Safety Planning Intervention for Adolescents: Provider Attitudes and Response to Training in the Emergency Services Setting

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Objective: This study aimed to describe the implementation of the empirically supported Safety Planning Intervention (SPI) for adolescent suicidality in emergency services (ES) settings.

Methods: Using an implementation science framework, the authors collaboratively evaluated the needs of ES providers; developed a plan; and trained ES psychiatrists, social workers, and mental health specialists for SPI implementation. The health care and social workers put the safety plan into practice in ES settings and, after involving stakeholders in addressing challenges during implementation, fully integrated the program into ES practice. This study examined providers' attitudes toward the structured SPI before and after training in this evidence-based intervention.

Results: Providers reported a desire to learn evidence-based interventions for safety planning before the training. The effect of time from pre- to posttraining on provider attitudes and knowledge about the SPI was statistically significant ($F=4.19$, $df=2$ and 22, $p=0.030$), indicating that providers' attitudes toward using the structured SPI in their work improved after completing the training.

Conclusions: These findings are relevant for health care settings that seek to comply with new standards for hospital accreditation and improve overall patient care for suicidal youths. The results suggest that stakeholder collaboration and brief training in SPI may be effective for incorporating structured safety planning practices into pediatric ES settings.

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Suicide is a leading cause of death in adolescents in the United States, and rates of death by suicide are rising among youths ages 15–24 (1). Emergency services (ES) settings serve as primary treatment sites for many suicidal adolescents, and pediatric ES visits for suicide and self-injury in the United States have doubled in the past decade (2). Therefore, ES visits are a critical point of contact for adolescents to connect with mental health services. Furthermore, the several months following an ES visit are a high-risk period for subsequent suicide attempts (3–5). Accordingly, ES settings have a critical need for brief evidence-based interventions that enhance safety after an adolescent is discharged from the hospital.

The Safety Planning Intervention (SPI) is a brief cognitive-behavioral intervention administered in one session (6). The SPI was adapted for adolescents to be more developmentally appropriate and to include parent/caregiver involvement (7). The goals of this intervention are to improve safety by helping individuals discern warning signs, select coping skills to use in distress, identify support persons, and provide psychoeducation about restricting access to lethal means. When adolescents are experiencing intense suicidal thoughts or self-harm urges, the SPI provides a roadmap for how to manage their distress until their urges have passed (6, 8). The single-session SPI is frequently accompanied by phone contact follow-ups, and in a recent study of adolescents who attempted

HIGHLIGHTS

- This study describes the initial implementation process for the structured Safety Planning Intervention (SPI), a brief intervention for suicidality, in two pediatric emergency services settings.
- Findings support the initial feasibility and acceptability of implementing the structured SPI in a pediatric emergency department and ambulatory setting.
- Multidisciplinary providers expressed a need to incorporate a structured SPI into their current assessments, and their attitudes toward the evidence-based intervention improved from pre- to posttraining in the intervention.

suicide, multiple phone contacts were associated with reduced suicidal behavior in the 3 months posthospitalization (9).

In randomized controlled trials, the SPI has exhibited initial efficacy in reducing suicidal ideation and attempts and in increasing treatment engagement in both adults and adolescents (7, 10–14). A systematic review of brief interventions for suicidality in the ES setting found that they effectively reduce suicidal ideation and attempts in both adults and adolescents (15). Furthermore, structured suicide screening and intervention in the ES setting are associated with reduced costs and improved patient outcomes (16). Indeed, the SPI is now considered a best practice in the Best Practices Registry of the Suicide Prevention Resource Center (SPRC) and is now part of SPRC's "Programs and Practices" (17).

However, studies examining whether this effective intervention can be successfully adopted and implemented into clinical practice remain limited, despite a need for the translation of evidence-based care into community practice settings (18). In one study examining providers' views of the SPI after it had been implemented in the Veterans Affairs (VA) medical centers' ES setting, most staff indicated they believed SPI had clinical utility for both patients (i.e., improved linkage to outpatient care and enhanced safety) and providers (i.e., increasing providers' confidence in their decision to discharge patients at elevated risk for suicide) (19). Providers were interviewed to assess the feasibility and acceptability of the SPI in the VA system after they had been trained and were using the protocol in their clinical practice; no data before implementation were collected. A second study examined implementation fidelity after the implementation of the SPI in the VA system. The study's results indicated that safety plans had moderate quality and that higher-quality safety plans were associated with fewer psychiatric hospitalizations 1 year after SPI delivery (20). However, the implementation of SPI for youths in the ES setting has not been fully tested. To our knowledge, the current study represents the first that examines the feasibility and acceptability of implementing structured safety planning for youths in the ES setting.

