Cogent Psychology

ISSN: 2331-1908 (Online) Journal homepage: www.tandfonline.com/journals/oaps20

Exploring clinical characteristics, gender differences, and initial outcomes of a pilot study of the attempted suicide short intervention program (ASSIP) in a Swedish cohort of suicide attempters

Sara Lindström, Johanna Clausen Ekefjärd, Jonas Berge, Marie Dahlin, Anja Gysin-Maillart, Anna Ehnvall, Bo Runeson, Margda Waern & Åsa Westrin

To cite this article: Sara Lindström, Johanna Clausen Ekefjärd, Jonas Berge, Marie Dahlin, Anja Gysin-Maillart, Anna Ehnvall, Bo Runeson, Margda Waern & Åsa Westrin (2025) Exploring clinical characteristics, gender differences, and initial outcomes of a pilot study of the attempted suicide short intervention program (ASSIP) in a Swedish cohort of suicide attempters, Cogent Psychology, 12:1, 2489231, DOI: 10.1080/23311908.2025.2489231

To link to this article: https://doi.org/10.1080/23311908.2025.2489231

Published online: 09 Apr 2025.

COGENT PSYCHOLOGY
2025, VOL. 12, NO. 1, 2489231
https://doi.org/10.1080/23311908.2025.2489231

CLINICAL PSYCHOLOGY | RESEARCH ARTICLE

OPEN ACCESS Check for updates

Exploring clinical characteristics, gender differences, and initial outcomes of a pilot study of the attempted suicide short intervention program (ASSIP) in a Swedish cohort of suicide attempters

Sara Lindström[a,b,#], Johanna Clausen Ekefjärd[a], Jonas Berge[a,c], Marie Dahlin[d], Anja Gysin-Maillart[a,e], Anna Ehnvall[f,g], Bo Runeson[d], Margda Waern[f,h] and Åsa Westrin[a,b]

[a]Department of Clinical Sciences, Faculty of Medicine, Lund University, Lund, Sweden; [b]Office of Psychiatry and Habilitation, Lund, Sweden; [c]Addiction Center Malmö, Malmö, Sweden; [d]Centre for Psychiatry Research, Department of Clinical Neuroscience, Karolinska Institute & Stockholm Health Care Services, Stockholm, Sweden; [e]University Hospital of Psychiatry Bern, Bern, Switzerland; [f]Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden; [g]Psychiatric Outpatient Clinic, Varberg, Sweden; [h]Department of Psychotic Disorders, Sahlgrenska University Hospital, Mölndal, Sweden

ABSTRACT

The Attempted Suicide Short Intervention Program (ASSIP) is a brief therapy aimed at preventing repeat suicide attempts by addressing the underlying backgrounds and vulnerabilities associated with suicidal behaviour. In Switzerland, ASSIP demonstrated an 80% reduction in long-term risk of repeat suicide attempts, but a description of the implementation and effects in a Swedish context is lacking. This pilot study, as part of a larger feasibility study preparing for a future RCT, examines the clinical characteristics of individuals receiving ASSIP in Sweden, focusing on gender differences and initial outcomes. One hundred individuals who had attempted suicide were recruited from psychiatric facilities across Sweden. Demographic and clinical data were collected, including diagnostic information and details about suicide attempt methods. Suicidal intent at index suicide attempt was assessed by the Suicide Intent Scale (SIS). Attitude towards suicide, suicide ideation and behaviour and other suicide-related symptoms were measured using the Suicide Assessment Scale Self-rate (SUAS-S) at baseline and after three sessions of ASSIP, and changes in SUAS-S scores were used to assess initial outcomes. Almost half of the cohort had a mood disorder and 39% had an anxiety disorder. Men were more likely than women to use violent methods in their suicide attempts. The mean SIS score was 17.6. SUAS-S scores had decreased significantly by the third session. The findings of this pilot study showed reduced self-rated scores on SUAS among high-risk individuals after three sessions of ASSIP treatment, suggesting the potential relevance brief, targeted interventions in suicide prevention. Except for the attempt method, no gender differences were found.

HIGHLIGHTS

- Almost half of the cohort had a mood disorder and 39% had an anxiety disorder
- Mean SIS scores revealed high initial suicidal intent in the study population
- Immediate reduction noted in SUAS-S scores after ASSIP

ARTICLE HISTORY
Received 10 January 2025
Revised 27 March 2025
Accepted 28 March 2025

KEYWORDS
Suicide prevention; ASSIP intervention; suicide attempt; gender differences; psychotherapy

SUBJECTS
Cognitive Psychology; Psychological Science; Health & Society; Medicine

Introduction

One of the most well-established risk factors for suicide is having a history of one or more suicide attempts (Bostwick et al., 2016). The incidence of suicide is highest in the first years after the suicide attempt, but several studies point out a continued risk of suicide for many years (De Moore & Robertson, 1996; Jenkins et al., 2002; Suokas et al., 2005; Suominen, Isometsä, Ostamo et al., 2004; Suominen, Isometsä, Suokas et al., 2004; Tejedor et al., 1999; Tidemalm et al., 2008; 2015; Wang & Mortensen, 2006). The risk for suicide may be elevated decades after a suicide attempt and this risk is particularly elevated in individuals with psychosis and depression, and those with scores indicating a strong intent for suicide at the time of the non-fatal act ((Probert-Lindström et al., 2020).

Although individuals at risk of suicide are encouraged to seek help, healthcare often fails to provide an

CONTACT Sara Lindström sara.lindstrom@med.lu.se Baravägen 1, 221 85 Lund, Sweden
[#]Sara Lindström is also affiliated to Department of Psychiatry, Skåne University Hospital, Lund, Sweden.

effective response (WHO (WHO, 2014). Given that individuals who have attempted suicide have been identified as a vulnerable group with an increased risk of suicide (Bostwick et al., 2016; Probert-Lindström et al., 2022), thorough assessment, treatment and follow-up after a suicide attempt should be a high priority. A review (Sobanski et al., 2021) including 18 studies of psychotherapeutic interventions aimed at reducing suicidal behaviour found that CBT-related and possibly psychodynamic approaches were effective in preventing repeat suicide attempts. The authors emphasized the importance of focusing the intervention on suicidal behaviour/episodes. A recent systematic review (van Ballegooijen et al., 2025) has provided an updated analysis of the efficacy of direct and indirect psychotherapy approaches, further demonstrating the need for structured intervention studies. The availability of evidence-based psychotherapeutic approaches that directly address suicidal behaviour is very limited and there is still a lack of knowledge about these approaches in clinical practice.

