


A Process Evaluation of a Substance Use Brief Intervention for Adolescents in a Psychiatric Inpatient Program

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Substance Abuse: Research and Treatment
Volume 14: 1–8
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DOI: 10.1177/1178221820936666



ABSTRACT: The present study represents a two-phase process evaluation of the implementation of *Screening, Brief Intervention, and Referral to Treatment (SBIRT)* on an adolescent psychiatric inpatient unit. The first phase analyzed uptake efforts using chart review data, which revealed that 158 (16.8%) of 942 hospitalized patients (*Mean age* = 15.81, *SD* = 1.24) were eligible to receive the brief intervention; however, only 30 (19%) adolescents received the intervention, 15 (9.5%) declined treatment, and 113 (71.5%) were never offered. The second phase involved directed content analyses of clinical staff and providers' perceived facilitators and barriers to the implementation. Qualitative findings revealed that providers and staff accepted and agreed with the use of the brief substance use intervention, though perceived time constraints, competing demands, and insufficient staffing interfered with implementation across disciplines. Barriers included patients' length of stay and competing treatment priorities. Several recommendations emerged including, utilization of non-clinical staff, a clear administration protocol, and the use of computer-based interventions. Findings from the present study shed light on the need to consider alternate or more streamlined substance use treatments such as computerized approaches and focus on ways in which protocol can be modified to fit the needs within an acute, short-term setting.

KEYWORDS: adolescent, substance use, brief intervention, inpatient

RECEIVED: January 22, 2020. **ACCEPTED:** May 12, 2020.

TYPE: Original Research

FUNDING: The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by the Clinical Research in Clinical Programs Award.

DECLARATION OF CONFLICTING INTERESTS: The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Adolescents who are admitted to psychiatric inpatient units are at particularly high risk for substance use disorders (SUD), with rates of comorbidity as high as 50%.^{1–4} Those with dual diagnoses are at risk for higher levels of dysfunction and poorer treatment outcomes than those associated with either of these conditions in isolation. Recent surveys report that only 1 in 10 teens who need substance use (SU) treatment receive any care.⁵ Youth and their families often do not comply with referrals for SU treatment due to substance severity,⁶ living situation,⁷ poor family and social functioning,⁸ and social disadvantage.⁹ Implementing interventions within the hospital setting ensures access to at least brief SU treatment and in turn, could lead to decreased rates of use and related negative outcomes that are associated with considerable costs to the legal, health, and school systems.⁹ Despite the importance of treatment for dual diagnoses, only a few treatment studies have included samples of adolescents with comorbid psychiatric and substance disorders.^{10–12} Access to dual diagnosis treatment remains limited, and programs that do exist are often rated poorly in terms of program structure and continuity of care, suggesting a lag between service potential and actual clinical practice.^{13,14} Thus, integration of systems and the use of evidence-based SUD protocols that address comorbid psychiatric disorders are sorely needed, especially for those at the highest levels of care.

Screening, Brief Intervention, and Referral to Treatment (SBIRT) has been called to action within many settings—including emergency departments, public schools, primary care, and community treatment facilities—over the past few years to evaluate and intervene with individuals who are at risk for alcohol and drug use problems. *Screening* quickly assesses the level of SU and identifies the appropriate intervention. *Brief intervention* focuses on increasing insight and awareness regarding SU and motivation toward behavioral change. *Referral to treatment* provides those identified as needing more extensive treatment with access to specialty care.¹⁵ Recently, national policies for Inpatient Psychiatric Facility Quality Reporting Program (IPFQRP) have mandated screening and intervention for SU among inpatient psychiatric hospitals. Yet, there are specific challenges to *SBIRT* implementation within an inpatient psychiatric setting. Adolescent psychiatric hospitals tend to cursorily address SU because of the short length of stay and the primary focus on psychopathology.¹⁶ The initiative did not include guidelines for training or monitoring fidelity, and the lack of SU training for many clinicians in the mental health field lowers the likelihood of SU being adequately addressed on adolescent inpatient psychiatric units.¹² Moreover, current service systems are generally ill-prepared to deliver these treatments because of multiple clinical and administrative barriers.¹⁷



