The impact of a trauma-informed approach intervention or strategies for suicide prevention across the lifespan: A rapid review of the evidence

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If you need help

Reading about trauma and suicide can raise all sorts of thoughts and feelings. If you are concerned about your wellbeing, or the wellbeing of a loved one, and would like some assistance, listed below are some places you can contact for support:

- StandBy - Support After Suicide **1300 727 247**. 24/7 support for anyone bereaved or impacted by suicide.
- Lifeline **13 11 14**. 24/7 phone counselling, and online crisis support chat available each evening.
- Suicide Call Back Service **1300 659 467**. National 24/7 professional telephone and online counselling for anyone affected by suicide.
- Kids' Helpline **1800 55 1800**. 24/7 phone and online counselling for youth (5–25 years).
- MensLine Australia **1300 78 99 78**. 24/7 advice, therapy and support for men with family and relationship concerns.
- Thirrili National Indigenous Postvention Service **1800 805 801**. 24/7 telephone support.
- Beyond Blue **1300 22 4636**. 24/7 telephone, online and e-mail counselling.
- QLife **1800 184 527**. Online chat or phone counselling for lesbian, gay, bisexual, transgender and intersex people, 3pm–midnight, 7 days a week.
- Open Arms **1800 011 046**. 24/7 phone and online counselling for veterans and their families.

Abstract

This rapid review aimed to review recent published literature and describe the current evidence regarding a trauma-informed approach or strategies for suicide prevention, the impact of interventions and or strategies, as well as barriers and facilitators. Systematic searches were conducted in eight databases and one website: Medline, Embase, PsycINFO, ProQuest Psychology Database, The Cochrane Library, Ovid Emcare, Ovid Nursing, JBI and Google Scholar. Searches were conducted with no publication date limit. This review followed PRISMA guidelines. Full-text studies that did not meet the inclusion criteria were excluded based on group discussion involving four reviewers. A total of six studies met the inclusion criteria. Results were screened by three reviewers. Critical appraisal and data extraction were also completed by two reviewers. Due to the clinical heterogeneity of the included studies a meta-analysis could not be conducted. Therefore, findings are presented in a narrative format. Also reported is one discursive paper of a study without participant data yet providing useful context on the application of trauma-informed care in schools. Despite most studies involving youth, with limited evidence for impact upon adults, studies did involve junior doctors and young Asian American women. Despite study heterogeneity and the many challenges associated with sustained trauma-informed approaches, there are promising indications for an approach that is structured, personalised, collaborative, strengths based and orientated towards promoting hope and reasons for staying safe and alive.

Introduction

Suicide is a significant global public health concern. It is estimated that more than 700,000 people die by suicide globally every year (WHO 2021). In 2016 the global average rate was 10.5 per 100,000 people, with more than 50 per cent of global suicides occurring before the age of 45 years (WHO 2019). Moreover, the impacts of suicide are pervasive and substantial. Self-harm and attempted suicide are considered strong predictors of lifetime risk of suicide. It is estimated that for everyone that dies from suicide up to 135 people are exposed (know the person) (Cerel et al. 2019).

In 2020, 3,139 people in Australia died by suicide, which is 6.6% lower than the number of suicide deaths in 2019 (n=3,318). This represents an average of 9 people per day. The age-standardised mean suicide rate in 2020 was 12.1 per 100,000 population. In 2020, 454 young people aged 15–24

died by suicide, representing 21.2 deaths per 100,000 people. Over one-third of deaths in 15–24-year-olds are due to suicide. Suicide was the most common cause of death for adults aged 15–44, with 1,612 deaths by suicide in this group (Australian Bureau of Statistics 2021; Suicide Prevention Australia 2021).

Recent data on suicide deaths in Australia also reveals high prevalence rates in regional and rural Australia. Especially vulnerable to suicide risk are farmers under 35, both living and working at a farm, experiencing financial hardship and living in outer remote or very remote regions (Austin et al. 2018).

Self-harm and suicide behaviour can also be common among people who belong to minority groups. For Aboriginal and Torres Strait Islander people, for example, the age-standardised suicide rate is more than twofold than that of non-First Nation Australians (27.1 compared to 12.1 per 100,000 in 2019). In 2020 there were 223 Aboriginal and Torres Strait Islander peoples who died by suicide. The median age of death by suicide of Aboriginal and Torres Strait Islander peoples is 31.3 years, more than a decade younger than the median age of death by suicide for the general population of 43.5 years (Suicide Prevention Australia 2021).

Members of the LGBTQIA+ community are also at increased risk when compared to those who identify as heteronormative. It is estimated that 33 per cent of LGBTQIA+ people aged 16–27 report having self-harmed, 41 per cent had thoughts of harming themselves, and 16 per cent reported having attempted suicide (Robinson et al. 2014). Previous suicide attempts were also reported by 48.1 per cent of transgender and gender diverse people aged 14–25 (Strauss et al. 2017).

Trauma Informed Approaches

People who die by or attempt suicide and those who engage in self-harm have elevated rates of trauma exposure (Asarnow et al. 2020). The experience of individual trauma can result from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's social, emotional, physical functioning and mental or spiritual well-being (Procter et al. 2017). Trauma may

include interpersonal violence (e.g., sexual, physical or emotional abuse and neglect), unexpected loss, terrorism, natural disasters, and/or witnessing others experience these same traumas (NETI 2005). For many, the experience of such events is usually repetitive, intentional, prolonged and severe, which means that the impact of trauma can be enduring and pervasive (NETI 2005).

People with trauma backgrounds do not respond to stress in the same way as those without trauma backgrounds. When stressed or experiencing a heightened state of emotional stimulation, they can experience feelings likened to be being retraumatised from retrieval and re-living of traumatic memories, sensory information, or behaviours associated with earlier traumatic experiences (Van der Kolk 1994). The body's stress response system overstimulates arousal regulation which influences affect and behavioural regulation (Warner et al. 2013).

Many people who experience suicide and self-harm related distress and interact with mental health or addiction services are known to have a personal history involving physical, psychological and/or emotional trauma. Trauma-informed approaches seek to avoid re-traumatisation by empowering individuals in decision making, creating safety and trust, choice and collaboration, and building strengths and skills in personal problem solving and mental health (SAMHSA 2014b).

A trauma informed health or human service worker, service or support system is one that is trauma aware and actively resists re-traumatisation. Being trauma-informed at individual or system levels involves making conscious effort to understand and be responsive to the deeply personal impact and meaning a person ascribes to their experience of trauma, helping people who have been affected by it to feel physically and psychologically safe and to rebuild a sense of control and empowerment. To do this, finding ways to bring empowerment into all interactions with individuals can be both comforting and supportive.

Symptoms of trauma can be described as physical, cognitive, behavioural and emotional. Physical symptoms can be exhibiting excessive alertness, on the lookout for signs of danger, fatigue/exhaustion, disturbed sleep and difficulty getting through in certain circumstances. Cognitive (thinking) symptoms involve intrusive thoughts, memories and visual images of the event,

nightmares, poor concentration and memory, disorientation and confusion (SAMHSA 2014b). Additionally, behavioural symptoms can be described as avoidance of places or activities that are reminders of the event, social withdrawal, isolation and loss of interest in normal activities. Emotional symptoms can include grief, detachment, depression, guilt, anger, anxiety and panic. The combinations of physical, cognitive, behavioural and emotional symptoms are all normal reactions to trauma. However, they can also be distressing to the individual and their loved ones.