A promising brief psychotherapeutic intervention for preventing future suicide attempts is the Attempted Suicide Short Intervention Program (ASSIP)(Gysin-Maillart et al., 2016). ASSIP is designed to explore the personal narrative behind each patient's suicidal behaviour, directing therapeutic focus on the individual's underlying reasons for wanting to die. Integrating elements from cognitive-behavioural therapy (CBT), attachment theory, and action theory, ASSIP serves as a pragmatically developed psychotherapeutic intervention. It builds on therapeutic techniques previously shown to benefit suicidal individuals, creating a focused, person-centred approach.

ASSIP includes three intensive sessions, hence shorter than standard CBT. However, the ASSIP treatment is extended for two years via intermittent standardized letters, rendering the overall contact duration, longer than traditional CBT approaches. In a Swiss randomized clinical trial (RCT)(Gysin-Maillart et al., 2016), 60 patients received ASSIP in addition to standard care and 60 controls received standard treatment only, plus one assessment of suicidal ideation and behaviours. Active treatment gave an 80% risk reduction of a repeat suicide attempt over the two-year follow-up compared to controls. The study also reported potential health-economic benefits, with the ASSIP group showing a 72% reduction in inpatient days compared to the control group (Gysin-Maillart et al., 2016). Cost-effectiveness of 96% was shown in the same study (Park et al., 2018).

Replication studies have shown mixed results for ASSIP (Arvilommi et al., 2022; Conner et al., 2021). Some trials found no significant difference in reducing suicidal behaviour compared to other interventions, with outcomes potentially influenced by differences in patient characteristics and study limitations. Findings from replication studies indicate challenges with methodological consistency, cohort differences, and protocol adherence. Further research with larger, more diverse samples will help to clarify ASSIP's effectiveness across settings.

While there is evidence supporting ASSIP as a promising method in reducing suicidal behaviour in other contexts, its applicability within the Swedish healthcare system has not been previously evaluated. National and regional differences with regard to the organisation and structure of healthcare and the applied suicide prevention strategies may influence is feasibility and effectiveness. Understanding these factors is essential to determine how ASSIP can be successfully implemented in Sweden and whether modifications may be needed to enhance its effectiveness. This pilot study was conducted as part of a larger feasibility research effort to evaluate ASSIP, with the overarching goal to inform the design and implementation of a randomized controlled trial (RCT) (Lindström et al., 2024).

This study aims to explore and describe the clinical characteristics of patients recruited from psychiatric services after a suicide attempt, within the pilot phase for a randomized controlled study of ASSIP in Sweden. The specific aims are as follows:

1. To describe the clinical characteristics of a cohort of patients who have attempted suicide and participated in the Swedish ASSIP pilot and to describe the distribution of scores on suicide risk assessment scales, specifically the Suicide Assessment Scale (SUAS-S) and Suicide Intent Scale (SIS).
2. To compare SUAS-S scores at the first and third ASSIP sessions and to identify factors related to reductions in SUAS-S over the ASSIP intervention.
3. To analyse potential gender differences in clinical characteristics, as well as scores on the SUAS and SIS, within individuals included in the Swedish ASSIP pilot project.

Method

This paper represents a sub-study within a larger feasibility study aimed at preparing for a future RCT. While the broader feasibility study includes qualitative interviews with both patients and therapists, as well as the development of an adherence scale, the specific focus of this sub-study is on describing the recruited sample and potential change in the level of

symptoms related to suicide measured at the first and third ASSIP sessions.

Participants

This study involved 100 patients who had attempted suicide, recruited to the study in 2018–2022. Participants were recruited for treatment with ASSIP from psychiatric emergency units, inpatient wards, outpatient clinics and hospital-based psychiatric consultant teams. The recruitment sites were Stockholm, Gothenburg, Malmö, Lund, Helsingborg and Örebro. The inclusion criteria for this feasibility study were patients over the age of 18 who have attempted suicide (according to clinician referral) during the month before contact with the ASSIP team. Patients were included regardless of their suicidal intent or severity of attempt, provided they met the inclusion criteria. No further risk stratification was conducted during recruitment. Exclusion criteria for treatment with ASSIP included the inability to participate in psychotherapy without an interpreter, or a clinical assessment indicating that significant cognitive impairment, severe substance use disorder, or psychotic disorders with current symptoms would prevent meaningful participation in therapy or an adequate understanding of informed consent. Additional exclusion criteria were diagnosed with an emotionally unstable personality disorder or habitual self-harming behaviour. This is an exploratory pilot study, and the sample size (n = 100) was determined based on study logistics rather than a formal power calculation; data were collected during the training of ASSIP-therapists.

Procedure

Patients who met the study criteria, as identified by a psychiatrist, received verbal and written information from regular healthcare staff about the offer of receiving ASSIP as an add-on treatment. They also received verbal and written information from an ASSIP team clinician (nurse, psychologist, social worker or physician about the possibility of participating in the research project. All study participants gave their written consent to participate in the study. The ASSIP referral included personal information, the suicide attempt method, diagnosis, and current risk assessment.

Measures and variables

Definition of suicide attempt

"Self-inflicted, potentially harmful behaviour with the non-fatal outcome for which there is evidence (explicit or implicit) of intent to die" (Beck et al., 1972).

The method of attempted suicide in this study refers to the specific method used at the index suicide attempt. A non-violent method was defined as a drug overdose (e.g. poisoning with drugs) or a single wrist-cut; all other methods or combinations of methods were defined as violent (Träskman et al., 1981).

Suicide Intent Scale (SIS) (Beck et al., 1974) covers 15 items relating to recent suicide attempts. The items involve the risk of being found, the planning involved, the perceived fatality of the method and the wish to die from the attempt. Higher scores on the SIS indicate a higher level of suicidal intent, (scores >15 suggest a high suicide risk, <10 suggest a lower risk) (Beck et al., 1974). ASSIP therapists handed out the SIS in their first session with the patients.

The Suicide Assessment Scale Self-report (SUAS-S) (Niméus et al., 2000; Stanley et al., 1986), is a self-report rating scale consisting of 20 items assessing a patient's attitude towards suicide, suicide ideation and behaviour and other suicide-related symptoms over the past seven days, including the day of reporting. Each item is scored on a Likert-type scale from 0 to 4, resulting in a total score range of 0 to 80. For SUAS-S, score interpretation is context-specific, as the scale is primarily used to rate symptoms known to be related to suicidal behaviour over time. Thus, rather than focusing on a fixed cut-off, the SUAS-S allows clinicians to observe reductions or increases in suicidality as treatment progresses, providing a sensitive measure of treatment response and symptom fluctuations (Niméus et al., 2006). The ASSIP therapists administrated SUAS at the first and the third ASSIP sessions.