In 2019, recommendations were outlined for all Joint Commission–accredited hospitals (National Patient Safety Goal 15.01.01, effective July 1, 2019, and updated November 20, 2019) (21), requiring new policies for suicide assessments and interventions in hospitals. Specifically, the recommendations indicate that hospitals must provide patients with safety information before discharge to reduce suicide risk. Nevertheless, many medical centers have not formally incorporated safety planning into standard clinical care, and a wide range of individual and organizational barriers (e.g., lack of training, high patient load, and fast pace of care) to the implementation of these practices in ES settings remain (22).

To address this gap in the provision of evidence-based care, we aimed to study the implementation of the empirically supported SPI in two pediatric ES settings and to assess provider attitudes and knowledge of the SPI following the implementation stages recommended by Fixsen and colleagues (see Box 1) (23). Given that providers recruited for the current study were already employed in a pediatric ES setting, we hypothesized that these providers would endorse some previous experience with safety planning and would indicate readiness to learn the SPI before the training. In addition, on the basis of previous training models (24), we expected that provider attitudes about the intervention would improve after training in and initial implementation of the intervention.

METHODS

Setting

This study was conducted in large pediatric behavioral health ES settings in the Northeast. In one ES setting, consultations were provided within a pediatric emergency department in a large academic medical center. The second setting provided ambulatory scheduled and unscheduled urgent and emergent evaluations across two sites, one within a freestanding pediatric psychiatric hospital and the other at a community site. Approximately 2,100 youths were evaluated and discharged per calendar year from the emergency department, and approximately 1,000 youths were evaluated at the ambulatory site. On average, about 75% of evaluations at these sites were for self-injurious thoughts or behaviors, and 39.7% of all patients seen in the ES settings were admitted to a psychiatric hospital. Approximately 44% of these patients received public assistance, and 13.5% had Department of Youth and Family Services involvement. According to the most recent demographic characteristics at these ES settings, the patient population was predominantly female (approximately 51%), white (approximately 60%), and non-Hispanic (approximately 69%), and the mean age of youths presenting for a psychiatric evaluation was 12.5 years.

Participants

Psychiatry and psychology trainees, nursing staff, and social work staff employed in the two pediatric ES settings were approached for training. Of the 43 providers approached, 29 completed the SPI training and participated in this survey study; 27 providers provided complete survey data both pre- and immediately posttraining. Ten providers completed the training but declined to participate in the survey, four declined to participate in training because they were in the last month of their ES rotation, and two had incomplete survey data. Participating providers included medical doctors (N=8), licensed clinical social workers (N=11), advanced-practice registered nurses (N=4), licensed mental health care workers (N=3), and qualified mental health providers (N=4). The providers ranged in experience from 1 to 25 years (mean±SD was 6.89±6.67 years) of working with children and adolescents in mental health care. Providers completed questionnaires pre- and posttraining, at 1-month and 9-month follow-ups.

The SPI includes seven core components that are summarized in Table 1 (6). For the implementation of SPI in the

BOX 1. Stages of implementation of the Safety Planning Intervention in pediatric emergency services settings[a]

Exploration
- Identify the need for an intervention in the specific clinical setting.
- Assess goodness of fit between the intervention and population needs.
- Explore readiness for change in the setting, including needs, resources, and barriers to implementation.

Installation
- Prepare staff and organization for change; train staff in intervention protocol to enhance competence and fidelity.
- Provide staff with the appropriate time and compensation for training.
- Adapt policies and procedures in the clinical setting to facilitate implementation.

Initial Implementation
- Put program into practice in the clinical setting.
- Assess adherence and fidelity to new intervention.
- Engage in collaborative problem solving to address barriers to implementation.

Full Implementation
- Promote full integration of the protocol into practice.
- Monitor and manage fidelity and outcomes of the intervention.

[a]Adapted from Fixsen et al., 2005 (23).