People may present to healthcare services with a complex range of difficulties and distress related to past trauma. If practitioners do not recognise these difficulties as being related to the trauma, the service response may be uninformed and fragmented which could potentially re-traumatise the individual (Wall, Higgins & Hunter 2016), reinforce feeling unsafe and undermine how mental health provide support (Isobel et al. 2021). For Aboriginal and Torres Strait Islander Australians, dispossession, generational trauma, grief and loss following colonisation permeate systems of care and contribute to mistrust (Geia et al. 2020). Re-traumatisation is linked to additional mental, social, and emotional distress. A range of factors can be re-traumatising for individuals and not accurately responsive to their trauma history, including the physical and social environment and manner of questioning by staff. Service providers can be inadvertently invalidating someone's experiences and therefore re-enforcing distressing behaviours and coping experiences (Levenson 2014). For example, it has been common practice to utilise seclusion and restraint as interventions to respond to people who display behaviours associated with trauma, including distress and aggression (Te Pou o et Whakaaro Nui 2011). The use of these strategies, as well as the environment within an emergency department for example, can be re-traumatising for the individual and the staff members involved and are likely to impact the person’s degree of comfort or willingness to reengage in such services (Molloy et al. 2020). This may destabilise a person’s treatment and care and perhaps most significantly the therapeutic alliance between the individual and primary practitioners (Muskett 2014; Wigham & Emerson 2016).

This has major implications for suicide prevention. Actively resisting or reducing re-traumatisation can prevent the onset or worsening of distress. Given the connection between trauma and suicidal behaviour, it is timely to review trauma informed interventions for suicide. The impacts of trauma

are pervasive, with potential to impact across a range of physical, cognitive, behavioural and emotional domains associated with suicidal behaviour. SAMHSA (2014b, p. 10) describe the following as core principles of trauma-informed practice: Establishing physical and psychological safety; Trustworthiness and transparency; Peer support; Collaboration and mutuality; Empowerment, voice, and choice; Taking full account of intersectionality related to cultural, historical, and gender issues.

Review methods

We undertook a rapid review to effectively capture the current and recent evidence to evaluate the following objectives:

- To assess/investigate/examine the impact of a trauma-informed approach intervention or strategies for suicide prevention.
- To explore the impact of trauma-informed approach intervention or strategies for suicide prevention.
- To identify facilitators and/or barriers that may impact trauma-informed approach intervention or strategies for suicide prevention.

Rapid reviews are considered comparable to systematic reviews regarding the quality and consistency of results (Watt et al. 2008).

Review questions

The review was guided by the following questions:

- What is the existing evidence on the trauma-informed approach used for suicide prevention?
- What interventions or strategies have been developed to reduce suicide? And what evidence exists to support the use of these interventions or strategies?
- What trauma-informed approach interventions or strategies are effective for suicide prevention?
- How does a trauma-informed approach intervention or strategy impact upon suicidal behaviour?

- Does implementing a trauma-informed approach intervention or strategy assist in preventing suicide?

Inclusion criteria and types of studies

Types of studies

The current review included randomised controlled trials, quasi-experimental studies, retrospective study, cross-sectional study, case study, and descriptive study. These studies assessed and explored the impact of a trauma-informed approach intervention or strategy for suicide prevention. It was planned to include only studies with a high-quality level of evidence (Levels 1-3), according to NHMRC level of evidence and grade recommendations. However, we have included cross-sectional, case reports and descriptive studies as these studies contribute meaningful evidence to help answer the review's over-arching research questions. Articles were restricted to English language, with no publication date limit.

Types of participants

The target populations for this review were identified as:

- Individuals, male, female, adult/adults, adolescent/adolescents, and children at any age who received a trauma-informed approach to prevent suicide.
- Participants who experienced or were exposed to psychological trauma in their life and had a history of suicide or self-harm behaviour or a suicide attempt or suicidal ideation.
- Participants who may have received the trauma-informed approach interventions at any settings (school, primary or secondary community centre, primary or secondary mental health care centre, or hospital, including emergency department, inpatient or outpatient clinic).

Types of interventions

The review considered all studies investigating or exploring trauma-informed approach intervention or strategies that targeted the above population in any health care setting. All studies that discussed

suicide prevention and used trauma-informed approach intervention or strategies were included. These interventions were provided by any health professionals or qualified or trained educators.

Types of outcomes measures

The types of outcome measures included individuals' suicidal behaviours (ideation, thoughts, intent/attitudes) after receiving trauma-informed interventions or strategies. Types of outcomes included suicidality measured by any validated or non-validated tools.

Exclusion criteria

The following types of studies were excluded during the search and screening procedure:

- Studies that did not have full text (protocols, reviews, abstract).
- Studies that discussed the trauma-informed approach with suicide and did not have intervention or strategies.
- Qualitative studies and theses.

Search strategy and information sources

A comprehensive search of several resources was undertaken to maximise the inclusion of all relevant studies. The initial search started with Medline, followed by analysing the text words contained in titles and abstracts used to describe articles. The Medline search was then translated into other databases using appropriate syntax and vocabulary for those databases. Eight databases and one website were searched: Medline, Embase, PsycINFO, ProQuest Psychology Database, The Cochrane Library, Ovid Emcare, Ovid Nursing, JBI, and Google Scholar. Table 1 details the search strategy.

