INPLASY PROTOCOL

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Review Stage at time of this submission: Formal screening of search results against eligibility criteria.

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None declared.

Suicide 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 17 May 2023 (registration number INPLASY202350069).

INTRODUCTION

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METHODS

Search strategy: We searched SinoMed, CEPS, Clinical Trial, CINAHL, Cochrane Library, EMBASE, PsycINFO, PubMed, Web of Science, CNKI, WangFang, ScienceDirect, last search performed January , 31st, 2023. In addition, possible studies which were included in previous meta analyses will be searched. Third, a snowball technique will be used to supplement the reference lists of all relevant studies to identify further studies. The search string will be built as follow: ("auto mutilat*"[Title/Abstract] OR "automutilat*"[Title/Abstract] OR "cutt*"[Title/Abstract] OR "head bang*"[Title/Abstract] OR "headbang*"[Title/Abstract] OR "overdos*"[Title/Abstract] OR "self destruct*"[Title/Abstract] OR "selfdestruct*"[Title/Abstract] OR "self harm*"[Title/Abstract] OR "selfharm*"[Title/Abstract] OR "self immolat*"[Title/Abstract] OR "selfimmolat*"[Title/Abstract] OR "self inflict*"[Title/Abstract] OR "selfinflict*"[Title/Abstract] OR "self injur*"[Title/Abstract] OR "selfinjur*"[Title/Abstract] OR "self poison*"[Title/Abstract] OR "selfpoison*"[Title/Abstract] OR "suicid*"[Title/Abstract] OR ("suicide"[MeSH Terms] OR "suicide, attempted"[MeSH Terms] OR "suicidal ideation"[MeSH Terms] OR "self mutilation"[MeSH Terms] OR "self injurious behavior"[MeSH Terms] OR "drug overdose"[MeSH Terms])) AND ("adolescent"[MeSH Terms] OR "teen"[Title/Abstract] OR "youth"[Title/Abstract] OR "teenager"[Title/Abstract] OR "adolescence"[Title/Abstract]) AND ("China"[MeSH Terms] OR "China"[Title/Abstract] OR "Chinese"[Title/Abstract]).

Participant or population: XChinese adolescents (up to and including individuals 18 years old).

Intervention: For exposures: We look for studies on suicide related behaviors in Chinese adolescents. For interventions: We are looking for pharmacological intervention or non-pharmacological intervention (psychological or physical interventions) which can be provided to reduce the frequency of suicidal behaviors among Chinese adolescents.

Comparator: Have a comparison group of without the studied topics (suicide related behaviors or suicide related interventions).

Study designs to be included: Pooling observational studies (cross-sectional, case-control, and cohort studies) for the prevalence and risk factors of suicide related behaviors; randomized and non-randomized controlled trials for suicide interventions.

Eligibility criteria: For this project, we consider adolescents to be aged 18 or younger. Studies will be included in the review if they met the following criteria: 1) providing the information on suicide related behaviors among Chinese teenagers; 2) using observational studies (cross-sectional, case-control, and cohort studies) for the prevalence and risk factors of suicide related behaviors; randomized and non-randomized controlled trials for suicide interventions; 3)providing statistical indicators to indicate the original findings on the studied topics; and, 4) studying adolescents aged 18 and younger. We will exclude studies that met the following criteria: reviews, systematic reviews or meta-analyses.

Information sources: We searched SinoMed, CEPS, Clinical Trial, CINAHL, Cochrane Library, EMbase, PsycINFO, PubMed, Web of Science, CNKI,

WangFang, ScienceDirect, last search performed January , 31st, 2023.

Main outcome(s): There are several outcomes in this proposed review. The prevalence and risk factors of suicide related behaviors reported by original articles (observational studies). The effectiveness of pharmacological intervention or non-pharmacological intervention to minimize the incidence of suicide related behavior among adolescents with diagnosed or undiagnosed mental illnesses in China.

Quality assessment / Risk of bias analysis: Firstly, The study quality of each selected article was assessed by the Loney's 8-item scale (Loney et al., 1998). The scale includes eight items: definition of the target population, sampling method, response rate, non-responder description, representativeness 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.
Then, this Meta-analysis used the NOS recommended by the Cochrane Collaboration for quality assessment. The NOS is mostly used in cohort studies or case control studies and includes selection, comparability and outcome/ exposure.
Finally, The quality of included intervention studies was evaluated by quality assessment checklists based on study designs. RCT studies were assessed using the National Heart, Lung, and Blood Institute (NHLBI) tailored tool for controlled intervention studies. Two additional criteria ("registered or not" and "whether the study was conducted consistently with protocol") were added to the checklist. The NHLBI checklist developed for before-after studies with no control group was used for pre- and post-test studies. The Critical Appraisal Skills Program (CASP) qualitative checklist was applied to assess the quality of qualitative studies. The quality assessment was conducted under the assumption that each criterion contributed equally to study quality.

Strategy of data synthesis: This systematic review will include subsections on each selected research topic. For the prevalence of social isolation/loneliness and psychological interventions, DerSimonian and Laird I^2 statistics will be used to test for heterogeneity. Funnel plots and Egger tests will also be used to inspect for publication bias. The Egger test provides a more objective way to estimate the reliability of the results. 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.

Subgroup analysis: Subgroup analysis will include 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.

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