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Enhanced Mental Health Interventions in the Emergency Department: Suicide and Suicide Attempt Prevention in the ED

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Abstract

Suicide is the third leading cause of death in adolescents, and often youths with suicidal behavior or ideation present to the emergency department (ED) for care. Many suicidal youths do not receive mental health care after discharge from the ED, and interventions are needed to enhance linkage to outpatient intervention. This paper describes the Family Intervention for Suicide Prevention (FISP). Designed for use in emergency settings, the FISP is a family-based cognitive-behavior therapy session designed to increase motivation for follow-up treatment, support, coping, and safety, augmented by care linkage telephone contacts after discharge. In a randomized trial of the intervention, the FISP was shown to significantly increase the likelihood of youths receiving outpatient treatment, including psychotherapy and combined medication and psychotherapy. The FISP is a brief, focused, efficacious treatment that can be delivered in the ED to improve the probability of follow-up treatment for suicidal youths.

Keywords

suicide prevention; cognitive behavior intervention; adolescents; family

A 15-year-old girl presents to the emergency department (ED) with her mother. Her mother reports that the youth cut on her wrist after having a fight with her boyfriend. Upon examination, it is determined that she is medically stable. The girl states that she frequently experiences suicidal thoughts, such as “it would be better if I weren't here” and “I wish I could just die.” She reported she was having those thoughts as she cut on her wrists, thought that cutting could possibly kill her, and had a long history of cutting when she felt acute distress. The ED provider is concerned about the girl and knows she needs continued follow-up treatment to address these dangerous thoughts and behaviors, but does not feel that inpatient hospitalization is warranted as the youth denies current suicidal thinking and has

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no current suicidal plan or intent. How might the ED provider help this girl and her mother to address the safety concerns and understand that linking to outpatient care is important?

Background

Suicide accounts for roughly 1,000,000 deaths annually worldwide, is the third leading cause of death among youths ages 10-24 in the United States, and the second leading cause of death among young adults ages 25-35.(1) Youths making near-fatal attempts are often treated in EDs and youths brought to EDs for suicide attempts and other self-inflicted injuries are at risk for future attempts with more lethal methods. Yet, as highlighted in the National Strategy for Suicide Prevention (<http://www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/full-report.pdf>), many of these patients fail to receive appropriate follow-up treatment after ED discharge. Evaluating risk, providing effective care, and linking patients to appropriate care at ED discharge are critical tasks for the ED clinician.

An ED visit for suicidality or self-harm offers a window of opportunity to link these youths to effective interventions, yet current data indicate that rates of linkage to outpatient treatment after ED discharge are often alarmingly low, as low as 20% in some EDs with an average of about 50%.(2-4) This is particularly concerning given recent data indicating that 66% of youth patients seen in an ED for suicide attempts are discharged home. Discharge to home versus hospitalization is associated with the lowest rates of follow-up treatment, and hospitalization after an ED visit for suicidality is more strongly associated with the type and location of ED than the characteristics and needs of youths. (5-6) Additional data indicate that rates of short-term hospitalizations for acute problems such as suicidality are increasing, particularly in youths; with decreased lengths of stay suggesting that hospitalizations were used for stabilization and may not have been cost-effective.(7) These data, in conjunction with observations that negative experiences and quality of care problems in the ED contribute to poor follow-up treatment rates, and surveys indicating perceptions of inadequate resources to appropriately care for these patients in the ED underscore the critical need for innovative changes to clinical practice. (8-10)

Innovations in the ED

Recognition of the morbidity and mortality associated with suicidal behavior in youths and the potential for enhancing mental health care through ED services has led to the development and evaluation of ED interventions. Goals of these interventions have included: 1) address the restriction of lethal means, 2) provide education about suicide attempt risk and the importance of follow-up care, and 3) enhance providers' feelings of efficacy in dealing with suicidal youths. The American Foundation for Suicide Prevention, in conjunction with the Suicide Prevention Resource Center, has developed a Best Practice Registry of evidence-based suicide prevention programs (<http://www.sprc.org/bpr>). To date, only two ED-based interventions are included in this registry: 1) the Emergency Department Means Restriction Education,(11-12), and 2) the Emergency Room Intervention for Adolescent Females.(10, 13) These two interventions are also listed in SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP; <http://>

www.nrepp.samhsa.gov/). Additionally, Ougrin and colleagues have evaluated a Therapeutic Assessment strategy, (14-15) which was associated with improved engagement with follow up treatment. Spirito and colleagues demonstrated that a compliance enhancement intervention using motivational interviewing and problem-solving to improve adherence to outpatient care in adolescents presenting to the ED with a suicide attempt was associated with significantly improved attendance to outpatient follow-up treatment, as compared to standard disposition planning, when factoring in barriers to receiving community treatment.(16) More detail on the nature of these interventions is provided below.