Table 1: Search Strategy Ovid MEDLINE ALL 1946 to November 01, 2021

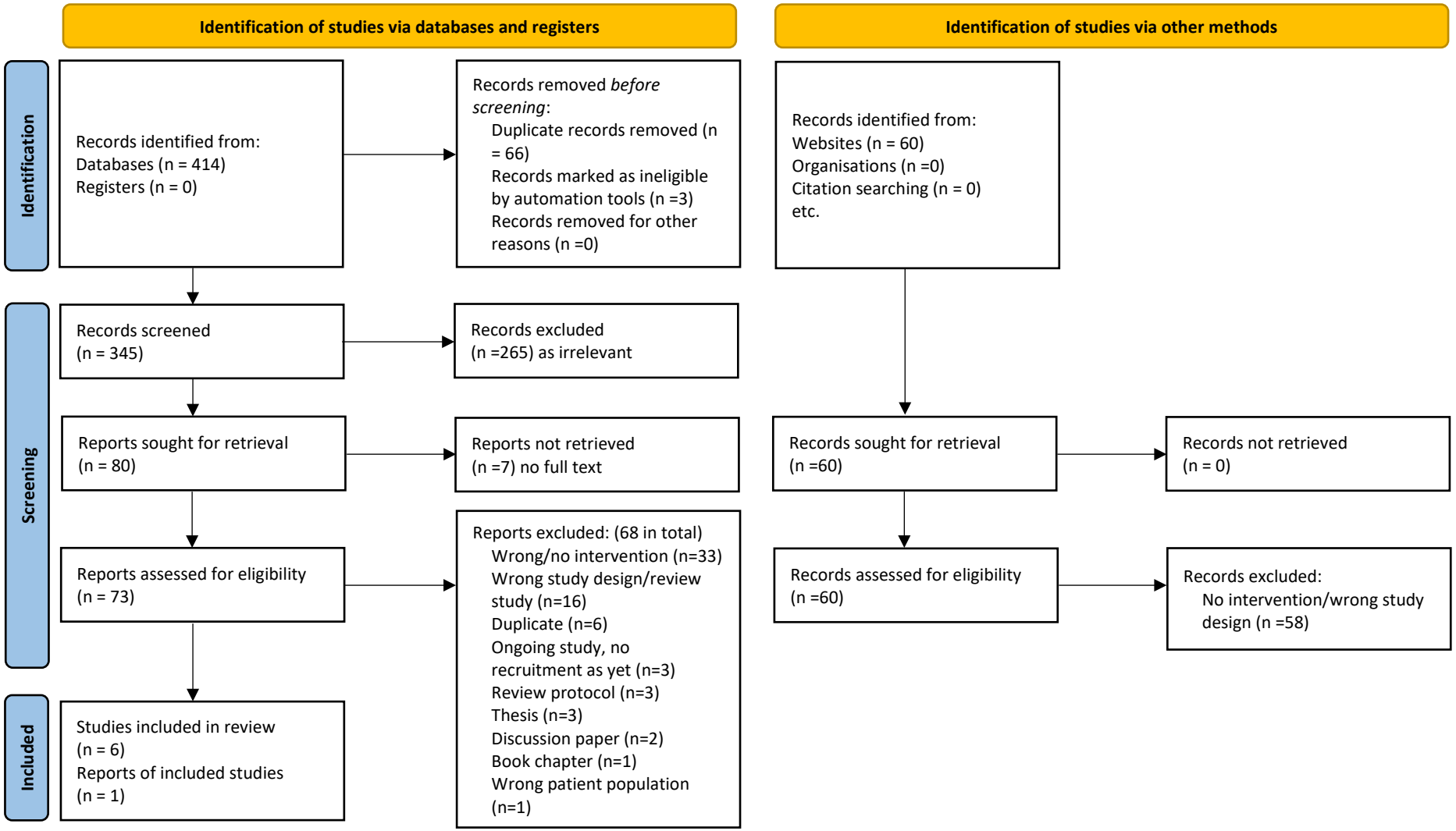
#	Query	Articles identified
1	*Stress, Psychological/	79,778
2	*Psychological Trauma/	1,498
3	*Stress Disorders, Post-Traumatic/	29,924
4	*Substance-Related Disorders/	73,371
5	*Mental Disorders/	134,500
6	(distress or suicidal distress or psychological distress or psychological trauma or stress disorder or post traumatic or substance abuse disorder or mental disorder or mental illness).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	254,431
7	1 or 2 or 3 or 4 or 5 or 6	496,237
8	*Suicide/	31,067
9	*Suicide, Completed/	193
10	*Suicide, Attempted/	12,612
11	*Self-Injurious Behavior/	6,583
12	*Suicidal Ideation/	5,924
13	(self harm or suicide or self inj*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	101,478
14	8 or 9 or 10 or 11 or 12 or 13	102,504
15	(trauma informed practice or trauma informed care or trauma informed or trauma-informed care or trauma-informed practice).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1,643
16	7 and 14 and 15	36

Selection process

Review author (SO) downloaded all titles and abstracts retrieved by the electronic databases search strategy into EndNote (citation management software). Duplicate studies were identified, manually reviewed and removed, and the remaining results uploaded online into Covidence (systematic

review software). Three review authors (SO, HM, RJ) independently screened the titles and abstracts for assessment against the inclusion criteria for the review. The abstracts for studies that met the inclusion criteria were identified, then imported into Covidence software. The full text of the identified studies was assessed against the inclusion criteria by two review authors (SO, HM). Full-text studies that did not meet the inclusion criteria were excluded based on group discussion involving all authors (SO, NP, HM, RJ). Any disagreement was discussed until consensus was reached on whether to include or exclude. The review was guided by The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al. 2021). Figure 1 details the screening process and reasons for exclusion.

Figure 1: PRISMA Flowchart (Page et al. 2021)



Data collection process

First reviewer data extraction was undertaken by SO and followed established procedures (Othman et al. 2018). This included study citation and country, design and methods, sample size and setting(s), measurements used, interventions, findings, conclusions and recommendations. The extracted data was then checked and reviewed by a second review author (AP). No disagreement was found between the two review authors. Due to the clinical heterogeneity of the included studies (i.e., interventions, study designs, measurements used and outcome measures), a meta-analysis could not be conducted. Therefore, the findings are presented in Table 2 in a narrative format.

Table 2: Data Extraction

Citation/ Country	Type of study design & methods	Sample (settings)	Aim	Outcome Measurements Used	Interventions Used	Findings Explored	Conclusion and Recommendations	Limitations/ Strengths
(Asarnow et al. 2020) United States	Case study	15-year-old female presented to the ED after suicide attempt by drug overdose. The girl had a history of trauma (sexual assault) at age 13. She engaged in cutting since the assault.	To describe evidence-based approach to trauma-informed suicide prevention care: *SAFETY-Acute (A) *The Family Intervention for Suicide Prevention (FISP).	Safety Planning	-Standard hospital risk assessment, therapeutic assessment; -SAFETY-A as a trauma-informed approach. (CBT[1] DBT[2]). The SAFETY-A approach has challenges: 1) identify three strengths for the youth and their family and environment; 2) consider the emotional reactions using an emotional thermometer; 3) engage in safety planning in which the youth identify their skills and strategies which can be used instead of self-harm; 4) identify a minimum of 3 individuals that the	The girl and her mother were engaged in developing a safety care plan (card) for follow-up. 1) What are the warning signs for an emotional reaction? 2) What I can do to stay safe? 3) What I can think to stay safe? 4) Whom I can talk to?	This trauma-informed approach for acute care identified the strengths in youth and their parents and developed strategies to enhance safety and safe coping and helps parents take actions to protect their children. Recognises that youth are dependent on their families. The approach focuses promoting hope and reasons for staying safe and alive.	Challenges in applying SAFETY-A approach: while there is a plan for follow-up care this access cannot be guaranteed making it hard to action aspects of the plan. Plan would need to be adapted for different settings, for example a School where there would be less face-to-face contact with parents and staff would be less practiced