The diagnosis

The main diagnosis established by the referring clinician was categorized in accordance with ICD 10 (WHO, 1992): Mental and behavioural disorders: Substance use, Mood disorders, Neurotic, Stress-related and somatoform disorders, or Other psychiatric diagnoses. It should be noted that the diagnosis was set prior to the study participant's inclusion in the research project by the referring clinician, and we do not have information on whether the diagnosis was established using standardized methods.

Suicide risk

The referring psychiatrist assessed the patients' current suicide risk according to the following clinical

ratings: Minimal (Suicide risk does not need to be considered in care planning), To some extent (The safety plan must take into consideration that risk may increase with changes in illness/life situation), High (Suicide risk must be specifically considered in the care plan), Very high (Indication for immediate treatment and monitoring in inpatient care) or Unclear.

Ethical approval

The study received ethical approval from the Swedish Ethical Review Authority, reference number 2017/773 (2019-01456).

The intervention

ASSIP is a manual-based brief therapy specifically designed for individuals who have recently attempted suicide. It was also developed for lifetime behaviour and is intended to be provided as an add-on to standard treatment. ASSIP consists of three weekly sessions lasting no more than 60 minutes each.

During the first session, the patient is invited to share their narrative about the background leading up to their suicide attempt. This narrative interview, which is video recorded, aims to foster a shared understanding of the patterns that led to the suicidal crisis. At the end of the session, patients receive a short psycho-educative handout, tailored to include themes often connected to suicidal behaviour, encouraging them to reflect on their personal experiences before the next session.

During the second session, the therapist and patient sit side-by-side to watch the video recording from the first session. This provides a controlled re-engagement with the suicidal process in a safe environment. The therapist and the patient work together to identify specific vulnerabilities, recognize warning signs, and build effective coping strategies. Assisted by the therapist, the patient completes the psychoeducational handout, connecting their personal experiences with theoretical concepts.

For the third session, the therapist prepares a case conceptualization which summarizes the content of the previous conversation. This includes the background of the crisis, a list of the patient's long-term therapeutic goals, individual warning signs, and both short- and long-term safety strategies. The therapist and patient collaboratively review and refine this text, which they both sign. A copy of the case conceptualization is sent to relevant caregivers, as networking plays a crucial role. Additionally, a personalised safety plan in pocket format, also comprising the long-term goals - called a" Hope Leporello" - is created for the patient to carry with them as a reminder of their warning signs and strategies.

Follow-up letters signed by the therapist are sent every three months in the first year, and every six months in the second year. These letters remind the patient of the long-term risk of suicidal crises and reinforce the importance of following their safety strategies. The goal is to maintain a long-term therapeutic relationship and remind patients to use their strategies. This element shares similarities with the Caring Contacts intervention (Motto & Bostrom, 2001) which consists of brief, ongoing outreach messages aimed at maintaining connection and reducing suicidal behaviour. However, an important distinction is that in ASSIP, the letters are not a stand-alone intervention but an integrated part of a structured psychotherapeutic framework. The letters serve as a continuation of the therapeutic process, reinforcing key components discussed in the therapy sessions and maintaining a connection between the participant and the therapeutic context.

ASSIP therapists

Therapists were nurses (8), psychologists (3), social workers (2), and a psychiatrist working within psychiatric services- all with previous experience working with suicidal patients. The therapists were trained by the developers of ASSIP, Dr Konrad Michel and Dr Anja Gysin-Maillart, University Hospital for Psychiatry and Psychotherapy, Bern, Switzerland. ASSIP started with a two-day training, followed by the supervised treatment of five patients. After five approved treatments, the therapists were appointed certified therapists.

Statistical analysis

Descriptive statistics were used to summarize the demographic and clinical characteristics of the sample. We compared differences in suicide risk factors and clinical presentations by gender, employing t-tests for continuous variables and chi-square tests for categorical variables.

A linear regression model was applied to assess whether there was a statistically significant change in SUAS-S score from the 1st to the 3rd session, which in the basic analysis is modelled as the intercept. In the regression model, a range of other independent variables were included, such as gender, age, suicide method (violent vs. non-violent), clinical rating of suicide risk, days until 1st session, SIS score, and

diagnostic category (psychotic disorder, mood disorder, and anxiety disorders). Including these variables enabled the identification of potential predictors of change of SUAS-S score, and they also constituted control for potential confounders in the main analysis of the intercept as described above. The significance level was set to $p<.05$. All statistical analyses were performed using R software.

Results

Table 1 provides an overview of the demographic and diagnostic characteristics of participants at baseline. The cohort spans a broad age range (19 – 77 years), highlighting the diverse sample that was referred for ASSIP. The mean age for the total cohort was 44 years (SD 15.2), the mean age for women was 50 years (SD 15.2) and 40 years for men (SD 15.1In terms of clinical characteristics, Table 1 outlines participants' psychiatric diagnoses, including the distribution of common conditions such as depression, anxiety disorders, and substance use disorder.

Clinician rating of suicide risk shows that over 80% of all patients were assessed with a medium risk of suicide. Since no patients were assessed with very high or unclear suicide risk, these categories were omitted from the table. As anticipated, male participants more commonly had employed violent methods compared to female participants. Almost half of the study participants had mood disorders and almost two-fifths had an anxiety disorder.

The mean time from the index suicide attempt to the first ASSIP session varied (Table 2). The median was 23 days, with an interquartile range (IQR) of 14 to 42 days. Gender differences were minimal, with women having a median delay of 25 days (IQR 12–42) and men 22 days (IQR 16–42). While most participants began ASSIP within this range, four cases had significantly longer delays, with times to the first session ranging from 212 to 402 days. Excluding these outliers, the range was more consistent at 2 to 95 days.

Index SUAS-S scores indicate notable levels of suicide-related symptoms, contributing to the overall assessment of risk within the cohort (Table 2). These scores, in conjunction with the SIS, underscore the participants' clinical presentation and highlight the severity of suicidal ideation and behaviour that the

Table 1. Clinical characteristics and gender comparison of the patients included in the swedish pilot study of ASSIP.

Variables	% (n)	Missing % (n)	Female	Male	*p*
Total	100 (100)	2 (2)	48 (47)	52 (51)	
Suicide attempt method % (n)		14 (14)			**.008**
Non-violent	62.8 (54)		77.5 (31)	48.9 (22)	
Violent	37.2 (32)		22.5 (9)	51.1 (23)	
Suicide risk (referring clinician rating)% (n)		14 (14)			.072
Low	9.3 (8)		7.3 (3)	11.4 (5)	
Medium	81.4 (70)		90.2 (37)	72.7 (32)	
High	9.3 (8)		2.4 (1)	15.9 (7)	
Substance use disorder[a] % (n)		0			1
Yes	8 (8)		8.5 (4)	7.8 (4)	
Mood disorders % (n)		0			1
Yes	46 (46)		46.8 (22)	47.1 (24)	
Anxiety disorders % (n)		0			.536
Yes	39 (39)		42.6 (20)	35.3 (18)	

[a]Severe substance use disorder was an exclusion criterion.

