INPLASY

Umbrella Review of Therapeutic Interventions for Adolescent Suicidal Behavior and Self-Harm: Evidence Synthesis for Developing Clinical Practice Guidelines in South Korea

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ADMINISTRATIVE INFORMATION

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 March 2026 and was last updated on 23 March 2026.

INTRODUCTION

Review question / Objective What is the effectiveness of therapeutic interventions — including psychotherapeutic, pharmacological, and combined approaches — for suicidal behavior and non-suicidal self-injury (NSSI) in adolescents and young adults aged 10–24 years, and what evidence base can inform the development of clinical practice guidelines for this population in South Korea? Specific objectives include: (1) evaluating psychotherapeutic interventions (CBT, DBT-A, IPT, MBT-A, ABFT, MST, ACT, family-based, school-based); (2) examining pharmacotherapy efficacy and safety; (3) comparing psychotherapy versus pharmacotherapy; (4) evaluating combination treatments; and (5) establishing an evidence base for Korean clinical practice guideline development.

Rationale South Korea has the highest suicide rate among OECD member countries (29.1 per 100,000 in 2024), and the prevalence of NSSI among Korean adolescents (21.2–24%) substantially exceeds the global average. Despite this burden, comprehensive evidence-based clinical practice guidelines specifically addressing adolescent suicidal behavior and NSSI in the Korean context remain scarce. Existing systematic reviews have predominantly focused on single treatment modalities, and previous umbrella reviews either restricted their scope or focused on risk factors rather than treatment effectiveness. This umbrella review addresses these gaps by synthesizing evidence across the full spectrum of interventions with systematic GRADE assessments applied to both quantitative and narrative reviews.

Condition being studied Suicidal behavior (suicidal ideation and suicide attempts) and non-suicidal self-injury (NSSI) in adolescents and young adults aged 10–24 years. NSSI refers to deliberate self-harm without suicidal intent. Both conditions represent major public health concerns, particularly in South Korea where suicide is the

leading cause of death among individuals aged 10–39 years.

METHODS

Search strategy Systematic searches were conducted across five electronic databases: PubMed, Embase, CINAHL, Cochrane CENTRAL, Scopus(January 2015 – December 2024). Two complementary Boolean search strategies were combined: Strategy 1 targeted experimental/ interventional studies using terms for suicide AND adolescents AND study design filters; Strategy 2 used broader effectiveness-related terms. Search terms were adapted to controlled vocabulary of each database (MeSH for PubMed, Emtree for EMBASE, Subject Headings for CINAHL). Language restricted to English.

Participant or population Adolescents and young adults aged 10–24 years who have experienced or are at elevated risk of suicidal behavior (suicidal ideation or suicide attempts) or non-suicidal self-injury (NSSI). Both clinical populations (inpatient, outpatient, emergency department) and community or school-based populations are included. Reviews addressing populations with psychiatric comorbidities (e.g., major depressive disorder, borderline personality disorder) are eligible.

Intervention Any therapeutic intervention including: psychotherapeutic approaches (CBT, DBT-A, IPT, MBT-A, ABFT, MST, ACT, emotion regulation interventions, family-based therapy, group therapy, school-based multilevel programs); pharmacological treatments (antidepressants including SSRIs such as fluoxetine and escitalopram, antipsychotics, mood stabilizers); and combination treatments (psychotherapy plus pharmacotherapy).

Comparator Treatment as usual (TAU), enhanced usual care (EUC), waitlist control, no intervention, placebo, active control conditions, and alternative therapeutic modalities (e.g., fluoxetine monotherapy as comparator to combination therapy; MBT-A as comparator to DBT-A).

Study designs to be included Systematic reviews with or without meta-analysis. Both quantitative systematic reviews (with meta-analysis) and qualitative systematic reviews (narrative synthesis) were eligible. Primary studies, scoping reviews, narrative reviews without systematic search, protocols, letters, and case reports were excluded.

Eligibility criteria Inclusion: (a) systematic review with or without meta-analysis; (b) target population overlapping with ages 10–24 years; (c) examines effectiveness of any therapeutic intervention for suicidal behavior or NSSI; (d) primary outcomes include suicidal ideation, suicide attempts, or NSSI; (e) published in English between January 2015 and December 2024. Exclusion: non-systematic reviews; exclusively adult populations (>24 years) without disaggregated adolescent data; reviews examining only risk/protective factors or screening tools; NSSI as sole outcome without suicidal behavior assessment (unless explicitly designed to reduce NSSI); protocols, letters, commentaries, conference abstracts, case reports.

Information sources Five electronic databases: PubMed, Embase, CINAHL, Cochrane CENTRAL, Scopus. Search period: January 2015 to December 2024. Reference lists of included reviews were checked for additional relevant studies.

