

Received: 15 August 2024 / Accepted: 30 October 2024 / Published online: 30 December 2024

DOI 10.34689/SH.2024.26.6.001

UDC 616.89-008.441.44



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## PREVENTING SELF-HARM AND SUICIDE ATTEMPTS IN CHILDREN AND ADOLESCENTS: A SUMMARY OF EVIDENCE FROM TARGETED INTERVENTIONS

Geir Bjørklund<sup>1</sup>, <https://orcid.org/0000-0003-2632-3935>

<sup>1</sup> Council for Nutritional and Environmental Medicine (CONEM),  
Mo i Rana, Norway.

### Abstract

**Introduction.** Self-harm and suicide attempts are critical global health challenges that significantly impact adolescents. Adolescents are particularly vulnerable to psychological distress, which often manifests as self-harm, a behavior strongly linked to disorders such as depression, anxiety, and emotional dysregulation.

**The aim** is to summarize the findings from the 2024 report by the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU) on interventions to prevent self-harm and suicide attempts in adolescents.

**Materials and methods.** The analysis included 28 randomized controlled trials, along with systematic reviews and meta-analyses, covering a range of interventions for adolescents aged 12 to 18 who had a documented history of self-harm or suicide attempts.

**Results.** Dialectical Behavior Therapy for Adolescents (DBT-A) has been shown to reduce the recurrence of self-harm behaviors significantly. It is well-received by adolescents and their families, with a four-month program offering cost-effective outcomes compared to usual care. Internet-based Emotional Regulation Individual Therapy for Adolescents (IERITA), based on DBT-A, may reduce non-suicidal self-injury (NSSI), though more randomized studies are needed to confirm its efficacy. Adolescents who identify as part of a sexual minority, those with risky substance use, and those in the juvenile justice system have an increased risk of self-harm. However, there is a lack of targeted prevention studies for these groups. Further research is required on interventions that enhance safety following a suicide attempt, such as the SAFETY family intervention and the value of patient-driven admissions in acute care settings.

**Conclusion.** The results indicate the potential to expand access to effective treatments like DBT-A beyond metropolitan areas. Additionally, IERITA may complement existing care for adolescents without immediate suicide risk.

**Keywords:** self-harm, suicide prevention, adolescents, DBT-A, IERITA, psychological interventions.

### Резюме

## ПРОФИЛАКТИКА САМОПОВРЕЖДЕНИЯ И ПОПЫТОК САМОУБИЙСТВА У ДЕТЕЙ И ПОДРОСТКОВ: ОБОБЩЕНИЕ ДАННЫХ ЦЕЛЕВЫХ ВМЕШАТЕЛЬСТВ

Гейр Бьёрклунд<sup>1</sup>, <https://orcid.org/0000-0003-2632-3935>

<sup>1</sup> Совет по вопросам питания и экологической медицины (CONEM),  
г. Мо-и-Рана, Норвегия.

**Введение.** Самоповреждение и попытки самоубийства являются критическими глобальными проблемами здравоохранения, которые существенно влияют на подростков. Подростки особенно уязвимы к психологическому стрессу, который часто проявляется как самоповреждение, поведение, тесно связанное с такими расстройствами, как депрессия, тревожность и эмоциональная дисрегуляция.

**Целью** является обобщение выводов из отчета 2024 года Шведского агентства по оценке медицинских технологий и оценке социальных служб (SBU) о вмешательствах по предотвращению самоповреждения и попыток самоубийства у подростков.

**Материалы и методы.** Анализ включал 28 рандомизированных контролируемых испытаний, а также систематические обзоры и метаанализы, охватывающие ряд вмешательств для подростков в возрасте от 12 до 18 лет, у которых была задокументированная история самоповреждения или попыток самоубийства.

**Результаты.** Было показано, что диалектическая поведенческая терапия для подростков (DBT-A) значительно снижает рецидивы поведения самоповреждения. Подростки и их семьи хорошо ее принимают, четырехмесячная программа предлагает экономически эффективные результаты по сравнению с обычным лечением. Интернет-терапия эмоциональной регуляции для подростков (IERITA), основанная на DBT-A, может снизить несуицидальное самоповреждение (NSSI), хотя для подтверждения ее эффективности необходимы дополнительные

рандомизированные исследования. Подростки, которые идентифицируют себя как часть сексуального меньшинства, лица, употребляющие опасные вещества, и лица, находящиеся в системе ювенальной юстиции, имеют повышенный риск самоповреждения. Однако для этих групп не хватает целевых профилактических исследований. Необходимы дальнейшие исследования вмешательств, которые повышают безопасность после попытки самоубийства, таких как семейное вмешательство SAFETY и ценность госпитализации, инициированной пациентом, в учреждениях интенсивной терапии.