Table 2. Distribution of scores on the suicide intent Scale (SIS) and suicide Assessment Scale-self-rate (SUAS-S), for session 1 and session 3, including gender comparison.

Variables	Mean (SD)	Missing n	Female	Male	*p*
Site % (n)		4			.144
Lund			34.8 (16)	20.8 (10)	
Malmö			17.4 (8)	18.8 (9)	
Helsingborg			6.5 (3)	2.1 (1)	
Gothenburg			17.4 (8)	10.4 (5)	
Stockholm			23.9 (11)	43.8 (21)	
Örebro			0 (0)	4.2 (2)	
Time from index suicide attempt to 1st session (days)Mean (SD)	45.4 (75.9)	32	37.5 (54.7)	47.3 (86.5)	.593
SIS, Mean (SD)	17.6 (4.6)	26	16.8 (4.4)	18.3 (4.6)	.179
SUAS 1st session, Mean (SD)	34.1 (14.5)	25	35.8 (12.9)	31.8 (15.4)	.224
SUAS 3rd session, Mean (SD)	23.1 (13.5)	53	25.8 (12.9)	20.5 (13.5)	.196
SUAS 1st session complete cases, Mean (SD)	31.9 (14.4)	56	36.0 (14.6)	27.8 (12.6)	.056
SUAS 3rd session complete cases, Mean (SD)	22.4 (13.5)	56	25.8 (12.9)	19.1 (12.9)	.100
SUAS difference, Mean (SD)	−9.5 (8.3)	56	−10.2 (6.6)	−8.7 (9.5)	.567

intervention, ASSIP, aims to address. Table 2, as well as Figure 1, shows a reduction of the SUAS-S scores by ASSIP Session 3, suggesting an initial decrease in suicide-related symptoms.

We used an explorative regression analysis to identify clinical factors associated with reductions in SUAS-S scores after ASSIP, including the 44 individuals with complete scores on SUAS-S for both the 1st and the 3rd session. Table 3 shows potential predictors for changes in the Suicide Assessment Scale Self-rate (SUAS- S) scores from the first to the third session of ASSIP. The intercept, estimated at -9.5, indicates that, on average, participants experienced a reduction in SUAS scores over the course of the three ASSIP sessions, with no additional effects from the tested variables. None of the predictor variables—such as gender, age, method of suicide attempt, or suicide risk level—were found to influence the change in SUAS-S scores.

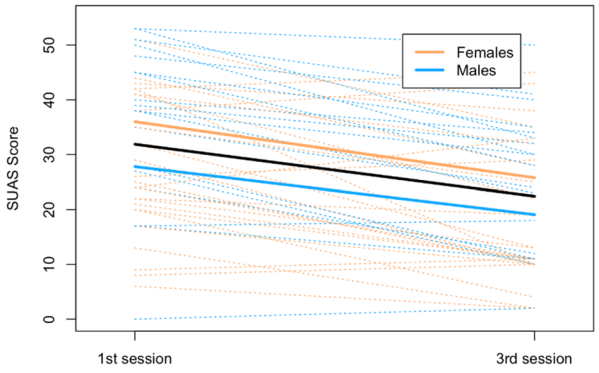

Figure 1. Overview of the development of SUAS-S* scores from 1st to 3rd session of ASSIP.
Note: Mean scores are shown in solid lines and individual scores in dotted lines. Black: mean score for total group. Only cases with complete scores (no data missing) for both session 1 and session 3 are included ($n = 44$).
*Suicide Intent Scale and Suicide Assessment Scale Self-Rate.

Table 3. Linear regression of predictors of change in suicide Assessment Scale (SUAS-S) scores.

Variables	Estimate (95% CI)	*p*
Total (intercept)	−9.5 (−11.9–7)	**.008**
Gender		
Female	1	–
Male	1.5 (−3.6–6.6)	.567
Age	0.1 (−0.1–0.3)	.231
Suicide attempt method		
Non-violent	1	–
Violent	2.1 (−3.3–7.6)	.446
Referring clinician's rating of suicide risk		
Low	1	–
Medium	4.1 (−5.9–14.2)	.425
High	5.5 (−9.8–20.8)	.485
Psychotic Disorder		
No	1	–
Yes	−5.7 (−22.2–10.8)	.504
Mood Disorder		
No	1	–
Yes	−2 (−6.9–3)	.441
Anxiety disorders		
No	1	–
Yes	0.3 (−4.7–5.3)	.908
Days until 1st session	0 (−0.1–0)	.543
SIS	0.4 (−0.1–0.9)	.161

Bold values indicates significant at 0.05 level.

Discussion

The results of this study provide insight into the clinical characteristics of individuals engaging in the Swedish ASSIP pilot study. Participants presented with a high prevalence of psychiatric diagnoses, including mood and anxiety disorders, underscoring the complex mental health needs within this cohort. Mean SIS scores were similar in men and women and reflected a relatively high level of suicidal intent based on normative studies (Freedenthal, 2008), emphasizing the severity of risk in this population. Importantly, reductions in SUAS-S scores were noted by the third ASSIP session. These findings contribute valuable data on ASSIP's application in a Swedish context with high-risk individuals.

Age is a well-documented factor in suicide attempts, with young people, especially adolescents and young adults, being at higher risk (Conejero et al., 2016). Studies suggest that suicide attempt rates peak in late adolescence and early adulthood, particularly among females, and then decline with age. In contrast, death by suicide is more prevalent among older adults, especially men. In this Swedish cohort, we found a mean age of 44 years (range 19–77 years). This older age is notable, as it lies above the peak risk period for suicide attempts generally observed in younger populations. A possible explanation could be that we excluded individuals with emotionally unstable personality disorders and those whose self-harming behaviours lacked suicidal intent.

Gender also plays a significant role in suicidal behaviour, with women generally more likely to attempt suicide, whereas men have higher rates of suicide deaths (Blasco-Fontecilla et al., 2016; Mendez-Bustos, Lopez-Castroman, et al., 2013). This gender paradox is often attributed to differences in suicide attempt methods. In our cohort, men were more likely to use violent methods in their attempts. This aligns with broader research findings on gender differences in method selection, suggesting that men's choice of more lethal methods may necessitate a stronger emphasis on immediate intervention strategiesWithin ASSIP, safety planning includes discussions on reducing access to lethal methods, in alignment with established interventions such as the Safety Planning Intervention (SPI) (Stanley & Brown,

2012). Ensuring that individuals at risk have reduced access to means remains a critical component of suicide prevention and is an essential part of ASSIP's therapeutic process.