Despite these challenges, brief SU interventions are needed for adolescents during psychiatric hospitalization to address the *SBIRT* initiative and provide comprehensive preventative care to adolescents at high risk of developing substance use disorders (SUD). Motivational Interviewing (MI) and Motivational Enhancement Therapies (MET) have been implemented as brief interventions for SU with positive outcomes, showing significant improvement in 67% of studies reviewed.¹⁸ There are a number of reasons why MI/MET might be useful for teens in an inpatient setting. Adolescence is the primary developmental period when identity formation and establishing oneself as an autonomous individual occurs. As a result, teens often exhibit ambivalence about change. MET models acknowledge choices and ambivalence, do not confront resistance, and support personal goals rather than institution- or counselor-based goals. Additionally, teens rarely admit to or recognize SU problems. MET uses a nonjudgmental and non-confrontational style that may be particularly useful for engaging adolescents who are at this stage and experiencing low levels of motivation to change. MET is often most appropriate for individuals, such as adolescents, who have not yet reached the severe end of the spectrum of a specific health-risk behavior, such as alcohol and SU. MET interventions are also versatile enough to integrate into a variety of settings, such as inpatient psychiatric units. In a qualitative study examining barriers to implementing evidence-based practices (EBPs) in addiction treatment settings, MET was one of the EBPs with the fewest barriers to implementation.¹⁹

Research on SU interventions implemented with adolescents in acute inpatient settings is scarce. This paper describes an implementation-focused process evaluation of a brief MET intervention for SU that was implemented in an adolescent inpatient unit. The current paper reports how the process evaluation was developed and carried out, results of the evaluation, and discussion of how these results may inform future implementation efforts.

Methods

Setting

This study was conducted on a 34-bed adolescent inpatient unit in the Northeast that admits youth ages 12 to 18. There are approximately 700 non-repeat admissions per year for youth who are at risk of hurting themselves or others. About 74% of inpatient admissions are for suicidal ideation or behavior, and 60% of admissions receive public assistance. The multidisciplinary treatment team is composed of psychiatrists, psychologists, social workers, nurses, and milieu staff. Treatment includes daily comprehensive evaluations, milieu therapy, psychiatric medication management, daily group therapy, individual supportive therapy, family sessions, and case management. The median length of stay for adolescents is 9 days.

Participants

Staff and clinicians ($n=18$) employed at the adolescent psychiatric inpatient hospital were recruited for the present study via convenience sampling and provided written consent. Of the 18 provider participants, 14 completed the qualitative interview, which is of primary focus for the present study. Four participants did not complete the qualitative interview due to scheduling difficulties coupled with response saturation on the qualitative interview. The final sample represented the following disciplines: psychiatry ($n=2$; 14.3%), psychology ($n=4$; 28.6%), social work ($n=2$; 14.3%), nursing ($n=4$; 28.6%), and milieu associates ($n=2$, 14.3%). Approximately one third ($n=5$; 35.7%) of the sample described their role as managerial in some degree (eg, head or assistant manager). This research was approved by the Institutional Review Board (IRB).

Process Evaluation

As a result of the aforementioned national mandate, our psychiatric adolescent inpatient units adopted the *SBIRT* initiative; thus, upon admission, adolescent patients are administered a battery of measures of psychiatric symptoms, as well as the CRAFFT,^{20,21} a 6-item clinical assessment tool designed to screen for substance-related risks and problems in adolescents. Youth who screened positive (CRAFFT score ≥ 2) for substance-related risks were eligible to receive a brief intervention. The brief intervention conducted on the inpatient unit involves a 45 to 60-minute individual intervention with the adolescent during which motivational enhancement techniques (ie, decisional balance, personalized feedback, envisioning the future, enhancing interest and confidence in changing using readiness rulers, establishing goals and strategies, creating a change plan) are used to explore SU, build the adolescent's motivation to reduce or stop their SU, and create a change plan if the adolescent is ready. The intervention was intended to be delivered by a provider (psychiatrist, psychologist, or social worker) on the adolescent's treatment team. Providers attended a two-hour didactic training on motivation enhancement therapy (MET). Training included an overview of the benefits of brief interventions, a description of the core components of MET, and detailed instructions of the administration procedure. Materials used in the delivery of the brief MET intervention were reviewed, and a script was provided to assist in introducing the intervention and using suggested prompts that were consistent with the MET framework. Lastly, providers were informed of their responsibility to deliver MET to eligible youth under their care.