One example of an effective intervention is ED means restriction education.(11-12) After training the hospital staff in means restriction education, Kreuski et al. reviewed the records of 103 youths who presented to the ED for mental health assessment or treatment to identify whether the means restriction education was provided to parents. (11) In 40% of the sample, the education was provided. Through follow-up phone calls, a significant association was found between receiving the education and taking action to limit access to lethal means, including firearms, prescribed medication, and over-the- counter medication.(11)

The emergency room intervention of adolescent females had 3 major components.(10, 13) The first intervention component was delivered at the ED and involved training sessions with all ED staff (physicians, nurses, staff and security officers) to enhance positive interactions with patients and families, to emphasize the importance of follow-up outpatient care, and highlighting the seriousness of suicide attempts and suicide prevention. The second intervention component, completed with the adolescent and family, included a brief motivational “soap opera” video shown to families highlighting the seriousness of suicide attempts and motivating families to adhere to recommendations for follow-up treatment.(10, 13) The third intervention component was a crisis therapy session, completed with the adolescent and family members, with the aims of discussing the video, completing a behavior assessment of risk for imminent danger, supporting the youth and family in identifying positive attributes in themselves and their family, developing a plan for coping with future suicidal feelings, identifying emergency supports, obtaining a commitment from the youth not to engage in suicidal behavior, and contracting with the youth and family to attend follow-up mental health treatment. In the trial of this intervention, youths were then connected to a six-session outpatient intervention specific to the study (Successful Negotiation Acting Positively; SNAP). Using a quasi-experimental design, where youths admitted to the ED during an initial time period received standard ED care and youths admitted during a second time period received the ED intervention, results supported the value of the ED intervention plus free guaranteed access to the SNAP outpatient treatment for improving adherence to outpatient treatment and lowering levels of suicidal ideation and depression.(13)

The Therapeutic Assessment strategy developed by Ougrin and colleagues was similarly associated with improved engagement with follow up treatment but not with improvements in clinical outcomes.(14-15) Major components of Therapeutic Assessment include: 1) an initial hour devoted to standard psychosocial history and risk assessment, 2) a brief 10-minute break to review the assessment information plan the remainder of the session, and 3)

a 30 minute period focusing on constructing a diagram with the youth aimed at capturing the “vicious cycles that maintain self-harm,” identifying a target problem, evaluating and motivating change, and exploring possible ‘exits’, strategies for breaking the previously identified “vicious cycles”, and 4) an ‘understanding letter’ that described the diagram and exits.

Spirito et al.(16) compared standard disposition planning versus a compliance enhancement intervention, using motivational interviewing and problem-solving conducted both in the ED and through follow-up telephone contacts, for improving adherence to outpatient care in adolescents presenting to the ED subsequent to a suicide attempt. Though not statistically significantly different, the compliance enhancement intervention group attended 7.7 sessions of outpatient follow-up by month 3, compared to the 6.4 sessions attended by the standard disposition planning group. This difference increased when factoring in barriers to receiving community services, with the compliance enhancement group attending significantly more outpatient sessions.(16)

Finally, building on the ER Intervention for Adolescent Females,(10, 13) and adapting this intervention for usual ED settings where access to outpatient treatment is variable and frequently associated with multiple barriers, Asarnow and colleagues demonstrated that this enhanced mental health intervention was associated with improved linkage to follow-up treatment, as compared to usual ED care (enhanced by provider education), with most youths (92%) in the intervention condition attending outpatient treatment after discharge from the ED/hospital. This intervention was called the Family Intervention for Suicide Prevention (FISP), because of the focus on mobilizing family support for follow-up treatment and safety. As in the ER Intervention for Adolescent Females,(10, 13) the FISP included ED provider education about evaluation and management of youth suicidality, an ED crisis therapy session (described in more detail later), and care linkage telephone contacts aimed at enhancing motivation for and supporting linkage to follow-up treatment. These care linkage telephone contacts were modeled after the compliance enhancement intervention developed by Spirito and colleagues described above.

In this manuscript, we provide additional detail on the Family Intervention for Suicide Prevention (FISP). The major aims of this article are: 1) review the FISP intervention 2) to describe implementation data, 3) discuss feasibility issues, and 4) offer suggestions regarding how interventions like the FISP can be implemented under routine ED practice conditions.