Many individuals who attempt suicide experience overlapping mental health issues, reflected in the high prevalence of prior psychiatric diagnoses in this study, which highlights a population with significant mental health needs. The presence of psychiatric disorders such as depression, anxiety, and substance use disorders, is a well-known factor influencing suicide attempts (Blasco-Fontecilla et al., 2016; Mendez-Bustos, de Leon-Martinez, et al., 2013). Our study sample included a high prevalence of affective and anxiety disorders, consistent with findings in the literature, reinforcing the importance of addressing mental health disorders in suicide prevention. As ASSIP is an add-on treatment, all patients recruited in the study have other ongoing psychiatric treatments. Notably, patients with psychotic or substance use disorders on the more severe end of the spectrum were excluded from participation in the study, which may explain the lower observed prevalence of substance use and psychotic disorders in comparison to other samples of individuals who have attempted suicide.

Some differences emerge upon comparison of sociodemographic characteristics of participants in the present pilot ASSIP study with the Swiss (Gysin-Maillart et al., 2016) and Finnish RCTs (Arvilommi et al., 2022) and the American pilot RCT study (Conner et al., 2021) The Swedish cohort had a higher mean age of 44 years, contrasting with the younger average ages in the Swiss RCT (37–40 years) and the Finnish RCT (around 32 years). The US pilot study had a mean age closer to ours at 41 years. Variations in age profiles may affect intervention outcomes. The age distribution in this study (mean age: 44 years) is notably higher than in previous ASSIP trials and is likely influenced by the recruitment process. The clinical units that contributed the most participants to the study may serve older patient populations than in prior studies. There are ongoing adaptations of ASSIP for adolescents (Konrad Michel, personal communication, 2024) and ASSIP is currently being modified for older adults (Margda Waern, personal communication, 2024).

Gender distribution also varied among the ASSIP studies. The present study had a nearly balanced gender composition (52% men and 48% women), while the Finnish RCT (Arvilommi et al., 2022) included approximately 70% women. The Swiss study (Gysin-Maillart et al., 2016) was more similar to ours, with 45% men and 55% women, while the US pilot study (Conner et al., 2021) also had a majority of female participants.

In terms of clinical backgrounds, affective and anxiety disorders were common across all studies, yet participants in the Swiss and Finnish RCTs had a high proportion of individuals with multiple prior suicide attempts (50% in Switzerland and 45% in Finland). Previous suicide attempts are not reported in the present study. The US pilot targeted individuals hospitalized due to substance use problems, with 62% of participants presenting with substance use disorder.

The present Swedish pilot study measured outcomes through the Suicide Assessment Scale (SUAS) after three ASSIP sessions, providing short-term results. To our knowledge, few, if any, psychotherapy studies have used the Suicide Assessment Scale (SUAS-S) to monitor changes in suicide-related symptoms over time. As opposed to previous RCTs of ASSIP, we did not study long-term effects but chose an immediate post-treatment outcome in this pilot study. In the US pilot RCT study (Conner et al., 2021), the intervention was adapted for individuals hospitalized with substance use issues, a notably high-risk group where suicide risk and substance misuse are often intertwined. ASSIP was conducted at the bedside of individuals in the hospital, within 1–2 days. Although no significant difference in repeat suicide attempts was observed between ASSIP and controls, the ASSIP group showed reduced suicidal ideation-possibly aligning with the SUAS-S score reduction noted in our study. The study faced limitations, including an underpowered sample due to early cessation during the COVID-19 pandemic, but highlighted that ASSIP's flexible adaptation to address dual diagnoses holds promise.

Results from this uncontrolled Swedish pilot study align with a growing body of literature supporting "sudden gains"- rapid and significant improvements in mental health outcomes through targeted interventions (Aderka et al., 2012). In our cohort, reductions in suicidal symptoms by the third ASSIP session suggest that brief interventions may yield measurable benefits in a relatively short interval. ASSIP's structured approach, which emphasizes the establishment of a strong therapeutic alliance and tailored safety planning, may similarly catalyse these gains, enabling individuals to shift more quickly away from suicidal ideation. However, it is important to note that, in line with Jan Beskow's model of the suicidal process (Beskow et al., 2013) suicidality often decreases naturally following a suicide attempt.

Without a control group, it remains uncertain whether the observed symptom reduction is attributable to ASSIP.

Conclusion

This pilot study offers insights into the clinical characteristics, gender differences, and initial outcomes of individuals receiving ASSIP in Sweden. The findings revealed a high prevalence of mood and anxiety disorders, emphasizing the significant mental health needs within this cohort. Gender differences were observed in the choice of suicide attempt methods, with men more likely to use violent methods, while no differences were found in suicidal intent or symptom severity at baseline. SIS scores indicated a high-risk population, underscoring the severity of suicidal intent in this group. A reduction in SUAS-S scores was noted after three sessions of ASSIP. These results support the feasibility of integrating ASSIP into Swedish psychiatric care and provide a solid foundation for future research into its effectiveness in diverse clinical settings.

Limitations

This study has several limitations that should be considered when interpreting the results. First, the small sample size and relatively large amount of missing data in this pilot study limits the generalizability of findings, as it may not fully represent the broader population of individuals at risk for suicide after a previous suicide attempt. Larger, more diverse samples are needed to validate these preliminary findings and to ensure that they apply across different demographic and clinical groups.

Since ASSIP is an adjunct to regular treatment, and we did not have a comparison condition, the observed reductions in SUAS-S scores cannot be attributed to ASSIP, but may be due to other concurrent treatments or a natural recovery processes. This limitation underscores the need for future studies employing randomized controlled designs to evaluate the intervention's efficacy more robustly. Specifically, the ongoing ASSIP RCT in Sweden (Lindström et al., 2024) aims to address this by providing a comparative framework and a longitudinal follow-up to assess outcomes such as attempt frequency over two years, offering deeper insights into the characteristics and trajectories of individuals with and without the ASSIP intervention.

Another limitation is the reliance on self-report measures, which may be subject to bias, including social desirability or recall bias (Sjöberg, L. 2015). Although self-reporting is commonly used in suicide prevention research, future studies could benefit from incorporating objective measures, such as clinician-rated assessments or behavioural data, to corroborate self-reported changes in suicidality. Additionally, while the use of the Suicide Assessment Scale (SUAS-S) provides a focused measure of suicidality, it is a less widely used tool, which may limit comparability with other studies that use other standardized scales. Further research would benefit from cross-validating SUAS-S with more established measures of suicidal ideation and behaviour to enhance the interpretability and applicability of results. Further, the present study did not collect data on previous suicide attempts. Individuals with repeated suicide attempts are a group with higher suicide risk (Probert-Lindström et al., 2022).