Main outcome(s) Primary outcomes: (1) suicide attempts — frequency or occurrence, measured by clinician assessment or self-report at any follow-up time point; (2) suicidal ideation — severity and frequency, measured by validated instruments (SIQ, SIQ-JR, Beck Scale for Suicidal Ideation) at any follow-up; (3) NSSI — frequency and severity at any follow-up. Effect measures: RR, OR, SMD, MD, or Cohen's d as reported in included reviews.

Additional outcome(s) Secondary outcomes: depressive symptoms (CDRS-R, BDI-II, HAM-D); treatment response rate; relapse/recurrence rate (1-year); adverse reactions; functional status (CGAS, HoNOSCA); hopelessness (Beck Hopelessness Scale); treatment dropout rate; loss of depression diagnosis (remission). Effect measures: RR, OR, SMD, MD, or Cohen's d.

Data management Data were extracted using a standardized extraction form capturing study characteristics, population characteristics, intervention and comparator details, and outcome data. Extraction was performed by one reviewer and verified by a second reviewer. Disagreements were resolved by consensus or consultation with a third reviewer.

Quality assessment / Risk of bias analysis Methodological quality of each included systematic review was assessed using AMSTAR-2 (A Measurement Tool to Assess Systematic Reviews 2), comprising 16 items including seven critical domains. Each review was assigned an

overall confidence rating (high, moderate, low, or critically low). Two reviewers independently performed the assessment; discrepancies were resolved by consensus.

Strategy of data synthesis Narrative synthesis was adopted as the primary integration method due to heterogeneity across included reviews. Findings were organized thematically by intervention type and outcome domain. The certainty of evidence for each outcome was formally assessed using the GRADE framework. For reviews without pooled estimates, GRADE was applied following Murad et al. (2017) guidelines. A quantitative meta-analytic synthesis at the umbrella review level was not performed.

Subgroup analysis Findings were stratified by: (1) intervention type (psychotherapy, pharmacotherapy, combination); (2) outcome type (suicidal ideation, suicide attempts, NSSI, depressive symptoms); (3) study design of primary studies (RCTs vs. observational); (4) AMSTAR-2 quality rating of included reviews.

Sensitivity analysis Sensitivity analyses were not formally pre-specified. Where multiple reviews reported on the same intervention–outcome combination, findings were compared across reviews considering differences in inclusion criteria, search periods, quality ratings, and degree of primary study overlap. Higher-quality reviews (by AMSTAR-2 rating) were prioritized in interpretation.

Language restriction Restricted to English-language publications.

Country(ies) involved Republic of Korea.

Other relevant information This umbrella review was conducted following JBI methodology for umbrella reviews and PRISMA 2020 guidelines. Reporting also adhered to the PRIO-harms tool recommendations. The review is specifically designed to inform the development of clinical practice guidelines for adolescent suicidal behavior and NSSI in South Korea, incorporating culturally specific risk factors including academic stress, Confucian family values, and cyberbullying.

Keywords adolescent suicide; non-suicidal self-injury; self-harm; suicidal ideation; umbrella review; systematic review; GRADE; clinical practice guidelines; South Korea; DBT-A; CBT; fluoxetine.

Dissemination plans Findings will be submitted for publication in an international peer-reviewed psychiatric journal (BMC Psychiatry). Results will also inform the development of evidence-based clinical practice guidelines for adolescent suicidal behavior and NSSI in South Korea.

Contributions of each author
Author 1 - Sangha Lee - Lee conceived and designed the study, developed the review protocol, conducted the systematic literature search, performed title and abstract screening, full-text eligibility assessment, data extraction, AMSTAR-2 quality assessment, GRADE evidence evaluation, and data synthesis. Author 1 drafted the manuscript and is the guarantor of the review.
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Author 2 - Jihye Song - Song independently performed title and abstract screening, full-text eligibility assessment, and data extraction. Author 2 conducted independent AMSTAR-2 quality assessment and resolved discrepancies through consensus discussion. Author 2 reviewed and approved the final manuscript.
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Author 3 - Sooyeon Suh - Suh provided methodological expertise in GRADE evidence grading and evidence synthesis. Author 3 contributed to the interpretation of findings and the development of clinical recommendations. Author 3 critically revised the manuscript for important intellectual content and approved the final version.
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Author 4 - Yunmi Shin - provided clinical expertise in adolescent psychiatry and contributed to the contextual interpretation of findings for Korean clinical practice. Author 4 contributed to the development of the stepped-care algorithm and reviewed the manuscript for clinical accuracy. Author 4 approved the final manuscript.
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