Due to limited research and a critical need to understand more about the feasibility and fidelity of SU interventions in inpatient psychiatric settings, a process evaluation plan was devised. Process evaluations are used to determine if a clinical intervention was delivered as designed, whether the patients

Table 1. Implementation outcomes and definitions.

OUTCOMES	DEFINITION
Acceptability	Extent to which implementation stakeholders perceive a treatment, service, practice, or innovation to be agreeable, palatable, or satisfactory.
Adoption	Intention, initial decision, or action to try or employ an innovation or evidence-based practice. Adoption may also be called “uptake.”
Appropriateness	Perceived fit, relevance, or compatibility of the innovation or evidence-based practice for a given practice setting, provider, or consumer; and/or perceived fit of the innovation or evidence-based practice to address a particular issue or problem.
Cost	Financial impact of an implementation effort. May include costs of treatment delivery, cost of the implementation strategy, and cost of using the service setting.
Feasibility	Extent to which a new innovation or practice can be successfully used or carried out within a given agency or setting.
Fidelity	Degree to which an intervention or implementation strategy was delivered as prescribed in the original protocol or as intended by program developers. May include multiple dimensions such as content, process, exposure, and dosage.
Penetration	Extent to which an innovation or practice is integrated within a service setting and its subsystems.
Sustainability	Extent to which a recently implemented practice is maintained and/or institutionalized within a service setting’s ongoing, stable operations.

Note. Definitions taken directly.²⁴

received the planned “dose” of the clinical intervention, and whether providers maintained fidelity to the clinical intervention protocol. Questions regarding implementation can focus more on barriers and facilitators to uptake/adoption efforts, feasibility of the clinical intervention, acceptability of the clinical intervention to providers and patients, and on identifying tools and training that would assist with high fidelity implementation.²² As such, we used Proctor et al.’s²³ implementation outcomes framework as a guide for developing our process evaluation plan. As proposed in Proctor et al.’s²³ conceptual model, several constructs are used to evaluate implementation success, such as acceptability and feasibility of the intervention (see Table 1 for a list of constructs with corresponding definitions). Specifically, we sought to understand the uptake/adoption efforts as well as the feasibility of the intervention through the use of chart review data to determine how many eligible youth received the intervention. Secondly, we aimed to further explore facilitators and barriers to staff acceptability, staff adoption, intervention appropriateness for the setting, and cost/feasibility through structured qualitative interviews.

Chart review

To examine uptake/adoption as well as feasibility, a retrospective chart review was conducted on 942 adolescents hospitalized in a psychiatric inpatient facility between July 2016 and October 2017. Participants were a subsample of 158 adolescent patients (12–18 years of age, $M_{age}=15.81$, $SD=1.24$) who endorsed alcohol and/or lifetime marijuana and reported an elevated score on the SU screener (ie, CRAFFT score ≥ 2 ; see Table 2 for additional details). Of this subsample, 86 (54.4%) participants identified their sex as female and 72 (45.6%) as male. Per participants’ medical records, the following racial and

ethnic identities of the subsample were reported: 106 (67.1%) White, 21 (13.3%) Black, 31 (19.6%) other race, and 35 (22.2%) Hispanic/Latino. This research was approved by the Institutional Review Board (IRB) and classified as a retrospective chart review and quality improvement initiative; thus, informed consent was waived.

Screening measure

The CRAFFT^{20,21} is a part of the battery of measures that adolescents receive upon admission and administered by staff nurses. Each item on the CRAFFT corresponds with a letter of the CRAFFT acronym and include the following questions: (a) Have you ever ridden in a Car driven by someone (including yourself) who was “high” or had been using alcohol or drugs?; (b) Do you ever use alcohol or drugs to Relax, feel better about yourself, or fit in?; (c) Do you ever use alcohol or drugs while you are by yourself Alone?; (d) Do you ever Forget things you did while using alcohol or drugs?; (e) Do your family or Friends ever tell you that you should cut down on your drinking or drug use?; and (f) Have you ever got into Trouble while you were using alcohol or drugs? Respondents are asked to respond with a yes or no to each item, and a score of 2 or more indicates a positive screen, with higher scores indicating greater substance-related risks.