**Заключение.** Результаты указывают на потенциал расширения доступа к эффективному лечению, такому как DBT-A, за пределами мегаполисов. Кроме того, IERITA может дополнять существующую помощь подросткам без непосредственного риска самоубийства.

**Ключевые слова:** самоповреждение, профилактика самоубийств, подростки, DBT-A, IERITA, психологические вмешательства.

Түйіндеме

## **БАЛАЛАР МЕН ЖАСӨСПІРІМДЕРДЕ ӨЗ-ӨЗІНЕ ЗИЯН КЕЛТІРУ ЖӘНЕ ҚОЛ ЖҰМСАУ ӘРЕКЕТТЕРІНІҢ АЛДЫН АЛУ: МАҚСАТТЫ АРАЛАУ ДЕРЕКТЕРІНІҢ ҚОРЫТЫНДЫСЫ**

**Гейр Бьёрклунд<sup>1</sup>, <https://orcid.org/0000-0003-2632-3935>**

<sup>1</sup> Тамақтану және қоршаған ортаны қорғау жөніндегі кеңес (CONEM),  
Мо и Рана, Норвегия.

**Кіріспе.** Өз-өзіне зиян келтіру және өзіне қол жұмсау әрекеттері жасөспірімдерге айтарлықтай әсер ететін маңызды жаһандық денсаулық мәселесі болып табылады. Жасөспірімдер психологиялық күйзеліске әсіресе осал, ол көбінесе өзін-өзі зақымдау, депрессия, мазасыздық және эмоционалдық реттеудің бұзылуы сияқты бұзылулармен тығыз байланысты мінез-құлық ретінде көрінеді.

**Жұмыстың мақсаты.** Швеция денсаулық сақтау технологияларын бағалау және әлеуметтік қызметтерді бағалау агенттігінің (SBU) жасөспірімдердің өзіне зиян келтіруі мен суицид әрекеттерінің алдын алу шаралары туралы 2024 жылғы есебінің нәтижелерін қорытындылау.

**Материалдар мен әдістер.** Талдау 28 рандомизацияланған бақыланатын сынақтарды, сондай-ақ өз-өзіне зиян келтіру немесе өзіне қол жұмсау әрекеттерінің құжатталған тарихы бар 12 мен 18 жас аралығындағы жасөспірімдерге арналған араласулар ауқымын қамтитын жүйелі шолулар мен мета-талдауларды қамтыды.

**Нәтижелер.** Жасөспірімдерге арналған диалектикалық мінез-құлық терапиясы (DBT-A) өзін-өзі зақымдау мінез-құлқының қайталануын айтарлықтай төмендететінін көрсетті. Оны жасөспірімдер мен олардың отбасы жақсы қабылдайды және төрт айлық бағдарлама дәстүрлі емдеумен салыстырғанда үнемді нәтиже береді. Диалектикалық мінез-құлық терапиясы DBT-A негізіндегі Интернетке негізделген жасөспірімдерге арналған эмоционалды реттеу терапиясы (IERITA) суицидтік емес өзін-өзі жарақаттауды (NSSI) азайту мүмкін, бірақ оның тиімділігін растау үшін қосымша рандомизацияланған сынақтар қажет. Өзін жыныстық азшылықтың бір бөлігі деп санайтын жасөспірімдер, қауіпті заттарды пайдаланатындар және кәмелетке толмағандар ісі жөніндегі әділет жүйесіндегілер өздеріне зиян келтіру қаупі жоғары. Дегенмен, бұл топтар үшін мақсатты профилактикалық зерттеулер жоқ. Өз-өзіне қол жұмсау әрекетінен кейін қауіпсіздікті жақсартатын араласулар бойынша қосымша зерттеулер қажет, мысалы, SAFETY (ҚАУІПСІЗДІК) отбасылық араласуы және жедел медициналық көмек көрсету жағдайында пациенттің бастамасымен қабылдаудың мәні.

**Қорытынды.** Нәтижелер мегаполистерден тыс диалектикалық мінез-құлық терапиясы DBT-A сияқты тиімді емдеу әдістеріне қолжетімділікті кеңейту мүмкіндігін көрсетеді. Сонымен қатар, интернетке негізделген жасөспірімдерге арналған эмоционалды реттеу терапиясы IERITA өз-өзіне қол жұмсау қауптілігі бар жасөспірімдерге қолданыла алады.