Methods

Study Design

The study was a randomized controlled trial of the FISP, in comparison to usual ED care enhanced through provider education. The primary study hypothesis was that youths receiving the FISP would be more likely to link to outpatient follow-up treatment after ED discharge, when compared to youths randomized to the usual ED care condition. The full study methods, a description of the baseline sample, and the primary outcomes have been reported elsewhere.(5, 17-18)

Settings and Participants

From August 2003 to August 2005, consecutive patients (N=181), aged 10 to 18, presenting to the ED with suicidal ideation or a suicide attempt were recruited for study participation. Youths were recruited from two EDs in Los Angeles. Emergency department A (ED-A) serves approximately 42,000 patients per year in a primarily middle class area, while emergency department B (ED-B), operated by the Department of Health, serves approximately 77,000 patients per year. All participants' parents or legal guardians gave written informed consent prior to engaging in any study activity. Assent was obtained from the children and adolescents as well. The study was approved by the Institutional Review Boards at both sites.

Inclusion criteria included: presenting to the ED for suicide attempt and/or suicidal ideation; ages 10 to 18. Exclusion criteria included: no parent/guardian present to consent; acute psychotic symptoms or symptoms that would impair ability to consent or complete assessments; non-English speaking youths; non-English or non-Spanish speaking parents. The original pilot study targeted adolescent females, but later study criteria were expanded to include males as well.

Procedures

ED personnel contacted study staff upon admission of youths, ages 10 to 18, presenting with suicidal ideation or suicidal behavior. Study staff were dispatched to the ED to confirm participant eligibility and present the study to the youth and family. Consent and assent were completed in the ED. Following informed consent/assent, youths and parents completed a 20-30 minute baseline assessment, comprised of demographic, clinical, and services use questions. Youths and families were then randomized to the FISP (n=89) or usual care (n=92). Those families randomized to FISP received intervention in the ED. The follow-up assessment was conducted approximately 2 months after discharge from the ED.

Family Intervention for Suicide Prevention

The FISP was designed as a brief cognitive-behavioral family intervention delivered in the ED. The FISP is a second-generation adaptation of the Specialized Emergency Room Intervention for Suicidal Adolescent Females,(13) which was designed with the primary goal of increasing linkage to outpatient mental health services. The original Specialized Emergency Room Intervention(13) was delivered and evaluated in combination with free access to a structured cognitive-behavioral family intervention for outpatient treatment. However, this approach could not be easily exported to routine ED practice settings where outpatient follow-up treatment is often variable and associated with multiple barriers (access, direct and indirect costs, burdensome to access). Consequently, the FISP was designed to be delivered under routine ED conditions and included a care linkage component with follow-up telephone contacts to motivate and support linkage to outpatient treatment. Primary targets of the FISP were: 1) to directly address short-term risk of repeated suicidal behavior through enhancing motivation to seek follow-up treatment, strengthening youth and family coping skills, and educating the family about the importance of restricting access to potentially dangerous attempt methods (e.g. lethal medications,

guns), 2) education about the importance of linking to follow-up care. Figure 1 illustrates the FISP model. Additionally, care was enhanced within the ED through education of ED staff regarding evaluation and management of youth suicidality with the goal of standardizing and improving the quality of care within the ED.

The FISP included a brief youth and family therapy session, conducted in the ED, with five major goals: 1) To label suicidality as a serious problem that must be addressed actively by increasing safety (i.e., discussion with parents about lethal means restriction), asking the youth to commit to a collaboratively-developed safety plan, and psychoeducation regarding the importance of youths receiving outpatient mental health treatment; 2) To highlight and reinforce strengths and protective factors in the youth and family through a discussion of positive attributes and interactions aimed at enhancing family support and communication; 3) To provide the family and youth with an effective way to conceptualize the hierarchy of suicide-related situations using an “emotional thermometer,” where youths identified feelings, triggers, thoughts, behaviors, and associated physiological signs of distress; 4) To collaboratively develop a safety plan with youths, tied to the “emotional thermometer,” which included behavioral and cognitive coping strategies; and 5) To provide the youth with concrete tools, including a “safety plan card” to support safety after discharge. This card included coping strategies such as distraction and self-soothing techniques, helpful coping thoughts, a list of supportive individuals, and, if time permitted, ideas for a hope kit with items for maintaining safety while lowering the youth's “emotional temperature.”

Additionally, the FISP includes telephone contacts to enhance linkage to outpatient mental health care. In the randomized study of the FISP, the first call was made within the first 48 hours after ED or hospital discharge with additional contacts as needed (usually at 1, 2, and 4 weeks after discharge). Phone calls were structured, focused on enhancing motivation for seeking treatment and providing referrals as needed to youths and families. This approach was modeled after the compliance enhancement intervention approach designed by Spirito et al.(16) and the Youth Partners in Care care manager phone calls.(19) Both the ED intervention session and the follow-up linkage calls were conducted by clinicians with graduate training in psychology, social work, psychiatry, or a related mental health field.