ES setting, we followed the implementation model proposed by Fixsen and colleagues (23).

Measures

To assess providers' attitudes toward and knowledge of the SPI, we adapted a questionnaire measure from the Screening, Brief Intervention, and Referral to Treatment (SBIRT) training surveys (24) and administered it to the providers before training, immediately posttraining, and 1 month after training anonymously via the Research Electronic Data Capture (REDCap) tool (25, 26) (see the online supplement for the complete measure). The 24-item measure assessed provider attitudes and knowledge about incorporating the structured SPI into their clinical care. Questions were rated from 1 (strongly disagree) to 7 (strongly agree). Total scores were calculated to indicate providers' overall readiness and acceptance of training in the structured safety plan (Cronbach's α=0.80).

Providers completed a six-item survey with open-ended questions assessing the benefits and challenges of using the SPI approximately 9 months after it was implemented fully.

Implementation Procedures

Exploration stage. In the first stage, the research team met with stakeholders across the ES settings, including doctors, social workers, and advance practice nurses to evaluate the need for SPI implementation. In these meetings, the research team facilitated an informal discussion of the use of structured safety planning in ES settings. Notably, the providers indicated that they were not currently using a standardized approach and expressed general enthusiasm for adopting an empirically supported, structured approach at this stage.

Installation stage. Next, we developed a plan for training staff in the ES settings in the SPI to prepare for its implementation. All staff conducting safety evaluations with youths in these ES settings were approached to complete the training between April and June 2019. The SPI training consisted of a 1-hour in-person session on the components of the brief intervention led by doctoral-level staff. The training also incorporated case examples and discussion of clinical challenges and barriers highlighted in the pretraining survey.

Initial implementation stage. In the month following the initial training, providers were asked to put the SPI into action. Those who completed the SPI training were provided group and individual feedback from the research team. Feedback and supervision included a review of completed safety plans, an observation of providers who completed safety plans, and case discussions to develop strategies for addressing challenges in implementing the SPI. During in-person supervision, providers noted several common challenges in the month after the training: how to conduct safety planning with youths with developmental disabilities or high levels of aggression and how to incorporate family members into the safety planning process. Trainers provided guidance on how to manage these cases.

More specifically, to address challenges working with families of youths with developmental disabilities, we recommended that providers spend most of their time including caregivers in the process. In these cases, caregivers may be more capable of identifying youths' warning signs and coping strategies. We also recommended that providers discuss how to incorporate visual aids into safety plans for use with this population. For youths with aggression, we discussed helping caregivers maintain safety by deescalating situations (e.g., using a calm voice and giving space) and having coping skills readily available to help youths self-soothe.

On the basis of feedback at this stage, we modified the safety plans. Specifically, wording was adjusted to be more developmentally appropriate, a texting hotline was added, and a hotline number specifically for LGBTQ+

TABLE 1. Core components of the Safety Planning Intervention for youth suicidality

Core component	Clinical considerations for each component	Strategy for overcoming barriers
1. Warning signs and triggers	Help teens identify their personal warning signs that indicate they are at risk for self-harm. Identify thoughts, feelings, physical sensations, and behaviors that indicate risk.	If teens are unable to identify warning signs, utilize caregivers. This is particularly important for youths with developmental disabilities or who exhibit aggression. Providing common examples of triggers (e.g., family conflict, romantic breakup) and physical sensations (e.g., feeling hot, shaky, dizzy, racing thoughts) may be useful.
2. Coping skills to distract	Identify coping skills teens can use to distract themselves from strong emotions or urges to engage in self-harm. Identify coping activities that teens can use independently of other people, that will not start an argument with their caregivers, and that are readily available.	To ensure youths have access to coping skills, share these with their caregiver. Ask teens how the parent can support them in using their skills. If they are unable to identify distracting activities, staff in the setting can help generate a working list of free, easily accessible, fun activities to have available for families.
3. People to distract	Identify people they can talk to in order to get their minds off their distressing feelings. Identify at least one person who is available in person, in addition to others they may call/text for distraction.	If time is limited, providers may combine identifying distracting coping skills and people into one discussion/list. They can also generate pleasant/distracting activities to do with identified people (e.g., texting, playing a sport, playing videogames).
4. People for emotional support	Identify people teens feel comfortable talking to for emotional support. Identify at least one adult.	If teens cannot identify any support persons, facilitate a discussion around how caregivers can be an emotional support. Discuss what teens would like their caregiver to do and not do when teens are distressed, and involve caregiver in this discussion; incorporate role-plays if time permits.
5. Professional support	Review teens' current mental health support (i.e., therapist, psychiatrist). Provide 24-hour crisis hotline and text-line numbers.	If teens do not have current mental health support, talk with their caregivers about connecting to outpatient mental health care. If possible, set up an appointment before leaving the emergency department/hospital.
6. Restricted access to lethal means	Discuss rationale for means restriction and emphasize that this is a very effective, temporary solution to keep teens safe in the short term. Identify what caregivers need to monitor or lock up in the home to keep teens safe. This may include guns, razors or scissors, lighters, medications, or other potentially lethal items.	To encourage follow-through with these recommendations, provide family with a lock box/bag to take home. For caregivers who express resistance to means restriction, providers can utilize decision tools with patients' caregivers, such as Lock to Live (http://lock2live.org).
7. Reasons for living	Help teens identify their reasons for living. This may include people important to them or things they look forward to in both the near and distant futures.	If teens cannot identify reasons for living, inquire about common, future-oriented events in the short term (e.g., prom, high school graduation) and long term (e.g., career goals, travel aspirations, family), incorporating known information from collateral contacts (e.g., parents).