**Түйін сөздер:** өзіне зиян келтіру, суицидтің алдын алу, жасөспірімдер, диалектикалық мінез-құлық терапиясы (DBT-A), интернетке негізделген жасөспірімдерге арналған эмоционалды реттеу терапиясы (IERITA), психологиялық араласу.

### **For citation / Для цитирования / Дәйексөз үшін:**

Geir Bjørklund Preventing self-harm and suicide attempts in children and adolescents: a summary of evidence from targeted interventions // *Nauka i Zdravookhranenie* [Science & Healthcare]. 2024. Vol.26 (6), pp. 7-11. doi 10.34689/SH.2024.26.6.001

Гейр Бьёрклунд Профилактика самоповреждения и попыток самоубийства у детей и подростков: обобщение данных целевых вмешательств // *Наука и Здравоохранение*. 2024. Т.26 (6). С. 7-11. doi 10.34689/SH.2024.26.6.001

Гейр Бьёрклунд Балалар мен жасөспірімдерде өз-өзіне зиян келтіру және қол жұмсау әрекеттерінің алдын алу: мақсатты аралау деректерінің қорытындысы // *Ғылым және Денсаулық сақтау*. 2024. Т.26 (6). Б. 7-11. doi 10.34689/SH.2024.26.6.001

**Introduction**

Self-harm and suicide attempts are critical global health challenges that significantly impact adolescents. Adolescents are particularly vulnerable to psychological distress, which often manifests as self-harm, a behavior strongly linked to disorders such as depression, anxiety, and emotional dysregulation. The rising rates of suicide among adolescents, particularly those aged 12 to 18, underline the urgency of implementing effective prevention measures. In response to this crisis, the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU) evaluated evidence-based interventions aimed at reducing self-harm behaviors and suicide attempts in adolescents (SBU, 2024).

The aim is to summarize the findings from the 2024 report by the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU) on interventions to prevent self-harm and suicide attempts in adolescents.

These therapies have shown significant promise in clinical settings and are particularly relevant for healthcare professionals seeking practical, evidence-based approaches to treating adolescents at risk of self-harm (SBU, 2024).

Adolescent self-harm is a multifaceted behavior often triggered by emotional distress, which can lead to long-term psychological consequences if left untreated. Although self-harm is not always intended as a means of suicide, it is a strong predictor of future suicide attempts and requires timely intervention to prevent more severe outcomes. Research indicates that early intervention can significantly reduce the recurrence of self-harm behaviors and lower the risk of suicide attempts. Addressing self-harm in adolescents is therefore critical, not only to prevent immediate harm but also to ensure their long-term psychological well-being (SBU, 2024).

The 2024 SBU report evaluated several psychological interventions designed to reduce self-harm in adolescents. Among these, DBT-A and IERITA stood out for their efficacy. DBT-A, adapted for adolescents from its original format for treating borderline personality disorder, focuses on improving emotion regulation and distress tolerance. IERITA, a novel online intervention, provides an accessible alternative to in-person therapy, particularly for adolescents in rural or underserved areas (SBU, 2024). The report also emphasized the need for tailored interventions to address

high-risk populations, including LGBTQ+ adolescents, those with substance use disorders, and adolescents involved in the juvenile justice system.

**Materials and methods**

The methodology employed by the SBU report adhered to strict inclusion criteria to ensure the reliability of its findings. The analysis included 28 randomized controlled trials, along with systematic reviews and meta-analyses, covering a range of interventions for adolescents aged 12 to 18 who had a documented history of self-harm or suicide attempts. The studies reviewed were conducted across several countries, including the United States, the United Kingdom, and Sweden, providing a cross-cultural perspective on the effectiveness of the interventions.

The primary outcome of interest was the reduction in the recurrence of self-harm behaviors, while secondary outcomes included reductions in suicidal ideation and attempts. In addition to the quantitative data, qualitative findings from focus groups and interviews were integrated into the analysis. These qualitative insights provided valuable context regarding the acceptability and perceived benefits of the interventions from the perspective of both adolescents and their caregivers. The mixed-methods approach makes the report more nuanced regarding knowledge about the real-world application of interventions such as DBT-A and IERITA, highlighting the factors contributing to successful implementation and sustained outcomes (SBU, 2024).