FISP Implementation Ratings

Quality assurance (QA) raters completed chart reviews and rated each session for completion of: each intervention component (1: “not complete”, 2: “partially complete”, or 3: “complete”), intervention location, participants, and participants' language (English or Spanish). Inter-rater reliability was assessed for the two QA raters by comparing ratings on 20 randomly selected cases, with kappas ranging from 0.44 to 1.00 and percent agreement ranging from 84% to 100%. Kappas generally indicated strong reliability. Codes with kappa > 0.8 were noted for the intervention components of “positives” and “coping strategies.”

Results

FISP Implementation and Feasibility

Of the 181 participants completing the baseline assessment, 89 youths and families were randomized to the FISP intervention. The first question involved feasibility of delivering the intervention in the ED, given the fast paced nature of the ED environment and emphasis on restricting length of stay in most EDs. We effectively delivered the FISP in the ED for 80.9% of patients. For youths who were discharged prior to completing the FISP, the FISP was delivered on inpatient units after transfer from the ED (n=11, 12.4%), in other community locations (n=3, 3.4%) or by phone (n=2, 2.2%). In one case (1.1%), the location was not documented.

Second, given that only 67% of our sample were accompanied by their parents when brought to the ED and a substantial subgroup (33%) were brought to the ED by ambulance or the police (36%), was it feasible to deliver a parent and family intervention component in the ED? Results indicated that most FISP sessions included both the youth and at least one parent (78.7%), while in 16.9% of sessions the intervention was done with the youth only. In a small percentage of participants, youths were either too ill or discharged/transferred to another facility too early to permit intervention completion. (See Table 1).

Of the 89 participants randomized to the FISP intervention, 74.1% (n=66) received the full intervention, defined as receiving a rating of “2” or “3” on all intervention components (see Table 2). The FISP intervention also included the planned care linkage calls. Seventy-nine families (88.8%) received at least one care linkage contact (median number of calls: 5; range: 1-27 calls).

Benefits of the FISP

The FISP approach was specifically designed for use in the fast-paced ED environment. Similar to the rape crisis team approach, FISP clinicians were paged for suicidal patients and delivered the ED intervention. Challenges included the availability of space for sessions, youths presenting to the ED without parents, and the ED system needs for short length of stay; these challenges were expected and the FISP provides flexibility in implementation location and participants and can be delivered in approximately 20 minutes. Additionally, the intervention session completed in the ED specifically includes education regarding the importance of restricting the youth's access to dangerous suicide attempt methods, recommendations regarding increased supervision of the youth, and information about the dangerous effects of drug and alcohol use when someone is suicidal. These intervention components are consistent with the American Academy of Child and Adolescent Psychiatry Practice Parameters for Suicidal Youth. (20) Finally, the FISP is unique as it was designed to be delivered under usual practice conditions with recognition that follow-up care opportunities are diverse and affected by many factors, including access, type and quality of treatments available, insurance and cost, and patient preference. The FISP follow-up phone calls require the clinician and family to work together to address any barriers that become apparent after discharge from the ED. Overall, the FISP was feasible and acceptable across two diverse EDs in the randomized trial.

Conclusions

The FISP, delivered in the ED, appears to be feasible and effective in linking youths to follow-up care. In the randomized trial of the FISP versus usual care, the FISP was associated with improved linkage to outpatient follow-up treatment. Clinically, we have found that the FISP intervention techniques can be applied more broadly and have found the FISP approach to be useful in treating patients served in outpatient, inpatient, residential, and other community programs. We also have ongoing treatment projects aimed at developing and testing an extension of the FISP for the follow-up treatment of suicidal youth, the Safe Alternatives for Teens and Youth (SAFETY) Program, and are currently expanding that intervention for use with youths presenting with non-suicidal self-injury.

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Figure 1.

Family Intervention for Suicide Prevention mode.l

From Family Intervention for Suicide Prevention, by J. R. Asarnow, 2008, Los Angeles: University of California, Los Angeles. Copyright 2008 by Joan Rosenbaum Asarnow. Reprinted with permission.

Table 1
Intervention participants. (N=89)

Participant(s)	n	%
Youth only	15	16.9
Youth + parent	70	78.7
Youth + both parents	17	
Youth + mother/stepmother	47	
Youth + father/stepfather	6	
Youth + other	2	2.2
Parent only	1	1.1
Missing data	1	1.1

Table 2
Intervention received by youths and families. (N = 89)

Intervention Component	Complete	Partially Complete	Not Done
Self positives	86.5% (77)	1.1% (1)	12.3% (11)
Family positives	86.5% (77)	0.0% (0)	13.4% (12)
Feeling thermometer	91.0% (81)	3.4% (3)	5.6% (5)
Coping strategies/plan of action	88.8% (79)	4.5% (4)	6.7% (6)
Support people	79.8% (71)	5.6% (5)	14.6% (13)
Contract for safety	76.4% (68)	2.2% (2)	21.3% (19)
Reminder for follow-up treatment	94.4% (84)	1.1% (1)	4.5% (4)