Qualitative Interviews

To explore facilitators and barriers to intervention implementation, qualitative, semi-structured interviews were conducted by a trained post-doctoral-level interviewer with staff and clinicians on the inpatient unit. The interview was designed to (a) assess familiarity with—and experience delivering—the

Table 2. Patient participant characteristics.

SAMPLE CHARACTERISTICS	N (%)
Youth screened	942 (100.0)
CRAFFT score <2	784 (83.2)
CRAFFT score \geq 2	158 (16.7)
Offered brief intervention	30 (19.0)
Declined treatment	15 (9.5)
Never offered treatment	113 (71.5)

Note. CRAFFT score \geq 2 indicates a positive screen and endorsement of alcohol and/or cannabis use in the past 12 months. Per SBIRT initiative, those with a positive screen would qualify to receive a brief intervention.

motivational interviewing intervention; (b) identify perceived effectiveness and utility of intervention for psychiatrically hospitalized adolescents; and (c) to better understand potential barriers and facilitators to its implementation. Using Proctor et al.'s²³ implementation framework as a guide, several questions were created with the intent of providing valuable information about facilitators and barriers to the implementation of the intervention. For example, to address the appropriateness construct, respondents were asked "How well-matched is substance use treatment for this acute setting?" Questions also addressed perceived facilitators and barriers of using an alternate but comparable computerized brief intervention. Interviews were completed and recorded following obtainment of informed consent and were approximately 30 minutes in length.

Data analysis

Descriptive analyses were conducted using chart review data. Primary focus was to identify the frequency with which eligible adolescent patients (ie, CRAFFT score \geq 2) had been offered, accepted, and then received the brief SU intervention. In addition to demographic characteristics of the sample, data analyses were used to determine the range of substance-related risks that were endorsed by the screened youth.

Following the qualitative interviews, the recorded interviews were transcribed. Content of qualitative interviews were thematically coded using a directed approach, as described by Hsieh and Shannon.²⁵ Specifically, with the directed content analysis, we used previously established constructs from Proctor et al.'s²³ conceptual model, which formed the foundation from which themes were generated and extracted. Responses were then identified as facilitator or barrier categories and labeled to include the context (eg, setting) or individual (eg, patient, provider) with whom the facilitator or barrier was directed. The coding team, consisting of four trained researchers, reviewed the transcriptions and developed an initial coding list in Microsoft Excel. They primarily used consensus coding,

whereby codes were identified separately then discussed and agreed upon as a group. Researchers also identified implementation themes not included as a part of Proctor's model (inductive coding), such as perceived centrality of SU to mental health issues, to identify important themes not represented in Proctor's model. Finally, representative quotes and associated codes that represent key themes were identified through consensus with the overall research team.

Results

Chart review data

Of the 942 adolescents screened using the CRAFFT, 83.2% ($n=784$) endorsed a CRAFFT score of 0 or 1, indicating alcohol and/or cannabis use in the past 12 months without endorsement of impairment related to use. In contrast, 16.8% ($n=158$) scored a 2 or higher (ie, indicating alcohol and/or cannabis use within the past 12 months and a range of serious negative outcomes associated with use). More specifically, 60.7% ($n=96$) reported several negative problems (CRAFFT score=2-3) related to recent alcohol and/or marijuana use, whereas 39.3% ($n=63$) endorsed almost all negative outcomes (CRAFFT score=4-6). Adolescents were also found to have comorbid psychiatric concerns, with 26.6% ($n=42$) who met criteria for posttraumatic stress disorder, 41.1% ($n=65$) who endorsed a history of trauma, abuse, and/or neglect, and 65.8% who met criteria for major depressive disorder. Of patients who were found eligible for brief intervention (CRAFFT score \geq 2), only 19% ($n=30$) received MI, 9.5% ($n=15$) declined treatment, and 71.5% ($n=113$) were never offered MI.

Qualitative results

Given low rates of intervention delivery with eligible youth and a critical need to address SU concerns with this vulnerable population, it was imperative to better understand barriers to SBIRT implementation, as well as facilitators for future implementation. Qualitative interviews were conducted and data were reviewed. Five constructs from Proctor's Model of Outcomes²³ were most prominent in interviews, either for positive or negative influence on implementation. Factors related to implementation acceptability among staff and patients were discussed, as well as facilitators and barriers to adoption (ie, staff likelihood of implementing intervention), intervention and setting appropriateness, cost, and feasibility.