A further limitation of this study is the amount of missing data. Data collection for research measures was conducted by the ASSIP therapists, and not by research staff. Hence, structured data collection procedures were at times overlooked, leading to incomplete data To improve data quality in future studies, data collection should preferably be conducted through electronic systems and managed by research nurses or research assistants rather than therapists. This approach would help ensure standardized and complete data collection while allowing therapists to focus fully on clinical delivery.

Another limitation of this study is that psychiatric diagnoses were established by the referring clinician prior to study inclusion, without a standardized diagnostic procedure. This may have introduced variability in diagnostic classification.

Further, variations in the therapist's background and clinical experience may have influenced intervention delivery. While therapists had structured training and supervision to standardise treatment delivery, future studies should also assess method adherence as well ass therapist characteristics.

Lastly, this study only followed participants through the initial sessions of ASSIP, not including the follow-up letters, leaving the long-term outcomes unknown. Longitudinal follow-up including also a control group is essential to determine the intervention's lasting impact on participants' mental health and suicide risk.

Future research

Future research should focus on evaluating the long-term effectiveness of ASSIP through randomized controlled trials (RCTs) that include larger and more

diverse samples. Such studies could explore not only reductions in repeat suicide attempts but also broader psychosocial outcomes, such as improved quality of life and reduced healthcare utilization. Additionally, it would be valuable to investigate how demographic and clinical factors, such as age, gender, previous suicide attempts, and psychiatric diagnoses, influence treatment outcomes. Doing so would provide a clearer understanding of ASSIP's impact compared to other interventions.

While our study provides insights into the initial outcomes to ASSIP in a Swedish clinical setting, several important questions remain unanswered. Our findings are limited to the initial three sessions. Therefore, we cannot assess whether the follow-up letters contribute to long-term outcomes or sustained engagement with suicide prevention efforts. Previous research, such as the Caring Contacts intervention (Motto & Bostrom, 2001), suggests that continued outreach may play a role in reducing suicide risk over time. However, whether the structured follow-up letters in ASSIP provide an additional protective effect, beyond the therapy sessions themselves, remains an open question.

Further research is needed to explore the long-term effectiveness of ASSIP, particularly identifying particularly identifying specific components that contribute most to the intervention's effectiveness. These questions will be addressed in our upcoming RCT which will allow for a more rigorous evaluation of ASSIP's effects over time.

Author contributions

SL collected data, was involved in the planning of the study, grant application, and data interpretation, drafted the second version of the manuscript and made all revisions. JB performed the statistical calculations, created the tables, and contributed to data interpretation and revisions of the manuscript. JCE drafted the first version of the manuscript, made initial data analyses and contributed to data interpretation. AE was involved in the study's planning, grant application, data interpretation, and manuscript revision. MW was local investigator at the Gothenburg site, procured funding, and contributed to data interpretation and manuscript revision. MD provided support to therapists at the Stockholm site and contributed to data interpretation and manuscript revision. AGM is one of the inventors of the method, provided training and supervision for the therapists, and contributed to data interpretation and revisions to the manuscript. ÅW was the principal investigator, planned the study, applied for grants, and contributed data interpretation and revisions to the manuscript. BR contributed to the planning of the study, data interpretation and revisions of the manuscript. All authors approved the final version.

Disclosure statement

The authors report there are no competing interests to declare.

Funding

This work was supported by The Southern Health Care Region, Sweden, the National Board of Public Health, and regional grants (USVE, ALF). Additional funding was provided by the Swedish Research Council (VR 2018-06505, ÅW) and the Swedish Research Council for Health, Working Life and Welfare (2019-01674, ÅW; 2016-07097, MW).

About the authors

Sara Lindström PhD Department of Clinical Sciences, Lund University Faculty of Medicine, Lund, Sweden Department of Psychiatry, Skåne University Hospital, Lund, Sweden Dr. Lindström is a postdoctoral researcher specializing in clinical suicide prevention with a focus on psychosocial and epidemiological aspects of suicidality. She is the coordinator for clinical suicide prevention in Region Skåne and holds a doctorate on healthcare contacts preceding suicide and long-term outcomes after suicide attempts. She is a licensed psychotherapist (CBT).

Johanna Clausen Ekefjärd MSc Department of Clinical Sciences, Lund University Faculty of Medicine, Lund, Sweden Ms. Clausen Ekefjärd is a clinical psychologist, psychotherapist (CBT) specialist in clinical psychology and CBT supervisor with interests in suicide prevention, risk formulation, and patient-centered mental health interventions. She is currently the manager of a psychiatric outpatient clinic.

Jonas Berge MD, PhD Department of Clinical Sciences, Lund University Faculty of Medicine, Lund, Sweden Addiction Center Malmö, Malmö, Sweden Dr. Berge is an Associate Professor of Psychiatry and a senior consultant at the Addiction Center Malmö. His research combines register-based epidemiology and patient-centred approaches in psychiatry, suicide prevention, and addiction medicine. He has extensive experience with national health data and advanced statistical methods. He also serves as head of the Regional Addiction Competence Center in Region Skåne.

Marie Dahlin MD, PhD Centre for Psychiatry Research, Department of Clinical Neuroscience, Karolinska Institute & Stockholm Health Care Services, Region Stockholm, SE-112 81, Stockholm, Sweden Dr. Dahlin is an Associate Professor of Psychiatry and Senior Consultant at Norra Stockholms Psykiatri. She is the Director of the Medical Programme at Karolinska Institutet and leads a research group focused on suicidology and student mental health. Her academic work is based at the Centre for Psychiatry Research, and she is also Coordinator of Undergraduate Education in Psychiatry at the same centre.

Anja Gysin-Maillart PhD [5] University Hospital of Psychiatry Bern, Switzerland Dr. Gysin-Maillart is a senior psychologist and psychotherapist at the University Hospital of Psychiatry Bern. She is co-developer and international lead of the

Attempted Suicide Short Intervention Program (ASSIP), with a research focus on therapeutic processes in brief interventions aimed at reducing suicidal behavior. She is affiliated with the Translational Research Center at UPD Bern and actively collaborates with international research groups across Europe and the U.S. She also holds visiting academic positions at the University of Leipzig and Lund University.

Anna Ehnvall MD, PhD Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, University of Gothenburg, SE-413 45, Gothenburg, Sweden Psychiatric Outpatient Clinic, Region Halland, SE-432 43, Varberg, Sweden Dr. Ehnvall is an Associate Professor at the University of Gothenburg, Consultant Psychiatrist, and licensed psychotherapist and supervisor in CBT. She has extensive experience in psychotherapy education and clinical psychiatry. Her research focuses on suicide prevention, mechanisms of suicidality, affective disorders and emotional pain.

