical controlled trials, pre-post studies, case reports, etc.) for intervening Chinese adolescents with SSIRBs.

Eligibility criteria: Studies will be included in the review if they met the following criteria: 1) providing the information on SSIRBs among Chinese teenagers; 2) using observational studies (cross-sectional, case-control, and cohort studies) for the prevalence and risk factors of SSIRBs; randomized controlled trials and non-randomized controlled trials (e.g., qualitative studies, clinical controlled trials, pre-post studies, case reports, etc.) for intervening Chinese adolescents with SSIRBs; 3) providing statistical indicators to indicate the original findings on the studied topics; 4) studying adolescents aged 18 years old and below or the sum of average age and $SD \leq 18$ years old. We will exclude studies that met the following criteria: reviews, systematic reviews or meta-analyses.

Information sources: Literature searching in twelve databases (PubMed, CINAHL, ScienceDirect, PsycINFO, EMBASE, Cochrane Library, Clinical Trial, Web of Science, CEPS, SinoMed, Wanfang and CNKI) was independently carried out by two groups of reviewers. The literature searching was conducted from inception to January 31, 2023 and an updating was from January 31 to September 17, 2023. Additional studies were identified through manual search among citations in the included articles, previous systematic reviews, and meta-analyses. we also searched conference papers.

Main outcome(s): There are several outcomes in this proposed review. The prevalence and risk factors of SSIRBs reported by original articles (observational studies). The effectiveness of multiple interventions to relieve symptoms among Chinese adolescents with diagnosed or without diagnosed PDs in China.

Quality assessment / Risk of bias analysis: The study quality of each selected article

was assessed by the Loney's 8-item scale. The scale includes eight items: definition of the target population, sampling method, response rate, non-respondent description, representative of samples, data collection method, diagnostic criteria, and precision of prevalence estimates. The total score ranged from zero to eight. The study quality was assessed by two reviewers, independently. Any inconsistencies were resolved through consultation with a senior reviewer. The Newcastle-Ottawa scale is mostly used in cohort studies or case control studies, including selection, comparability and outcome/exposure. The quality of included intervention studies was evaluated by quality assessment checklists based on study designs. Randomized controlled trials were evaluated by the Jadad scale (0-5 points). Clinical controlled trials (0-16 points) and pre-post studies (0-12 points) were assessed using the National Heart, Lung, and Blood Institute (NHLBI) tailored tool, respectively. The Critical Appraisal Skills Programme qualitative studies checklist was used (0-10 points), while the CAse Report guideline was utilized for case reports (0-8 points).

Strategy of data synthesis: This systematic review will include subsections on each selected research topic. For the prevalence, risk factors and interventions of SSIRBs, DerSimonian and Laird I², and Cochran's Q statistics will be used to test for heterogeneity. Funnel plots, Egger's test, Begg's test and trim-and-fill method will also be used to inspect for publication bias. If these tests show non-significant heterogeneity, we will use a fixed-effects model, whereas a more conservative random-effects model will be used if we see the possibility of heterogeneity. Based on a qualitative analysis method, we synthesized the study traits, intervention attributes, and outcomes.

Subgroup analysis: Subgroup analysis will include study characteristics (e.g., sex, age, education) and the existing intervention methods.

Sensitivity analysis: Sensitivity analysis will be carried out to assess the impact of a single study.

Language restriction: English and Chinese.

Country(ies) involved: China(Mainland), Macau (SAR, China).

Keywords: Adolescents; prevalence; risk factors; suicide; intervention; Chinese; self-injurious behavior.

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