Acceptability. Staff referenced acceptability for the intervention implementation to improve treatment options in the inpatient setting. Specifically, clinicians and unit staff described an openness to learning new skills and need for additional interventions: "I think it's good, I think it's important. For many patients, they've either never had mental health treatment, or their families have not had the opportunity to get their kid any type of behavioral health treatment. Even though the focus is on acute stabilization,

introducing them to as many options as possible while they are here is important. As much exposure and knowledge is important.” Staff also mentioned the professional development component of learning a new intervention approach: “I think staff would be excited and interested in learning new skills. It’s one of those things you could always add to a resume that you have experience doing MI. A lot of our staff are in school, in psychology or social work or something, so I don’t think we’d have resistance to it.”

Interviewees at all levels also discussed setting-specific barriers to acceptability, including competing demands, patient safety, and treatment priorities. Among almost all administrators, clinicians, and milieu staff, frustrations and concerns were discussed regarding staffing and coverage issues: “Everyone is working with every minute they have, and so it’s hard to just add more to their plates. Everyone is already busy. I think that’s challenging.” Additionally, safety and stabilization were identified as primary targets for intervention: “I think our main goal is around safety and stabilization, so it depends how much it’s impacting their functioning. At times other things might be more important to address. And that’s why, again, within the family meetings if it’s a huge issue we’ll address it.” Given that youth are often admitted for safety or crisis management, several staff similarly described this as the focus of the patient’s inpatient stay and a barrier to implementing additional interventions: “I think it’s tough because it’s not typically the reason a kid is admitted to this program, it’s usually identified as part of the admission process or part of the individual work or discussion, but I feel like priority is on safety and less energy is put into some of more long term concerns, even though substance use is dangerous it usually gets lumped into the more long term goals for that child and tough to address it with average stay of 7 to 10 days.” Challenges and barriers related to youth engagement and acceptability included overall resistance to treatment during their inpatient stay and limited readiness to change their behavior. Staff at all levels discussed how teen engagement can vary greatly and resistance creates barriers to intervening within the short inpatient stay timeframe.

Adoption. Related to acceptability, implementation and execution were also important to consider regarding adoption of the intervention. Timing and identifying the appropriate staff to deliver the intervention were key issues and barriers discussed: “I think later in treatment is better. Once they get here, we need that stabilization piece. I think that it is the whole team that identifies it and focuses on it. I think providers have to provide the treatment if their kids identify it as a concern. It should not fall on a specific person, that would be too difficult.” Coordination was also essential for execution: “Time, we need to communicate verbally who is positive on the CRAFFT and where they are with readiness. If we are saying this is a hospital requirement and we agree it’s important, then we are failing our kids if we don’t do it. We need to have a good way of tracking it. It would require a significant time commitment and training, or you need to hire someone whose role is to do that on the site. I think another piece is, do we have follow-up

resources to make it safe to address substance use? Are those kids going to leave and end up on 7-month waiting lists? It’s okay to identify things if we can manage treatment.” Additionally, staff noted that having a standard protocol and staff training would be essential for successful implementation: “So if there is a consistent plan on who and how it’s administered. Contingent on how long the kids are staying, those are two factors. I think if there is a clear outlined plan on when who and how then it would be successful. People are getting screens when they first come into the unit, it’s a very structured way.”

A larger theme of how to adopt and integrate brief SU interventions into existing treatment approaches to facilitate adoption and overall impact also emerged. Some spoke about uncertainty around the current protocol and a need for more integration to facilitate implementation: “I think it’s important that it is not isolated. I don’t have a sense over how many sessions I’m supposed to be doing, and regardless if that’s isolated and there is no corresponding work that is being done on the milieu in terms of psychoeducational groups, I feel like we are spitting in the wind. Because it’s a drop in the bucket in the ten days they are here. The things that I think that stick are the things that are being addressed multi modally—individually, group, family. That has the most heft and impact to it.” Interviewees similarly talked about ways to integrate motivation enhancement and SU treatment into the existing treatment plans for youth, including integrating these approaches into current individual therapy plans.