Bo Runeson MD, PhD Centre for Psychiatry Research, Department of Clinical Neuroscience, Karolinska Institute & Stockholm Health Care Services, Region Stockholm, SE-112 81, Stockholm, Sweden Professor Runeson is a senior psychiatrist and leading suicide researcher. His work spans clinical psychiatry and epidemiological research on suicide, violence, and mental health in young people. He has led research using national registers and clinical data and was instrumental in establishing the Swedish quality register for bipolar disorder (BipoläR). He has served as a scientific advisor to the Swedish Council on Health Technology Assessment, the National Board of Health and Welfare, and the Swedish Prison and Probation Service.

Margda Waern MD, PhD Department of Psychiatry and Neurochemistry, Institute of Neuroscience and Physiology, University of Gothenburg, SE-413 45, Gothenburg, Sweden Department of Psychotic Disorders, Sahlgrenska University Hospital, Region Västra Götaland, SE-431 30, Mölndal, Sweden Professor Waern is a psychiatrist and senior researcher specializing in mental health and suicide prevention among older adults. Her research addresses epidemiology, psychosocial risk factors, and suicide prevention. She is affiliated with the University of Gothenburg and Sahlgrenska University Hospital.

Åsa Westrin MD, PhD Department of Clinical Sciences, Lund University Faculty of Medicine, Lund, Sweden Department of Psychiatry, Skåne University Hospital, Lund, Sweden Professor Westrin is a psychiatrist and senior suicide researcher with expertise in biological, clinical, and psychotherapeutic aspects of suicidality. She has led several large-scale suicide studies. Her work has informed national and international guidelines. She remains actively engaged in clinical practice and the education of healthcare professionals in suicide risk management.

ORCID

Sara Lindström http://orcid.org/0000-0003-0333-1887

Data availability statement

Data is available upon reasonable request.

References

Aderka, I. M., Nickerson, A., Bøe, H. J., & Hofmann, S. (2012). Sudden gains during psychological treatments of anxiety and depression: A meta-analysis. *Journal of Consulting and Clinical Psychology*, *80*(1), 93–101. https://doi.org/10.1037/a0026455

Arvilommi, P., Valkonen, J., Ruishalme, O., Kukkonen, M., Sihvola, H., Lindholm, L., Suominen, K., Gaily-Luoma, S., & Isometsä, E. (2022). A randomized clinical trial of the ASSIP vs. crisis counselling in preventing suicide attempt repetition: A two-year follow-up study. *Nordic Journal of Psychiatry, 75*(S1), S10. https://doi.org/10.1080/08039488.2021.2019916

Beck, A. T., Davis, J. H., Frederick, C. J., Perlin, S., Pokorny, A. D., Schulman, R. E., Seiden, R. H., & Wittlin, B.J. (Eds.) (1972). Classification and nomenclature. In: Resnik, H. L. P., & Hathorne, B. C. (Eds.), *Suicide prevention in the seventies* (pp. 7-12). Government Printing Office.

Beck, A. T., Herman, I., & Scuyler, D (Eds.) (1974). *Development of suicidal intent scales, The predicion of suicide*. Charles Press.

Beskow, J., Palm Beskow, A., & Ehnvall, A. (2013). *Suicidalitet som problemlösning, olyckshändelse och trauma* (1. uppl. ed.) [Non-fiction]. Studentlitteratur. https://ludwig.lub.lu.se/login?url= https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=cat07147a&AN=lub.2841454&site=eds-live&scope=site

Blasco-Fontecilla, H., Rodrigo-Yanguas, M., Giner, L., Lobato-Rodriguez, M. J., & de Leon, J. (2016). Patterns of comorbidity of suicide attempters: An update. *Current Psychiatry Reports*, *18*(10), 93. https://doi.org/10.1007/s11920-016-0733-y

Bostwick, J. M., Pabbati, C., Geske, J. R., & McKean, A. J. (2016). Suicide attempt as a risk factor for completed suicide: Even more lethal than we knew. *The American Journal of Psychiatry*, *173*(11), 1094–1100. https://doi.org/10.1176/appi.ajp.2016.15070854

Conejero, I., Lopez-Castroman, J., Giner, L., & Baca-Garcia, E. (2016). Sociodemographic antecedent validators of suicidal behavior: A review of recent literature. *Current Psychiatry Reports*, *18*(10), 94. https://doi.org/10.1007/s11920-016-0732-z

Conner, K. R., Kearns, J. C., Esposito, E. C., Pizzarello, E., Wiegand, T. J., Britton, P. C., Michel, K., Gysin-Maillart, A. C., & Goldston, D. B. (2021). Pilot RCT of the Attempted Suicide Short Intervention Program (ASSIP) adapted for rapid delivery during hospitalization to adult suicide attempt patients with substance use problems. *General Hospital Psychiatry*, *72*, 66–72. https://doi.org/10.1016/j.genhosppsych.2021.07.002

De Moore, G. M., & Robertson, A. R. (1996). Suicide in the 18 years after Deliberate Self-Harm a prospective study. *The British Journal of Psychiatry: The Journal of Mental Science*, *169*(4), 489–494. https://doi.org/10.1192/bjp.169.4.489

Freedenthal, S. (2008). Assessing the wish to die: A 30-year review of the suicide intent scale. *Archives of Suicide Research: official Journal of the International Academy for Suicide Research*, *12*(4), 277–298. https://doi.org/10.1080/13811110802324698

Gysin-Maillart, A., Schwab, S., Soravia, L., Megert, M., & Michel, K. (2016). A novel brief therapy for patients who attempt suicide: A 24-months follow-up randomized controlled study of the Attempted Suicide Short Intervention Program (ASSIP). In (Vol. 13).