support was added, given the high numbers of youths in this population who present to ES settings.

Full implementation. Next, the SPI was fully integrated into clinical practice. Given the high rates of staff/trainee turnover in these settings, additional attention was given to the process of training new personnel. To ensure that all staff could access the training material, we created a video-recorded training and case example, in which one of the trainers completed a safety plan together with both a youth and a parent. All new staff involved in psychiatric evaluations in these settings are now provided video-based training in the SPI. Since the initial training, staff have completed SPIs with approximately 500 adolescents.

RESULTS

As noted above, providers completed a brief survey assessing attitudes toward and knowledge of safety planning with youths pretraining, posttraining, and 1-month posttraining.

Providers completed a six-item measure providing open-ended feedback about using the SPI 9 months after its implementation.

Pretraining Provider Attitudes and Knowledge

Before the initial implementation stage, providers reported a strong desire to learn evidence-based interventions for safety planning. Over 90% of the providers (N=25) endorsed a desire to learn effective methods for safety planning for suicidality in the ES settings. At pretraining, all providers (N=27) endorsed that learning evidence-based approaches would help them in their current position and would help meet the health care needs of their patients. Moreover, most providers reported feeling confident in their ability to engage adolescents in safety planning (88%; N=24), including in specific aspects of safety planning (i.e., discussing restriction of access to means [81%; N=22] and reasons for living [92%; N=25]). Most providers (85%; N=23) also reported a strong understanding of the safety planning process. However, less than half (41%; N=11) of the providers reported that they had received a lot of training and supervision around conducting safety planning, indicating a strong need for this training initiative.

Approximately one-third of the providers (37%; N=10) also endorsed a moderate-to-strong belief that using a structured safety plan would require a lot of mental effort and that the plan would be cumbersome to use. Similarly, some providers (37%; N=10) endorsed strong concerns about the length and timing of the structured SPI. Finally, two-thirds of the providers (67%; N=18) endorsed concerns that caregivers would get angry or upset if providers asked about restricting access to lethal means in the home.

Posttraining Provider Attitudes and Knowledge

We conducted a repeated-measures analysis of variance to test differences in provider attitudes and knowledge about the SPI over time (pretraining, posttraining, and 1-month follow-up). The effect of time on SPI attitudes and knowledge was statistically significant ($F=4.19$, $df=2$ and 22, $p=0.030$), indicating that providers' attitudes toward the safety intervention improved after completing the training.

Postimplementation Feedback

Thirteen providers completed an open-ended survey approximately 9 months after training and SPI implementation. The providers consistently highlighted how the SPI provided common language and structure that help to formalize the process of safety planning. For example, they stated that the SPI "facilitates a consistently comprehensive and thorough assessment and plan" and that "the intervention portion of our time is clearer to parents and patients, as well as our team." Providers also stated that the SPI is useful for parents in that it "allows for group discussion regarding a plan to go home" and "helps parents to know triggers and what to observe" at home. With regard to challenges, the providers reported that time remained a main concern among staff in the ES setting. They highlighted that long wait times in ES settings add strain on both providers and families, indicating that "after extended waits for evaluation, it can be hard to have patients and families be willing to fully participate in planning." Altogether, the providers' comments were largely enthusiastic about the intervention tool, indicating positive attitudes toward the SPI after the providers had used it for an extended period in clinical practice.