[1]CBT Cognitive behaviour therapy
[2]DBT Dialectical behaviour therapy

					youth can go for help and stay safe; 5) commit to using a safety plan instead of self-harm behaviour.			with address high-suicide risk.
(Giles et al. 2021) United States	Pilot Cross-sectional study	*n=30 youth low to moderate risk for suicide in the ED over 3 months. Youth needing admission to a medical or psychiatric hospital during initial assessment were excluded. Primary children's hospital	To assess, pilot and evaluate the feasibility of implementing SAFETY-(average 90 minutes) combined with the Care Process Model for Paediatric Traumatic Stress (CPM-PTS) within the ED.	*The Columbia Suicide Severity Rating Scale (CSSRS) Lifetime Version. *Patient Health Questionnaire-Adolescent (PHQ-A). *Behavioural assessment tools.	*SAFETY-A: 1 focused on youth strengths and family-focused cognitive-behavioural suicide prevention intervention designed to increase safety and initiation of the mental health treatment plan for youth. *Care Process Model (CPM-PTS); evidence-based approach and standardised screening process systematically assesses the youth at risk of traumatic stress and responds to these risks. Crisis team workers in the ED received 6-hour face to face SAFETY-A training. 9 months later, 6 workers in the ED received SAFETY-A training refreshment combined with the (CPM-PTS) which included evidence-based trauma therapy	Of the n=318 youth presenting to the ED for crisis evaluations during the study period, n=30 received the intervention. Age: 13 years (av) Female n=16 (53%) Majority n=26 (87%) reported suicidal thought/ behaviour. -n=17 families were reached for a follow-up phone call. -n=16 out of 26 (62%) screened positive for trauma exposure. -n=14 (88%) reported moderate or severe traumatic stress symptoms. -n=23 completed PHQ-A n=17, 74% reported moderate or severe	The clinicians were positive, and they reported that the families were very receptive and engaged. Parents were comfortable maintaining safety and were more comfortable with the plan and satisfied with the intervention. The findings support the feasibility of integrating the structured trauma screening and response. However, with limited staffing structure and trauma-informed workers the feasibility of the project drops. The authors noted the difficulty of	The process was interrupted due to administrative barriers. Few concerns were raised from participants about the duration of the intervention at the ED. The authors noted they targeted participants where it was likely they would be discharged home (and perhaps less critical upon presentation) it is not know where their intervention could have produced future

					referrals and interventions for traumatic stress. Families were contacted in 1–5 days after visiting the ED to follow up on safety and self-care plans. Participants evaluated the intervention. Overall aims: Engaging discharging families in crisis so that they can be linked with treatment. To achieve this under a trauma-informed approach	range of depression scores. 76% reported moderate to severe depression and moderate to severe traumatic stress symptoms. -n=30 participants were discharged home with a follow-up care plan. -n=14 were encouraged to continue their follow-up with their existing care providers. -n=5 were referred to trauma-focused assessment and treatment. -n=10 were referred to general mental health providers.	administering the intervention in a busy ED department.	benefits through reducing the required psychiatric care, re-admissions etc. This may increase the ability to assess the effectiveness of the program.
(Hahm et al. 2019) United States	A 2-arm RCT reported Eligibility criteria: self-identified females, unmarried	n=63 randomised to n=32 for the intervention group and n=31 for the waitlist control group.	To test the AWARE program's feasibility, preliminary efficacy, and safety for Asian American women with past history of	*Center for Epidemiological Studies Depression Scale (CES-D) *PTSD checklist *Columbia-Suicide Severity Rating Scale (C-SSRS).	Asian Women's Action for Resilience and Empowerment (AWARE) intervention consisted of face-to-face, 8-week gender and culture-specific and trauma group psychotherapy program, combined with	At T0 *n=22 women in the *intervention group* reported lifetime suicidal ideation. At T1 *n=5 reported current suicidal ideation in the last three months ($p < 0.0001$).	Findings showed that providing culturally relevant mental and sexual health psychoeducation and group therapy intervention through AWARE program is valid,	The study had small sample size, limited inclusion criteria and focused on a specific target population. Limited generalisability.

	aged 18-35 years, of Chinese, Korean and/or Vietnamese decent, migrated to US before the aged of 18 or are second generat-ion, and fluent in English.		interpersonal trauma.	*Intervention measured at three-time points, baseline (T0), post-intervention (T1), and at 3 months post-intervention (T2).	a series of short, daily text messages. x8-session intervention of gender and culture-specific elements used in the therapeutic process, such as enhancing participants understandings of their self-identities as Asian American women, the dynamics of migrant families, discrimination. Takeaways message from each session and reminder of the upcoming session details (e.g., location and time). Program incorporates the values and cultures and addresses these issues associated with Asian American women's identities and their well-being. Coping skills (e.g., deep breathing, mindfulness) embedded in sessions.	At T2 *n=4 reported suicidal ideation. *n=7 reported suicidal intent at the T0. *n=0 reported suicidal intent at T1 or T2. *n=28 (87.50%) completed at least 6 sessions. *n=22 reported lifetime suicidal ideation at T0 for the *waitlist control group.* *n=4 reported suicidal ideation at T1 ($p<0.0001$). *n=6 reported suicidal intent at T0. *n=0 reported suicidal intent at T1.	feasible and well-acceptable. Future research recommended with a diverse population with a different ethnic group. The intervention needs to be repeated with large scale RCT.	AWARE therapist is a bilingual and bicultural psychologist and Asian American woman.
(Taylor et al. 2020) Australia	Pilot RCT	n=21 junior doctors; Royal Prince Alfred	Compare trauma-informed personalised	*Suicidal Ideation Attributes Scale (SIDAS).	Yoga group: Trauma-informed hatha yoga 8 x 1-hour private yoga sessions (over 8 weeks),	Baseline: *n=17, (81%) participants	Findings showed that individuals could benefit from personalised	Small sample and short trial duration

	Single arm RCT reported.	Hospital (RPAH), Sydney. n=11 yoga n=10 fitness Recruitment (November 2018 and April 2019).	yoga intervention versus group fitness training (MDOK), effect on level of burnout, traumatic stress, and suicide.	*Mindful Attention Awareness Scale (MAAS). *Professional Quality of Life (ProQOL) *Human Services Survey for Medical Personnel MBI-HSS (MP) *PTSD life events checklist (LEC) and extended criterion A for DSM-5 *Shutdown Dissociation Scale (SDS). *Heart rate, blood pressure, oxygen saturation, height, weight and waist measures.	plus a 4-hour workshop/retreat, 2 eHealth video classes, and audio-guided breathing and relaxation. 2 hours of homework. Fitness group: group fitness sessions 8x 45–60 minutes fitness session (at least one per week). 2.5 hours of homework.	had experienced multiple traumatic life events; *n=13, (62%) had a traumatic experience during childhood or adolescence, and the same percentage. *n=13, (62%) had direct interpersonal violence. *n=17, (81%) high-risk drinking. *n=7, (33%) moderate drug use. Yoga participants took longer than the fitness group to fall asleep. Suicidal Ideation Attributes Scale /50; the total baseline was (m ± SD 11±5); yoga (m ± SD 9±3): fitness group (m ± SD 12±7). Yoga group Preintervention: m ± SD 9±3 Postintervention: m ± SD 11±1 Fitness group: Preintervention: 11±6	support and that yoga is highly acceptable for participants. Trauma-informed personalised yoga interventions provide a promising future for research to reduce occupational depersonalisation (burnout). While there was a reduction in outcomes measures there is no meaningful change in psychological outcomes measures. Minimal reduction in suicidality.	

