

# INPLASY

## The effect of cognitive behavioral therapy on non-suicidal self-injury and suicidal ideation in adolescents: a systematic review and meta-analysis

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Tang, XQ.

### Corresponding author:

Tang Xiaoqing

2175241867@qq.com

### Author Affiliation:

Chengdu University of TCM.

### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2024120024

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 6 December 2024 and was last updated on 9 March 2024.

### INTRODUCTION

**Review question / Objective** The aim of this study was to evaluate the effect of cognitive behavioral therapy on non-suicidal self-injury and suicidal ideation in adolescents through meta-analysis.

**Condition being studied** Adolescent suicide is a serious public health problem worldwide, with serious consequences such as injury, disability, family distress, and depletion of social resources. Non-suicidal self-injury and suicidal ideation are closely related to suicide, so it is of great significance to intervene in them. At present, the main psychological intervention methods for adolescents with non-suicidal self-injury include cognitive behavior therapy, dialectical behavior therapy, family therapy and group counseling therapy. Among them, cognitive behavioral therapy is a group of short-term psychological treatment methods to change bad cognition and eliminate negative emotions and behaviors by changing thinking and behavior. It has been widely used and

is one of the most influential psychological counseling and psychological treatment methods. Some research results show that cognitive behavioral therapy has a positive effect on non-suicidal self-injury and suicidal ideation in adolescents. However, due to certain heterogeneity among various studies, the results cannot be directly combined, and the evidence-based evidence is insufficient, and the relevant theoretical system needs to be improved. So we conducted a meta-analysis to explore the intervention effect of cognitive behavioral therapy on non-suicidal self-injury and suicidal ideation in adolescents.

### METHODS

**Participant or population** Adolescents; aged 7 to 20.

**Intervention** The experimental group was treated with cognitive behavioral therapy or cognitive behavioral therapy combined with routine nursing.

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**Comparator** The control group was treated with routine nursing intervention.

**Study designs to be included** RCT.

**Eligibility criteria** Study type: randomized controlled clinical studies (RCTS) published at home and abroad on the application of cognitive behavioral therapy to non-suicidal self-injury and suicidal ideation in adolescents; Outcome indicators: anxiety score, depression score and other indicators reflecting the effect of intervention.

**Information sources** PubMed, Embase, Cochrane Library, PsycINFO, Web of Science, CNKI, CBM, VIP, Wanfang Data.

**Main outcome(s)** anxiety score, depression score and other indicators reflecting the effect of intervention.

**Quality assessment / Risk of bias analysis** Two researchers independently assessed the risk of bias (ROB), in accordance with the Cochrane Handbook version 5.1.0 tool for assessing ROB in RCTs.

**Strategy of data synthesis** Stata 17.0 software was used for data analysis. The outcome indicators of this study was continuous variable data. Standardized mean difference (SMD) and 95%CI were used as effect sizes and their statistics were analyzed. For the continuous data in the research reports, the test level was set at  $\alpha=0.05$  to quantitatively determine the heterogeneity of each study. The value of  $I^2$  ranged from 0 to 100%, and the greater the value of  $I^2$ , the greater the heterogeneity; when the value of  $I^2$  was  $<50\%$ , the low degree of heterogeneity existed among the studies and could be ignored. When  $I^2$  values ranged from 50% to 75%, there was moderate heterogeneity among studies. When  $I^2$  values ranged from 75% to 100%, there was significant heterogeneity among studies. In this study, when  $I^2$  is less than 50%, the fixed effects model is used to calculate the combined statistics; otherwise, sensitivity analysis and meta-regression are used to find the causes of heterogeneity, and subgroup and random effects models are used for analysis.

**Subgroup analysis** Significant heterogeneity will further explore subgroup analysis, which first considers the following factors: Scale type and intervention duration. If there are enough such studies, subgroup analysis will be planned.

**Sensitivity analysis** The sensitivity analysis was performed by using Stata software to reflect the sensitivity of the article through the change of effect size after deleting one of the articles.

**Country(ies) involved** China.

**Keywords** cognitive behavioral therapy; adolescent; non-suicidal self-injury; suicidal ideation.

**Contributions of each author**

Author 1 - Tang Xiaoqing.

Email: 2175241867@qq.com