**Results**

The findings of the SBU report demonstrated that DBT-A is the most effective intervention for reducing the recurrence of self-harm behaviors in adolescents. Studies reported a 70% reduction in self-harm within six months of treatment initiation, with these improvements being maintained over a 12-month follow-up period. DBT-A's structured approach, which focuses on developing emotion regulation, distress tolerance, and interpersonal effectiveness, made it adaptable for both individual and group settings. Group therapy provided additional benefits by fostering peer support, which further enhanced the adolescents' ability to regulate their emotions and reduce reliance on self-harm as a coping mechanism (SBU, 2024).

Table 1 compares the outcomes of various adolescent interventions, including DBT-A, IERITA, CBT, family-based therapy, and motivational interviewing.

Table 1.

**Intervention outcomes (SBU, 2024).**

Intervention	Outcome-reduction in self-harm (%)	Outcome-reduction in suicide attempts (%)	Treatment duration (months)	Group / individual
DBT-A	70	60	4	Both
IERITA	55	50	3	Individual
CBT	45	40	6	Both
Family-based therapy	40	35	6	Group
Motivational interviewing	35	30	1	Individual

One of the report's key findings was that a shortened version of DBT-A, delivered over four months instead of six, was just as effective as the longer format. This shortened version maintained therapeutic outcomes and reduced the time

and resources required to deliver the therapy, making it a more scalable option for healthcare providers (SBU, 2024).

IERITA, delivered entirely online, showed promising results in reducing non-suicidal self-injury (NSSI) among

adolescents. Adolescents who completed the therapy experienced a 50-55% reduction in NSSI within three to six months. The online format of IERITA made it particularly attractive for adolescents who faced barriers to accessing traditional in-person therapy, such as those living in rural or underserved areas. However, the report emphasized that further research is needed to evaluate the long-term sustainability of these outcomes (SBU, 2024).

#### Cost-Effectiveness

The cost-effectiveness of the interventions was a significant factor in determining their feasibility for

widespread use. DBT-A was highly cost-effective, with an estimated treatment cost of 45,000 SEK per adolescent. The cost savings generated by preventing the recurrence of self-harm behaviors were estimated at approximately 80,000 SEK per case. The shorter, four-month version of DBT-A enhanced its cost-effectiveness by reducing the time and resources required for treatment while maintaining the same level of efficacy.

Table 2 compares the cost-effectiveness of different interventions, including DBT-A, IERITA, CBT, and family-based therapy.

Table 2.

#### Cost-effectiveness of interventions (SBU, 2024).

Intervention	Cost per adolescent treated (SEK)	Estimated cost savings per prevented recurrence (SEK)	Additional cost of training/resources (SEK)
DBT-A	45,000	80,000	20,000
IERITA	25,000	60,000	15,000
CBT	35,000	50,000	10,000
Family-based therapy	55,000	70,000	30,000

IERITA, with an estimated treatment cost of 25,000 SEK per adolescent, presented an even more cost-effective solution. The online delivery of IERITA minimized overhead costs associated with in-person therapy, making it a valuable option for healthcare systems aiming to expand access to mental health services for adolescents. However, it is essential to note that ongoing therapist involvement, whether through online check-ins or in-person meetings, is essential to maintain the effectiveness of IERITA, which could impact its overall cost-efficiency depending on the level of therapist involvement required.

#### Ethical Considerations

The ethical considerations surrounding the treatment of adolescent self-harm are paramount. Ensuring confidentiality in group therapy settings, such as DBT-A, is critical for fostering an environment where adolescents feel safe discussing their personal experiences. The SBU report highlighted the importance of establishing clear protocols to protect the privacy of adolescents participating in group therapy, as breaches of confidentiality can undermine the therapeutic process. Adolescents are susceptible to privacy and trust issues, which makes maintaining confidentiality essential for fostering a safe and open environment for discussion. In group therapy settings like DBT-A, therapists must establish clear rules and boundaries to ensure that participants feel secure sharing their experiences without fear of judgment or breaches of privacy.

Data security becomes a primary ethical concern in the case of online interventions like IERITA. Adolescents engaging in online therapy must be assured that their personal information is protected, especially when sensitive topics such as self-harm and mental health are involved. The report emphasized the need for robust data protection measures to safeguard adolescents' privacy using digital therapy platforms. This is particularly important in light of the growing use of telehealth services, where concerns around data breaches and the security of online communications must be addressed.

Informed consent, particularly in family-based therapies, presents additional ethical challenges. Adolescents must be

given the autonomy to participate in their care, and their preferences should be respected, even when parental involvement is necessary. The SBU report stressed the importance of balancing parental involvement with respecting the adolescent's right to confidentiality and self-determination in their treatment (SBU, 2024). This balance is crucial in ensuring that adolescents feel empowered in their recovery without feeling pressured by external parties, including parents or caregivers.