						Postintervention: 10±4		
(Tyler et al. 2021; Tyler et al. 2019) United States	Retrospective study of archival records.	n=677 recipients of group home services received between January 2013 and December 2017.	To examine social skills training related to outcomes for youth with high levels of trauma symptoms who were receiving group homes services. To analyse the degree to which the targeted social skills trained to youth were associated with disruptive behavioural incidents, self-injury behaviours, conduct problems, or emotional problems.	*Social skill objectives incorporating life skills. *Trauma symptoms and exposure (Brief Trauma Symptom Screen for Youth). *Youth behavioural incidents were reported by staff using the Daily Incident Report (DIR). *n=15 indicators of behavioural incidents, including three self-injurious incidents and suicidal ideation. *Caseworker reports of disruptive and self-harm behaviour over 12 months.	All participants received a multi-component trauma-informed group services program. A modified version of the evidence-based Teaching-Family Model. Professionally trained staff resided with the youth and provided individualised social skills training to help improve social behaviour and reduce emotional problems.	*96% of study sample had experienced at least one traumatic event. *36.6% of study sample had experienced >5 traumatic events. *34.9% of study sample classified within high trauma symptom group. *Trauma symptom scores significantly positively correlated with self-injury behavioural incidents (P< .001). Overall average monthly self-injurious behaviour incidents for girls (M = .07, SD = .14) was higher than boys (M = .03, SD = .12), P= .002. The disruptive behaviour significantly	Problem-solving training associated with a significant decrease in emotional problems for youth with high trauma symptoms. Decreased rates of suicidal ideation, anxiety, and depression associated with problem-solving training. Future research recommended to develop and evaluate the importance of social skills training in trauma-informed residential programs for youth.	Secondary data analysis. It was challenging to report timing, frequency, and participants' progress. The study showed that problem-solving training was associated with decreased emotional problem in youth with high trauma symptoms who received the intervention, but the research does not determine a causal effect. Data collected from one residential setting. Limited generalisability.

						decreased over the 12 months (P< .001). Self-injury behaviour decreased during the first month; slowly reduced across remaining months. No significant differences between the high trauma groups based on the social skill objectives, but the monthly rates of self-injurious behaviour were relatively low.		

Table 3: Data Extraction Sheet for Descriptive Study

Citation/country	Type of study	Aim of the study	Interventions/strategies used	Conclusion and recommendations	Limitations/strengths
(O'Neill et al. 2021) United States	Descriptive study Applying trauma informed suicide prevention care in Schools.	The study aims to provide a framework to enhance school-based suicide risk assessment procedures to improve school-family engagement, promote student safety, and link to appropriate care based on a trauma-informed approach.	The framework starts with: *A)* the school role is to; 1) assess suicide risk once suspected; 2) notify parents, which includes informing caregivers about the concerns, providing recommendations and requesting personal meetings to get more information to help with the risk assessment; 3) provide intervention to prevent harm; 4) connecting students and families to appropriate care. *B)* Recommended care plan process model starts with the student asked to meet with school health professionals or teachers and then starts risk assessment procedures and protocols. *C)* Emergency department referrals and other considerations; referral can be through the ED or community mental health centres. However, some consideration needs to be taken into count; staff undertraining in conducting suicide risk assessment, shortage of staffing, emergency transport, increased distress and cost of travel. *D)* Safety planning includes developing strategies to cope, getting access to support and emergency contacts, restricting access to drugs and other potential lethal means, and increasing parent supervision and monitoring. However, limited data is available on using safety planning in schools.	The trauma-informed considerations include: Working with students to identify their strengths, safety and resiliency factors. Emotion regulation and school-based support. Safety planning: using a feeling thermometer, caregivers protective monitoring and supervision and means restriction. Contacting and including parents if their children identified at risk of suicide for psychological safety. Working with the family together to support them. Connection to care.	Staff training in schools for suicide prevention is inadequate to conduct a therapeutic risk assessment, and sometimes they lack confidence in working with suicidal youth. Schools are not typically responsible for servicing as a primary provider of mental health services. However, they are to provide care for the child, build relationships with students, and have a high level of contact with the child.

			E) Collaborating with families to help the youth distress, providing supportive and protective supervision and monitoring, and enhancing trust and support linking to the care process. SAFETY-A: used initially in emergency care and later adopted in schools. It uses both behavioural risk assessment and intervention. The health care provider meets with youth, parents separately, and youth and parents together. The provider meets with them separately to identify students and family strengths, discuss safety planning and the parents/caregivers' role to support using safety planning and protective monitoring, and then discuss follow-up care.		

Assessment of methodological quality and critical appraisal and risk of bias

All identified studies were assessed and critically appraised by two review authors (SO, AP) for their methodological quality to be included. The review authors used the JBI critical appraisal checklist for randomised controlled trials, quasi-experimental studies, cross-sectional trials and case reports as standardised appraisal tools to critique identified studies. It was planned to include only studies with a high-quality level of evidence (Levels 1-3), according to NHMRC level of evidence and grade recommendations. However, we have included cross-sectional, case reports and descriptive studies because these studies discussed and implemented trauma-informed approach to prevent suicide. All included studies achieved "YES" for at least 69% of the critical appraisal checklist questions. (See critical appraisal of the included studies, Tables 4-6.)

Table 4: Critical Appraisal Checklist for Randomised Controlled Trial Studies

JBI Critical Appraisal Checklist for Randomised Controlled Trial Studies														
Author/year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Q13**	**Score**
(Taylor et al. 2020)	Y	N	Y	N	N	U	Y	Y	Y	Y	Y	Y	Y	9/13
(Hahm et al. 2019)	Y	U	Y	N	N	U	Y	Y	Y	Y	Y	Y	Y	9/13

Table 5: Critical Appraisal Checklist for Quasi-Experimental Studies

JBI Critical Appraisal Checklist for Quasi-Experimental Studies										
Author/year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Score**
(Tyler et al. 2021)	Y	Y	Y	N	U	Y	Y	Y	Y	7/9
(Tyler et al. 2019)	Y	Y	Y	N	U	Y	Y	Y	Y	7/9

Table 6: Critical Appraisal Checklist for Case Reports and Cross-sectional Studies

JBI Critical Appraisal Checklist for Case Reports and Cross-sectional Studies									
Author/year	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Score**
(Asarnow et al. 2020)	Y	Y	Y	U	Y	Y	Y	Y	7/8
JBI Critical Appraisal Checklist for cross-sectional studies									
(Giles et al. 2021)	Y	Y	Y	Y	N	U	Y	Y	6/8

Note: Y= Yes
N= No
U= Unclear
NA= Not Applicable

Results

Study selection

A total of 414 articles resulted from searching eight databases and one website (Google Scholar). Sixty-six duplicates were removed using Endnote reference management system. The remaining articles (348) were imported into Covidence online system software. A further three duplicates were identified and removed through Covidence; therefore, 345 articles were retrieved for the title and abstract screening. 80 articles were eligible for full-text screening. Of them, 75 articles were excluded for the following reasons: wrong/no intervention (n=33), wrong study design/review study (n=16), duplicate (n=6), no full text (n=7), ongoing study, no recruitment yet (n=3), review protocol (n=3), thesis (n=3), discussion paper (n=2), book chapter (n=1), and wrong patient population (n=1). Google Scholar was searched for the first six pages and a further four studies were included for full text review with only two of these studies meeting the inclusion criteria. Finally, seven studies (five from databases and two from Google Scholar) met the inclusion criteria (see Figure 1-PRISMA flowchart).