DISCUSSION

The current study reviews methods for implementing safety planning in pediatric ES settings, and its results provide preliminary support for the feasibility and acceptability of training multidisciplinary providers in the SPI. The pretraining survey highlighted both the need for engaging providers in SPI training and the importance of addressing key barriers to implementation, such as time limitations and concerns about patient responses to the intervention. Importantly, we found that the providers' attitudes about the benefits of using the SPI in their daily work improved from pre- to posttraining, and those positive perceptions were sustained at the 1-month follow-up. This study provides promising evidence that health care providers are eager and willing to learn evidence-based methods for safety planning. Furthermore, evidence supports the use of a brief training protocol for multidisciplinary service providers in different types of emergency settings.

Notably, the providers in this study reported some initial concerns before the training, including the time required to conduct the SPI and how to talk with families about restricting access to lethal means in the home. Despite this initial apprehension, after a brief training session, providers' attitudes improved toward using SPI in both settings. These beliefs are best addressed at the start of training in this intervention, because this may both bolster enthusiasm for the training process and ease providers' anxiety about learning a new protocol. Practical ways to enhance training and develop providers' confidence in the intervention are providing psychoeducation about the importance and effectiveness of means restriction in reducing risk, role-playing how to talk to caregivers about means restriction, and demonstrating how different SPI elements can be completed in the time constraints.

Large-scale tests of the effectiveness and feasibility of delivering the SPI in real-world settings are needed. In this vein, a large-scale trial funded by the National Institutes of Health is currently testing the application of screening adolescents for suicidality across 14 pediatric emergency departments in the United States, with the goal of improving identification of at-risk youths. Furthermore, randomized controlled trials are needed to examine the effectiveness of SPI across ES settings compared with standard care provided in psychiatric ES settings and to test implementation outcomes, including the best methods of training and

supporting providers in delivering the SPI. Additional research is needed to determine what may be the most efficient and effective method for delivering training to providers. Furthermore, it will be important to explore how providers' level of experience may affect their readiness to engage in training and their uptake of the SPI material.

Research is needed that examines putative mechanisms and moderators of SPI to understand both how and for whom SPI works best. It will also be important to test adjunctive treatment components that may enhance SPI outcomes. For example, one avenue for future research is to leverage mobile technology to enhance brief interventions (27) and better assess how and when youths are using their safety plans in the period following hospital discharge. Utilizing passive data collection methods, such as ambulatory psychophysiological measures, offers another means through which we may better understand how and for whom SPI works. Additionally, examining both the quality and content of safety plans could inform improvement of training in the SPI.

This study had some important limitations. First, the sample of providers was relatively small, and we were therefore unable to explore differences across the different types of providers. Level of training may be an important factor to consider when implementing evidence-based protocols and is an important area of future research in SPI implementation. Moreover, we had limited demographic information on the current sample of providers, except for their role or degree and number of years in the ES settings. Therefore, we were also unable to explore differences across other demographic variables (e.g., age, race, ethnicity, and sex). Second, we did not collect information about outcomes among adolescents following the implementation of the SPI in these two settings; therefore, we do not know if the SPI reduced risk for suicide in youths who received it in this study. Third, the number of providers who completed the follow-up assessment was relatively small; because not all providers completed these assessments, the results should be interpreted with caution with regard to generalizability. Finally, we did not directly assess provider adherence to the SPI in this study; future research will focus on examining the content of completed safety plans in these ES settings to determine provider adherence to the structured protocol.

CONCLUSIONS

Given the increased demand for suicide interventions in diverse health care settings, it is important to examine the procedures used to implement these interventions and the response of providers. Our findings provide an overview of the steps for implementing an SPI and demonstrate the feasibility and acceptability of this approach for providers with varying professional backgrounds in ES settings for youths. These findings are particularly relevant for health care settings that seek to comply with new standards for hospital accreditation and aim to improve overall patient care for suicidal youths.

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