Appropriateness. Interviews with administrators, clinicians, and unit staff included discussion of the perceived seriousness and centrality of SU to mental health related to the appropriateness of the intervention. Interviewees acknowledged the prevalence of SU among patients and staff at all levels perceived SU to be interrelated with mental health for many adolescents who are admitted to the inpatient unit: “It’s something we are supposed to be doing already, so there are some regulatory benefits. It’s always been a missing piece for us. We are much more comfortable with the mental health piece rather than the substance abuse piece. So, if our working assumption is that they are intertwined, we are not doing a great job intertwining our treatment. I also think that some of the substance abuse interventions are complicated now given the political and legal environment related to marijuana use, so there is an overlay of that in all of this.” A subtheme emerged regarding the use of substances as maladaptive coping or self-medication. Staff discussed benefits and acceptability of intervening within the inpatient setting as a result, as well as barriers to doing so: “I think they go hand in hand especially with this age group, I think that more often than not especially recently we will have kids self-medicating to manage anxiety/depression, oftentimes the bigger issue at hand is what we try to focus on with families, but with substance use it sometimes gets tricky because we want to keep their privacy while also keeping safety in mind—makes it a little more complicated than what we’re used to accomplishing on an inpatient unit.”

Many of those interviewed talked about the appropriateness of brief intervention and motivation enhancement for adolescents given the unique aspects of the inpatient setting. Since youth are admitted to address mental health concerns and are required to stay for a duration of time to focus on treatment, this can be an optimal time to intervene: *"We have a captive audience. To not address it in some way, even in an introductory way to get a discussion going, is sort of a disservice to that kid."* The benefits of using a motivation enhancing approach for ambivalent youth were also highlighted related to the appropriateness of the intervention: *"I think it's really interesting in itself that you're not really putting your opinion into place with Motivational Interviewing, you're kind of like stating the facts and having the kids walk through it and see, 'Oh, I'm spending this much money, maybe I should make this change in my life.'" Further, staff discussed that MI uses a nonjudgmental and non-confrontational style that can be particularly useful for engaging adolescents who are ambivalent and experiencing low levels of motivation to change: "It's more of an exploratory thing to see what works and what doesn't work. We want to help the youth figure it out, rather than telling them to stop. That makes them much more open to it. Much more engaging. I think some staff might be interested in that aspect of it, it's just a different way of helping them that we don't usually do on the unit. I do think that some people would be interested in it."*

Cost and Feasibility. Similar to challenges related to appropriateness of the intervention and adoption, staff at all levels described multiple barriers to implementation related to resources and feasibility. Frustration was consistently noted regarding the lack of staffing and resources and identified as barriers to implementation: *"Hire more people. I really think it is time and manpower behind it because we are all stretched with our caseloads. If it's not as much as a priority it makes sense not to do it. I would not do it if it was not a priority. We are always going to do the top 3 things on the list, if substance abuse is fourth then that's not going to get done."* Additionally, these barriers were specifically noted in contrast to staff interest: *"I think that people want to be able to address it, but they don't have resources. It feels like we don't even have the resources to do what we are saying we are doing right now. We would worry about burnout and quality. MI is not just a checkbox, it's important and quality time."* Staff further described fatigue and setting-specific stressors: *"I feel like people are already feeling like overwhelmed with the workload and the pace, so to add one extra thing might be a challenge. That's probably why it's not happening, unless it is happening in individual therapy. We have to do check-ins and this may not be a priority either."* Interviewees acknowledged that clinical staff and administrators have full caseloads and additional responsibilities and as such, it was suggested that non-clinical staff as interventionists (ie, milieu unit staff) would facilitate adoption of the intervention: *"I think the milieu staff would be most appropriate given how much time they spend with the youth, and they have the opportunity to administer it during down time."*

Discussion

The Inpatient Psychiatric Facility Quality Reporting Program (IPFQRP) called for *SBIRT* to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs within adolescent inpatient settings. The present study utilized a two-phase process evaluation of *SBIRT* that first aimed to understand uptake/adoption efforts of a brief SU intervention using chart review data and second, aimed to address facilitators and barriers to the implementation of the intervention with eligible psychiatrically hospitalized youth. Despite national regulation, chart review data revealed that approximately 20% of eligible youth received the intervention, nearly 10% declined, and roughly 70% were never offered the opportunity to participate in the intervention, demonstrating significant challenges to SU intervention delivery within inpatient settings. Responses to semi-structured interviews revealed that providers and staff generally accepted and were in agreement with the use of the intervention but identified several specific barriers to its implementation.