Jenkins, G. R., Hale, R., Papanastassiou, M., Crawford, M. J., & Tyrer, P. (2002). Suicide rate 22 years after parasuicide: Cohort study. *BMJ (Clinical Research Ed.)*, *325*(7373), 1155–1155. http://ludwig.lub.lu.se/login?url= http://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.25452903&site=eds-live&scope=site https://doi.org/10.1136/bmj.325.7373.1155

Lindström, S., Ehnvall, A., Bergqvist, E., Waern, M., Dahlin, M., & Westrin, Å. (2024). A study protocol of the effectiveness of the Attempted Suicide Short Intervention Program (ASSIP) for recent suicide attempters: A randomized controlled trial. *BMC Psychiatry*, *24*(1), 655. https://doi.org/10.1186/s12888-024-06109-z

Mendez-Bustos, P., de Leon-Martinez, V., Miret, M., Baca-Garcia, E., & Lopez-Castroman, J. (2013). Suicide reattempters. *Harvard Review of Psychiatry*, *21*(6), 281–295. https://doi.org/10.1097/HRP.0000000000000001

Mendez-Bustos, P., Lopez-Castroman, J., Baca-García, E., & Ceverino, A. (2013). Life cycle and suicidal behavior among women. *TheScientificWorldJournal*, *2013*(1), 485851. https://doi.org/10.1155/2013/485851

Motto, J. A., & Bostrom, A. G. (2001). A randomized controlled trial of postcrisis suicide prevention. *Psychiatric Services (Washington, D.C.)*, *52*(6), 828–833. https://doi.org/10.1176/appi.ps.52.6.828

Niméus, A., Alsén, M., & Träskman-Bendz, L. (2000). The suicide assessment scale: An instrument assessing suicide risk of suicide attempters. *European Psychiatry: The Journal of the Association of European Psychiatrists*, *15*(7), 416–423. https://doi.org/10.1016/s0924-9338(00)00512-5

Niméus, A., Hjalmarsson Ståhlfors, F., Sunnqvist, C., Stanley, B., & Träskman-Bendz, L. (2006). Evaluation of a modified interview version and of a self-rating version of the Suicide Assessment Scale. *European Psychiatry: The Journal of the Association of European Psychiatrists*, *21*(7), 471–477. https://doi.org/10.1016/j.eurpsy.2006.01.011

Park, A.-L., Gysin-Maillart, A., Müller, T. J., Exadaktylos, A., & Michel, K. (2018). Cost-effectiveness of a brief structured intervention program aimed at preventing repeat suicide attempts among those who previously attempted suicide: A secondary analysis of the ASSIP randomized clinical trial. *JAMA Network Open*, *1*(6), e183680.https://doi.org/10.1001/jamanetworkopen.2018.3680

Probert-Lindström, S., Berge, J., Westrin, Å., Öjehagen, A., & Skogman Pavulans, K. (2020). Long-term risk factors for suicide in suicide attempters examined at a medical emergency in patient unit: Results from a 32-year follow-up study. *BMJ Open*, *10*(10), e038794. https://doi.org/10.1136/bmjopen-2020-038794

Probert-Lindström, S., Öjehagen, A., Ambrus, L., Skogman Pavulans, K., & Berge, J. (2022). Excess mortality by suicide in high-risk subgroups of suicide attempters: A prospective study of standardised mortality rates in suicide attempters examined at a medical emergency inpatient unit. *BMJ Open*, *12*(5), e054898. https://doi.org/10.1136/bmjopen-2021-054898

Sobanski, T., Josfeld, S., Peikert, G., & Wagner, G. (2021). Psychotherapeutic interventions for the prevention of suicide re-attempts: A systematic review. *Psychological Medicine*, *51*(15), 2525–2540. https://doi.org/10.1017/S0033291721003081

Stanley, B., & Brown, G. K. (2012). Safety planning intervention: A brief intervention to mitigate suicide risk. *Cognitive and Behavioral Practice*, *19*(2), 256–264. https://doi.org/10.1016/j.cbpra.2011.01.001

Stanley, B., Träskman-Bendz, L., & Stanley, M. (1986). The suicide assessment scale: A scale evaluating change in suicidal behavior. *Psychopharmacology Bulletin*, *22*(1), 200–205.

Suokas, J., Suominen, K., & Lönnqvist, J. (2005). Chronic alcohol problems among suicide attempters - post-mortem findings of a 14-year follow-up/Chronic alcohol problems among suicide attempters - post-mortem findings of a 14-year follow-up. *Nordic Journal of Psychiatry*, *59*(1), 45–50. https://doi.org/10.1080/08039480510018823

Suominen, K., Isometsä, E., Ostamo, A., & Lönnqvist, J. (2004). Level of suicidal intent predicts overall mortality and suicide after attempted suicide: A 12-year follow-up study. *BMC Psychiatry*, *4*, 11–17. https://doi.org/10.1186/1471-244X-4-11

Suominen, K., Isometsä, E., Suokas, J., Haukka, J., Achte, K., & Lönnqvist, J. (2004). Completed suicide after a suicide attempt: A 37-year follow-up study. *The American Journal of Psychiatry*, *161*(3), 562–563. https://doi.org/10.1176/appi.ajp.161.3.562

Tejedor, M. C., Díaz, A., Castillón, J. J., & Pericay, J. M. (1999). Attempted suicide: Repetition and survival-findings of a follow-up study. *Acta Psychiatrica Scandinavica*, *100*(3), 205–211. https://doi.org/10.1111/j.1600-0447.1999.tb10847.x

Tidemalm, D., Beckman, K., Dahlin, M., Vaez, M., Lichtenstein, P., Långström, N., & Runeson, B. (2015). Age-specific suicide mortality following non-fatal self-harm: National cohort study in Sweden. *Psychological Medicine*, *45*(8), 1699–1707. https://doi.org/10.1017/S0033291714002827

Tidemalm, D., Långström, N., Lichtenstein, P., & Runeson, B. (2008). Risk of suicide after suicide attempt according to coexisting psychiatric disorder: Swedish cohort study with long term follow-up. *BMJ (Clinical Research Ed.),)*, *337*(v183), a2205–a2205. https://doi.org/10.1136/bmj.a2205

Träskman, L., Asberg, M., Bertilsson, L., & Sjöstrand, L. (1981). Monoamine metabolites in CSF an suicidal behaviour. *Archives of General Psychiatry*, *38*(6), 631–636. https://doi.org/10.1001/archpsyc.1981.01780310031002

van Ballegooijen, W., Rawee, J., Palantza, C., Miguel, C., Harrer, M., Cristea, I., de Winter, R., Gilissen, R., Eikelenboom, M., Beekman, A., & Cuijpers, P. (2025). Suicidal Ideation and Suicide Attempts After Direct or Indirect Psychotherapy: A Systematic Review and Meta-Analysis. *JAMA Psychiatry*, *82*(1), 31–37. https://doi.org/10.1001/jamapsychiatry.2024.2854

Wang, A. G., & Mortensen, G. (2006). Core features of repeated suicidal behaviour: A long term follow-up after suicide attempts in a low-suicide-incidence population.

Social Psychiatry and Psychiatric Epidemiology, *41*(2), 103–107. https://doi.org/10.1007/s00127-005-0980-4

WHO. (1992). *International statistical classification of diseases and related health problems: ICD-10* (10th rev. ed.) [Non-fiction]. World Health Organization. http://ludwig.lub.lu.se/login?url= https://search.ebscohost.com/login.aspx?direct=true&db=cat07147a&AN=lub.860475&site=eds-live&scope=site

WHO. (2014). *Preventing suicide: A global imperative*. World Health Organization.