Study characteristics

There was clinical heterogeneity of the included studies, such as interventions, study designs, measurements used and outcome measures. The study designs used were varied from a randomised

study to a case study and a descriptive study. Of the seven included studies, four were of a high level of evidence; two of them were randomised controlled pilot trials (Hahm et al. 2019; Taylor et al. 2020), and two were quasi-experimental retrospective studies (Tyler et al. 2021; Tyler et al. 2019). Three were of low level of evidence, one of them being a case study (Asarnow et al. 2020), another a cross-sectional study (Giles et al. 2021), and one a descriptive study (O'Neill et al. 2021). All the included studies were conducted over the last three years (2019-2021). In terms of the country in which the studies were undertaken, six were conducted in the United States (Asarnow et al. 2020; Giles et al. 2021; Hahm et al. 2019; O'Neill et al. 2021; Tyler et al. 2021; Tyler et al. 2019), and one in Australia (Taylor et al. 2020). The included studies were conducted at the hospital emergency departments, schools or workplaces (see Table 2: Data Extraction).

Participants' characteristics

All participants had experienced some type of trauma, which had led to suicidal thoughts and/or a suicide attempt. While most studies involved youth, some also involved junior doctors and young Asian American women. The participants' sample size was different for every study. Of the seven included studies two randomised controlled pilot trials had 84 participants (Hahm et al. 2019; Taylor et al. 2020); 21 were junior doctors to assess their level of burnout, traumatic stress, and suicide (Taylor et al. 2020), and 63 aged between 18-35 years were women with a history of interpersonal trauma (Hahm et al. 2019). In addition, two quasi-experimental retrospective studies included data of 677 youth with high levels of trauma symptoms (Tyler et al. 2021; Tyler et al. 2019). One cross-sectional study included 30 youth with low to moderate risk for suicide (Giles et al. 2021). Also included is a case study (n=1) detailing a history of trauma (Asarnow et al. 2020). We also found one descriptive paper of a study without participant data yet providing useful context on the application of trauma-informed care in schools (O'Neill et al. 2021). Being a descriptive paper, it was not critically appraised.

Scales/measurements used

All included studies used different scales to assess suicidality. For example, two studies used the Columbia Suicide Severity Rating Scale (CSSRS) (Giles et al. 2021; Hahm et al. 2019), and one study used the Suicidal Ideation Attributes Scale (SIDAS) (Taylor et al. 2020). In addition, two studies used

the Daily Incident Report (DIR) which included 15 indicators of behavioural incidents, including three self-injurious incidents (e.g., self-destructive behaviour, suicidal ideation) (Tyler et al. 2021; Tyler et al. 2019). However, the case study did not report the suicidality scale used (Asarnow et al. 2020).

Type of interventions used (Suicide prevention intervention/strategies used)

Intervention programs all used a trauma-informed approach which included some pre-intervention assessment or measure, and then an intervention over time. These programs varied from working with the individual to working with the youth and parent/caregiver and emergency department or school, having a regular program which might have a duration of eight weeks to over a year, and have some component of follow-up (see Data Extraction Table 2). These interventions are discussed below.

Key Findings

Trauma-informed personalised yoga versus fitness group

A randomised controlled pilot trial involved 21 participants in two groups; 11 were randomised to personalised yoga intervention, and 10 were randomised to group fitness training (Taylor et al. 2020). In terms of yoga, it was provided as an hour session, once a week lasting eight weeks, by the author, a certified yoga facilitator. These sessions included breath training, relaxation and meditation, a four-hour workshop/retreat, two eHealth video classes, and audio-guided breathing and relaxation. In addition, the participants were asked to complete two hours of homework. The group fitness intervention participants initially received a training session once a week that lasted for 45-60 minutes. This was increased to four times a week. In addition, participants were asked to complete 2.5 hours of homework.

Trauma group psychotherapy program

A randomised controlled trial used the AWARE intervention program for (Asian Women's Action for Resilience and Empowerment) intervention program (Hahm et al. 2019). This intervention was specifically designed for and targeted a culture-specific group and lasted for eight weeks. The intervention program included deep breathing, grounding techniques, mindfulness and sensory stimulation. In addition, each session discussed a different topic, such as parenting styles, identifying

priorities and developing a sense of identity, family's role, media and society, and different types of relationships, behaviours, and cultural aspects.

Effect of trauma-informed personalised yoga and trauma group psychotherapy program for suicide prevention

After receiving personalised yoga, the participants reported less suicide ideation compared to the fitness group (m ± SD 11±1 vs m ± SD 10±4 respectively) (Taylor et al. 2020). In terms of using trauma group psychotherapy, the findings showed a statistically significant ($p < 0.0001$) reduction of suicide ideation and suicide intent after receiving the intervention (Hahm et al. 2019).

Trauma-informed approaches and strategies to prevent suicide

Five studies discussed applying a trauma-informed approach for suicide prevention (Asarnow et al. 2020; Giles et al. 2021; O'Neill et al. 2021; Tyler et al. 2021; Tyler et al. 2019). Trauma-informed group services program was used in two studies (Tyler et al. 2021; Tyler et al. 2019); the SAFETY-Acute approach was used in one study (Asarnow et al. 2020), while Giles et al. (2021) used SAFETY-Acute combined with the paediatric traumatic stress care process model (SAFETY-A + CPM). A detailed framework for suicide prevention intervention in schools (Applying trauma-informed suicide prevention care in schools) is provided by O'Neill et al. (2021). This framework is inclusive of approaches in the other intervention studies and involves starting from a strengths-based approach, managing emotions and connections, and developing a safety plan.

Components of trauma-informed approach

1. Trauma-informed screening and suicide risk assessment

Screening any potential trauma history is required to facilitate treatment (O'Neill et al. 2021). The assessment may help develop safety planning through engagement with the family and the connection to the appropriate care (O'Neill et al. 2021). Giles et al. (2021) describe using the suicide prevention care process model (CPM) to assist with the crisis assessment, including trauma experiences, resilience, symptoms, coping skills and trauma therapy.

2. Strengths-based approaches

Identifying the strengths of the child or youth is an essential factor when applying a trauma-informed approach. Focusing on children's strengths helps to develop resilience, empowerment and identify the reasons for living and staying safe. It may also help to promote connection with the family and the school or the health care provider (O'Neill et al. 2021). The approach focuses on involving the family/caregiver to support the child/youth through counselling on restriction of lethal means, risk factors for suicide, using protective factors for support, parent monitoring and supervision. In addition, the family play a role in supporting the youth in using safety plans and strengths-based approaches (Asarnow et al. 2020; O'Neill et al. 2021).

3. Managing emotions

The included studies used a feelings thermometer to assess emotion regulation and identify the onset or worsening of warning signs, thoughts, feeling of emotions, and body feelings (Asarnow et al. 2020; Giles et al. 2021; O'Neill et al. 2021). In addition, using the feelings thermometer helped develop supportive resources, coping and stress management skills, self-regulation and control strategies (Asarnow et al. 2020; Tyler et al. 2021; Tyler et al. 2019).

4. Safety planning

The gathered information from the previous steps helped the youth/child to develop safety planning. The safety plan included warning signs – including emotions and thoughts, sources of social and emotional support and emergency contact (Asarnow et al. 2020; Giles et al. 2021; O'Neill et al. 2021). The safety planning process included working with the youth/child to develop a safety plan card. The card was developed by answering three crucial questions: *1) What can I do to stay safe? 2) What can I think to stay safe? and 3) Whom I can talk to?* Card users were encouraged to provide at least three answers to these questions (Asarnow et al. 2020).