Similar to challenges identified in *SBIRT* implementation in other settings for adolescents,²⁶ several barriers were noted to impede intervention acceptability, appropriateness, and feasibility. Providers from all levels within the inpatient setting identified time constraints, competing demands, and insufficient staffing consistently as implementation barriers across disciplines. Furthermore, responses indicated that successful implementation would require coordination of care efforts among inpatient staff personnel. Providers noted that identification of an administration protocol, including the appropriate point person with whom the responsibility of administration would be assigned. Barriers unique to an inpatient setting were also identified, which are critical to consider to improve implementation procedures and address the national regulations to deliver brief SU interventions within inpatient settings. Given the acuity of psychiatric difficulties and need for stabilization in these settings, challenges regarding treatment priority (ie, need for clinical stabilization) and length of stay were noted among providers, with SU perceived as secondary to these priorities.

Recommendations to address barriers to delivery of brief interventions for SU within inpatient settings were offered. Use of non-clinical staff to deliver SU interventions was recommended to address time constraints and staffing barriers. A call for nurses to deliver components of *SBIRT* has been made across various settings²⁷ and may be a helpful solution in inpatient settings. Nurses play critical roles in the prevention of disease and reduction of harm related to psychiatric disorders, including SU disorders, and the coordination of care for youth in inpatient settings. Unit milieu staff also play a key role in the support and management of youth during their inpatient stay and could serve as intervention administrators as they have successfully done for other interventions.²⁸ Additionally, potential need for future research arose in regards to availability and access to SU treatment in the community post-discharge. Brief

electronic interventions may also be an efficient way to address SU during hospitalization. To address the unmet need of SU treatment for youth, clinicians and researchers alike have turned to METs as well as interactive, computer-based interventions in community and emergency department settings. Computer-based programs allow treatment to be delivered at a low cost with minimal training, a high degree of fidelity, and low demand on staff time. These benefits address many of the well-documented barriers to delivering EBP in community settings, such as limited financial resources, front-line staff availability, and supervisory support. These benefits also apply to high-turnover and low-resource intensive psychiatric inpatient units. Further, computerized interventions often offer a more appealing presentation to adolescents, thus potentially improving engagement and increasing acceptability. Acceptability among teens appears critical, given that teens rarely recognize the need for intervention and may therefore be less likely to take independent steps toward receiving help.

Thus, incorporating non-clinical staff into the delivery of brief SU interventions, as well as utilizing novel computer-based programs, provide promising alternative methods that could be implemented and integrated into inpatient psychiatric settings for youth. These recommendations address inpatient setting-specific barriers and could facilitate widespread intervention implementation during this critical time for vulnerable youth. Future research is needed to test brief interventions that address both intrapersonal and contextual factors associated with SU among psychiatric inpatient settings, to compare clinician-delivered versus computer-delivered approaches, and to conduct further implementation-focused process evaluation studies to understand ongoing implementation efforts and address barriers to implementation specific to this acute setting.

Limitations

The current study has several limitations. Participants were not randomized and there is no comparison group in the current study. Additionally, the CRAFFT screening measure was provider-administered, which could influence adolescents' responses. These preliminary and exploratory findings target feasibility and acceptability rather than complete implementation. Additionally, the variety of providers who were interviewed sparked a more comprehensive data collection but excluded other stakeholders, including adolescents who would receive the intervention. Furthermore, there were no measures of competency or fidelity in conducting the current protocol. The current study, however, sheds light on the possible need for an alternative treatment or ways to streamline treatment delivery for adolescents endorsing substance use in an inpatient setting.

Conclusion

Overall, the current study demonstrates that further efforts are needed to improve the implementation of *SBIRT* in the

adolescent inpatient setting. Further attention may be needed to provide training in the delivery of these approaches and to consider who within the setting (clinical versus non-clinical staff) may be best suited to deliver treatments. Finally, alternative approaches, such as computerized interventions, may be well-suited to address barriers that arise in the inpatient setting and should be considered in future research.



Authors' Note

The funding committee had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication. The content is solely the responsibility of the authors and does not necessarily represent that official views of the committee.

Author contribution

All authors made substantial contributions to this work including study design, data collection, and manuscript preparation.

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