#### Discussion

The SBU report provides strong evidence supporting the use of DBT-A as the most effective intervention for reducing self-harm behaviors in adolescents. Its ability to address emotional dysregulation, which often underlies self-harm, combined with its structured and adaptable format, makes it well-suited for a variety of clinical settings. The shortened version of DBT-A, which maintains the same therapeutic efficacy as the more extended format while reducing resource requirements, enhances its feasibility for widespread implementation. The potential for delivering DBT-A in individual and group formats further increases its flexibility, making it adaptable to different healthcare settings and patient needs. The incorporation of group therapy, with its added benefit of peer support, strengthens the therapeutic process and helps adolescents develop essential emotional regulation skills, which in turn reduces their reliance on self-harm as a coping mechanism.

IERITA is another promising intervention, particularly for adolescents who face barriers to accessing traditional in-person therapy. Its online format offers a flexible and private alternative, making therapy more accessible to adolescents in rural or underserved areas, as well as those who may be reluctant to attend face-to-face sessions. However, while IERITA has demonstrated efficacy in reducing NSSI, more research is needed on its long-term effectiveness and to explore ways to integrate online interventions with existing mental health services. One of the critical challenges for IERITA is ensuring that adolescents remain engaged with the therapy over time, and the ongoing involvement of a therapist is crucial for maintaining its effectiveness.

The comparative cost-effectiveness of DBT-A and IERITA positions them as the most viable interventions for large-scale implementation. DBT-A's proven ability to prevent the recurrence of self-harm behaviors makes it a highly cost-efficient option, particularly in its shortened format. IERITA, with its lower upfront costs, presents a compelling alternative for healthcare systems seeking to reduce expenses while expanding access to mental health services for adolescents. Nevertheless, the cost-effectiveness of IERITA will depend on the level of therapist involvement required, as ongoing support from a therapist is necessary to maximize the benefits of online therapy.

The ethical considerations associated with these interventions are essential to ensuring that adolescents receive safe and effective care. In group settings like DBT-A, maintaining confidentiality is paramount, as adolescents must feel secure in sharing their experiences without fear of judgment or breaches of privacy. In the case of IERITA, safeguarding personal data and ensuring the privacy of adolescents using online platforms is critical, mainly when sensitive mental health issues are being addressed. Informed consent, particularly in therapies that involve family members, must balance the need for parental involvement with respecting the autonomy and confidentiality of the adolescent.

#### **Conclusion**

The 2024 SBU report provides robust evidence that both DBT-A and IERITA are effective interventions for reducing self-harm behaviors and preventing suicide attempts in adolescents. DBT-A, focusing on emotional regulation, distress tolerance, and interpersonal effectiveness, remains the most well-established and reliable therapy. Its flexibility in offering both group and individual sessions, coupled with the option of a shorter treatment duration, makes it a highly scalable intervention for healthcare systems. IERITA, while newer and less extensively studied, presents a promising solution for adolescents in rural or underserved areas. Its online format reduces barriers to accessing care, though further research

is needed to assess its long-term efficacy and cost-effectiveness.

Both interventions offer valuable tools for reducing the burden of self-harm and suicide among adolescents, and their scalability makes them attractive options for healthcare systems looking to expand mental health services. However, ongoing research is necessary to further refine these interventions, particularly for high-risk populations such as LGBTQ+ adolescents, those with co-occurring substance use disorders, and adolescents involved in the juvenile justice system. Ethical considerations must remain central to implementing these therapies, including ensuring informed consent, protecting privacy, and maintaining data security.

By integrating these evidence-based interventions into adolescent mental health services, healthcare providers and policymakers can take significant steps toward improving the well-being of at-risk adolescents and reducing the prevalence of self-harm and suicide attempts. The findings from the SBU report provide a clear path forward for implementing these therapies in a way that maximizes both clinical outcomes and cost efficiency.

**Conflicts of Interest:** *The author declare no conflicts of interest*

**Funding:** *This research received no external funding.*

**Informed Consent Statement:** *no need*

*The author assures the editors that the materials presented in this article have not been published or submitted to the editors of other printed publications.*

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**\*Corresponding author:**

**Geir Bjørklund** - Council for Nutritional and Environmental Medicine

**Mailing Address:** Toften 24, 8610 Mo i Rana, Norway

**E-mail:** [bjorklund@conem.org](mailto:bjorklund@conem.org)