5. Collaboration with the student/family or caregiver

Collaboration with the family or caregiver during the risk assessment process helps to enhance trust and promote collaboration between individuals, parents or family and the health providers (O'Neill et al. 2021). It also helps involvement in the decision-making process and co-development of a

safety plan. In addition, collaboration helps to identify the strengths of the family and child and discuss the role of the parents/family/caregiver in using a safety plan and using protective monitoring and restrictions (O'Neill et al. 2021).

6. Follow-up after discharge

Follow-up may include daily check-ins with the youth and their caregiver to maintain connections and solve any barriers to care (O'Neill et al. 2021). Follow-up increases motivation and access to appropriate care and services. Examples include scheduling a follow-up appointment on the next day with the youth and their family/caregiver at the outpatient clinic, including discussing the importance of outpatient follow-up and treatment, organising a weekly therapy plan and providing information for scheduling (Asarnow et al. 2020).

7. Connection with the appropriate care

Being connected to care and receiving follow-up support for young people through the school and/or the community after receiving an intervention for suicide related distress has been identified as protective. This is in addition to referral to evidence-based trauma-informed treatment for continued intervention if any traumatic experience is disclosed or suspected (Asarnow et al. 2020; O'Neill et al. 2021).

8. Well-trained staff

Well-trained staff are needed to identify different types and effects of trauma and to implement interventions through facilitating a calm and nurturing environment to keep the individual physically and psychologically safe (Tyler et al. 2021; Tyler et al. 2019). Most programs are underpinned by Dialectical Behavioural Therapy. One staff-related issue reported in several studies is the need for adequately trained staff and provision of ongoing staff training (O'Neill et al. 2021; Tyler et al. 2021; Tyler et al. 2019).

Implications and future research

Given the diversity of drivers and context surrounding critical moments of the suicide experience, current findings are limited by the heterogeneity of study participants and trauma informed

interventions. Future research is needed to understand the precise nature of helpful interventions to mitigate critical moments of the suicide experience from suicidal ideation to attempted suicide. The progression of a trajectory towards suicide can be very rapid. It can involve a full spectrum of thought and behaviour, ranging from an individual wishing they were dead, turning into suicidal ideation, progressing to thinking about how and when to attempt suicide and then, finally putting this plan into action (Bryan 2022). A suicidal person can also describe their attempt as hasty and immediate and deny experiencing any suicidal thoughts or plans leading up to the behaviour. Fluctuating states of suicidality and differing amounts of emotional distress and shifts in reasons for living also feature. Precisely how trauma informed approaches operate within such scenarios is unclear. It can be difficult for people to disentangle motivational elements involved at the time of onset, worsening and/or re-occurrence of suicide related distress. Future studies could examine mediating the effects between traumatic stress symptoms, suicidality and the nature and scope of specific trauma informed practices and/or programs considered most beneficial by individuals. For instance, research could examine the component parts of safety planning considered trauma informed and helping individuals mitigate distress triggers, to distract and resist suicidal thoughts, make their situation safer and reinforce beliefs related to reasons for living (Ferguson et al. 2021). Larger sample sizes and longer-term follow-up for changes in suicide related distress and risk over time should feature in study design.

Strengths and limitations

The strengths of this rapid review include the detailed comprehensiveness of the searches conducted, the wide date range, the specific focus on suicide prevention across a range of settings and across the lifespan, and the rigours processes of study inclusion. The review team were independent researchers with an extensive previous experience conducting systematic and rapid reviews, lived experience of suicide related distress, an in-depth knowledge of trauma informed practice and suicide prevention. The articles included in this review are of varying methodological quality. Of the seven included studies, four were of a high level of evidence; two were randomised controlled pilot trials, and two were quasi-experimental retrospective studies. While three were of low level of evidence; a case study, a cross-sectional study and a descriptive study, findings need to

be considered this context. Exclusion of studies not published in English or grey literature may mean that some relevant studies may have been excluded.

Conclusion

Suicide is a global public health issue. It is important to remember that behind each individual statistic is a person connected to a family and a community also impacted by suicide. While there is limited evidence which focusses specifically on trauma informed suicide prevention across the lifespan, the studies included in this review highlight encouraging ways to support individuals at risk of suicide through trauma informed approaches. Services that are trauma informed can be linked to decreased self-injurious behaviour, particularly for suicidal youth. Structured trauma screening and trauma informed responses to distress have potential benefits of empowering individuals, their loved ones and clinicians who care for them. There is emerging albeit limited evidence of culturally specific and trauma informed mental health support leading to reductions in suicidal ideation and intent. An emphasis on safety, personal strengths and interpersonal relationships are necessary components for trauma informed interventions for individuals at risk of suicide. In school settings this will involve support connections and engagement between students, parents and schools as collaborative processes.

References

Asarnow, JR, Goldston, DB, Tunno, AM, Inscoe, AB & Pynoos, R 2020, 'Suicide, self-harm and traumatic stress exposure: A trauma informed approach to the evaluation and management of suicide risk', *Evidence-Based Practice in Child and Adolescent Mental Health,* vol. 5, no. 4, pp. 483-500.

Austin, EK, Handley, T, Kiem, AS, Rich, JL, Lewin, TJ, Askland, HH, Askarimarnani, SS, Perkins, DA & Kelly, BJ 2018, 'Drought-related stress among farmers: findings from the Australian Rural Mental Health Study', *Medical Journal of Australia*, vol. 209, iss. 4, pp.159-165. Available at https://www.ncbi.nlm.nih.gov/pubmed/30041594.

Australian Bureau of Statistics 2021, *Causes of Death, Australia,* ABS, Belconnen, Canberra. Available at https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release#intentional-self-harm-deaths-suicide-in-australia.

Bryan, C 2022, *Rethinking suicide: Why prevention fails, and now we can do better*, Oxford University Press, New York.

Cerel, J, Brown, M, Maple, M, Singleton, M, Van de Venne, J, Moore, M & Flaherty, C 2019, 'How many people are exposed to suicide? Not six,' *The American Association of Suicidology*, vol. 49, iss. 2, pp. 529-534.

Ferguson, M, Rhodes, K, Loughhead, M, McIntyre, H & Procter, N 2021, 'The Effectiveness of the Safety Planning Intervention for Adults Experiencing Suicide-Related Distress: A Systematic Review', *Archives of Suicide Research*, pp. 1–24.

Geia, L, Bail, K, Barclay, L, Bennett, J, Best, O, Birks, M, … Bryant AO, R 2020, 'A unified call to action from Australian nursing and midwifery leaders: ensuring that Black lives matter', *Contemporary Nurse: A Journal for the Australian Nursing Profession*, vol. 56, no. 4, pp. 297–308.

Giles, L, Shepard, L, Asarnow, J & Keeshin BR 2021, 'Implementation of a trauma-informed suicide prevention intervention for youth presenting to the emergency department in crisis', *Evidence-Based Practice in Child and Adolescent Mental Health,* vol. 6, no. 3, pp. 343-353.

Hahm, HC, Zhou, L, Lee, C, Maru, M, Petersen, JM & Kolaczyk, ED 2019, 'Feasibility, preliminary efficacy, and safety of a randomized clinical trial for Asian Women's Action for Resilience and Empowerment (AWARE) intervention', *American Journal of Orthopsychiatry,* vol. 89, no. 4, pp. 462-474.

Isobel, S, Wilson, A, Gill, K & Howe, D 2021, 'What would a trauma-informed mental health service look like? Perspectives of people who access services', *International Journal of Mental Health Nursing*, vol. 30, no. 2, pp. 495–505.

Levenson, RW 2014, 'The autonomic nervous system and emotion', *Emotion Review*, vol. 6, no. 2, pp. 100–112.

Molloy, L, Fields, L, Trostian, B & Kinghorn, G 2020, 'Trauma-informed care for people presenting to the emergency department with mental health issues', *Emergency Nurse,* vol. 28, no. 2, Mar 10, pp. 30-35.

Muskett C 2014, 'Trauma-informed care in inpatient mental health settings: A review of the literature', *International Journal of Mental Health Nursing*, vol. 23, iss. 1, pp. 51–59. Available at http://mhcc.org.au/media/25362/muskett-2013.pdf.

National Executive Training Institute (NETI) 2005, *Training curriculum for reduction of seclusion and restraint. Draft curriculum manual*, National Association of State Mental Health Program Directors (NASMHPD), National Technical Assistance Center for State Mental Health Planning (NTAC), Alexandria, VA.

O'Neill, JC, Goldston, DB, Kodish, T, Yu, SH, Lau, AS & Asarnow, JR 2021, 'Implementing trauma informed suicide prevention care in schools: Responding to acute suicide risk', *Evidence-Based Practice in Child and Adolescent Mental Health,* vol. 6, no. 3, pp. 379-392.

Othman, S, Jayasekara, R, Steen, M & Fleet, J 2018, 'A systematic review for exploring the effectiveness of healthy eating education programmes for improving midwives' levels of knowledge and confidence in promoting healthy eating in pregnant women', *Evidence-based Midwifery*, no. 3, pp. 84-93.

Page, MJ, McKenzie, JE, Bossuyt, PM, Boutron, I, Hoffmann, TC, Mulrow, CD, Shamseer, L, Tetzlaff, JM, Akl, EA, Brennan, SE, Chou, R, Glanville, J, Grimshaw, JM, Hróbjartsson, A, Lalu, MM, Li, T, Loder, EW, Mayo-Wilson, E, McDonald, S, McGuinness, LA, Stewart, LA, Thomas, J, Tricco, AC, Welch, VA, Whiting, P & Moher, D 2021, 'The PRISMA 2020 statement: an updated guideline for reporting systematic reviews', *British Medical Journal,* vol. 372, p. n71, pp. 1-30.

Procter N, Ayling B, Croft L, Degaris P, Devine M, Dimanic A, Di Fiore L, Eaton H, Edwards M, Ferguson M, Lang S, Rebellato A, Shaw K & Sullivan R 2017, *Trauma-informed approaches in*

mental health: A practical resource for health professionals, University of South Australia, SA Health, Adelaide.

Robinson, KH, Bansel, P, Denson, N, Ovenden, G & Davies, C 2014, *Growing up queer: Issues facing young Australians who are gender variant and sexuality diverse,* Young and Well Cooperative Research Centre, Melbourne. Available at https://www.twenty10.org.au/wp-content/uploads/2016/04/Robinson-et-al.-2014-Growing-up-Queer.pdf.

Strauss, P, Cook, A, Winter, S, Watson, V, Wright Toussaint, D & Lin, A 2017, *Trans pathways: the mental health experiences and care pathways of trans young people: summary of results*, Telethon Kids Institute, Subiaco, WA.

Substance Abuse and Mental Health Services Administration 2014a, *Trauma-informed care in behavioral health services: Treatment improvement protocol (TIP) Series 57,* Rockville, MD. Available at https://www.ncbi.nlm.nih.gov/books/NBK207201/pdf/Bookshelf_NBK207201.pdf.

Substance Abuse and Mental Health Services Administration 2014b, *SAMHSA's concept of trauma and guidance for a trauma-informed approach*, HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration. Available at https://ncsacw.samhsa.gov/userfiles/files/SAMHSA_Trauma.pdf.

Suicide Prevention Australia 2021, *Stats and Facts*, SPA, Sydney. Available at https://www.suicidepreventionaust.org/news/statsandfacts.

Taylor, J, McLean, L, Richards, B & Glozier, N 2020, 'Personalised yoga for burnout and traumatic stress in junior doctors', *Postgrad Medical Journal,* vol. 96, no. 1136, Jun, pp. 349-357.

Te Pou o et Whakaaro Nui 2011*, Sensory modulation in mental health clinical settings: A review of the literature*, Te pou o te Whakaaro Nui, Auckland. Available at http://www.tepou.co.nz/uploads/files/resourceassets/Sensory-Modulation-in-Mental-Health-Clinical-Settings-A-Review-of-the-Literature.pdf.

Tyler, PM, Aitken, AA, Ringle, JL, Stephenson, JM & Mason, WA 2021, 'Evaluating social skills training for youth with trauma symptoms in residential programs', *Psychological Trauma,* vol. 13, no. 1, pp. 104-113.

Tyler, PM, Patwardan, I, Ringle, JL, Chmelka, MB & Mason, WA 2019, 'Youth needs at intake into trauma-informed group homes and response to services: An examination of trauma exposure,

symptoms, and clinical impression', *American Journal of Community Psychology,* vol. 64, no. 3-4, Dec, pp. 321-332.

Van der Kolk BA 1994, 'The body keeps the score: memory and the evolving psychobiology of posttraumatic stress', *Harvard Review of Psychiatry*, vol. 1, no. 5, Jan-Feb, pp. 253-265.

Wall L, Higgins D & Hunter C 2016, *Trauma informed care in child/family welfare services*, Australian Institute of Family Studies, Child Family Community Australia, No. 37, https://aifs.gov.au/cfca/sites/default/files/publication-documents/cfca37-trauma-informed-practice.pdf.

Warner E, Koomar J, Lary B & Cook A 2013, 'Can the body change score? Applications of sensory modulation principles in the treatment of traumatized adolescents in residential settings', *Journal of Family Violence*, vol.28, no.7, pp. 729–738. Available at http://link.springer.com/article/10.1007/s10896-013-9535-8.

Watt A, Cameron A, Sturm L, Lathlean T, Babidge W, Blamey S, Facey K, Hailey D, Norderhaug I & Maddern G 2008, 'Rapid reviews versus full systematic reviews: an inventory of current methods and practice in health technology assessment', *International Journal of Technology Assessment in Health Care*, vol. 24, iss. 2, pp. 133-9.

Wigham S & Emerson E 2015, 'Trauma and life events in adults with ID', *Current Developmental Disorder Reports*, vol. 2, no. 2, pp. 93-99.

World Health Organization 2021, *Suicide*, WHO, Geneva. Available at https://www.who.int/news-room/fact-sheets/detail/suicide.

World Health Organization 2019, *Suicide in the world - Global Health Estimates* WHO, Geneva. Available at https://apps.who.int/iris/bitstream/handle/10665/326948/WHO-MSD-MER-19.3-eng.pdf?sequence=1&isAllowed=y.