

Development of a motivational interviewing/acceptance and commitment therapy model for adolescent substance use treatment



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Disclosure of Affiliations
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INTRODUCTION

TABLE 1. Baseline demographic and clinical characteristics (n=82)

RESULTS

There are few models for integrated treatment of adolescent psychiatric and substance use disorders. Many youth in substance treatment drop out and do not achieve abstinence. To address these limitations of adolescent substance treatment, this study begins to develop a novel treatment approach, combining Motivational Interviewing (MI) and Acceptance and Commitment Therapy (ACT).

Variable	Value
Age, mean (SD)	16.3 (2.4)
Gender, % (n)	
Female	32 (26)
Male	68 (56)
Ethnicity, % (n)	
Hispanic/Latino	45 (37)
Not Hispanic/Latino	55 (45)
Race, % (n)	
African American	12.2 (10)
Caucasian/White	50.0 (41)
Other	37.8 (31)
Substance use disorder diagnoses, % (n)	
Cannabis use disorder	89 (73)
Alcohol use disorder	48 (39)
Stimulant use disorder	20 (16)
Hallucinogen use disorder	16 (13)
Opioid use disorder	12 (10)
Other substance use disorder	10 (8)
Psychiatric disorders, % (n)	
Major depressive disorder	52 (43)
Attention-deficit/hyperactivity disorder	38 (31)
Post-traumatic stress disorder	37 (30)
Generalized anxiety disorder	37 (30)
Conduct disorder	23 (19)
Social anxiety disorder	15 (12)
Oppositional defiant disorder	10 (8)
Other	18 (15)
Session Rating Scale, mean (SD)	37.6 (2.7)

Combined

The median proportion of days used decreased from 0.6 to 0.1 ($p < 0.0001$); **TABLE 2.**

Hospital Based

Mean ORS scores increased from 22.5 to 29.3 ($p < 0.0001$) **TABLE 2.** The mean SRS score was 37.0 (SD=2.2); **TABLE 1.**

School Based

Mean ORS scores increased from 6.8 to 7.8 ($p = 0.0499$) **TABLE 2.** School engagement scores increased from 20.2 to 23.7 ($p = 0.0011$). The mean SRS score was 38.2 (SD=2.8); **TABLE 1.**

Qualitative Data

Therapists feedback about the model included suggestions on how to improve the model and there was a consistent theme of satisfaction with MI/ACT over the previous treatment model, which relied on second wave cognitive behavioral therapy.

A process for providing consultation and feedback to therapists about treatment adherence was developed.

Finally, patient feedback themes concerning their experience of the model included appreciation for feeling accepted, helped, respected, supported, understood and welcomed by the therapists as well as a belief that the treatment helped them with their treatment goals.

CONCLUSIONS

The results show MI/ACT may be a promising approach for adolescents with psychiatric and substance use disorders. This project produced a revised manual-standardized MI/ACT intervention for adolescent substance and psychiatric disorders called impACT. This treatment is ready to undergo Stage 1B testing to evaluate the feasibility of an adequately powered randomized, controlled trial and to estimate the sample size needed for such a trial.

The development of this novel intervention may advance the field of adolescent substance use treatment by: 1) decreasing treatment drop out and improving treatment outcomes, 2) serving as a model for integrating mental health and substance use treatment, 3) allowing for practical expansion into real-world settings because of the partnership between researchers and clinicians, 4) increasing access to care by creating a school based adaptation.

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MATERIAL AND METHODS

Participants and Procedure

Participants were 82 youth ages 12-24 admitted to outpatient substance treatment at a large, urban, safety-net hospital and three school-based clinics in Denver, CO; **TABLE 1.** All youth were offered 12 weeks of manual-standardized, individual treatment consisting of: MI/ACT, contingency management, family sessions, medication-assisted treatment and case management as needed. All patients enrolled in substance treatment during this time were included if they participated in at least one session of treatment.

Participants also included the 8 therapists who administered the intervention and provided feedback on the feasibility of the intervention and satisfaction of the treatment model.

Statistical analyses included descriptive statistics and pre-post comparison of continuous outcome measures using dependent t-tests or non-parametric equivalent. This study was approved by the Colorado Multiple Institutional Review Board.

Hospital Based

Outcome measures for the hospital-based clinic included the following: number of sessions attended, proportion of days used substances in the past 7 days (for those with non-zero baseline use, $n = 39$), Outcome Rating Scale (ORS) (0=poor wellness, 40=optimal wellness), Session Rating Scale (SRS) (0=poor session, 40=optimal session), urine drug screens and qualitative feedback from therapists. Urine drug screens (UDS) were collected at each weekly appointment and sent to a commercial laboratory for quantitative THC and creatinine levels.

School Based

Outcome measures for the school-based clinics included the same measures as hospital based treatment with the addition of a measure of school engagement (0=minimal school engagement, 30=maximum school engagement) and a modified ORS (0=poor wellness, 10=optimum wellness).

TABLE 2. Pre-post comparison of intervention outcome measures (n=82 unless otherwise noted)

Variable	Pre	Post	Test statistic	p-value
Proportion of days used in the past 7 days, median (IQR)	0.6 (0.3, 1.0)	0.1 (0, 0.7)	U=349.5	<0.0001
School engagement, mean (SD) (n=41)	20.2 (5.7)	23.7 (6.1)	T ₃₂ =-3.59	0.0011
Outcome Rating Scale (ORS) - modified, using school based data only (n=41)	6.8 (1.8)	7.8 (2.9)	T ₃₃ =-2.04	0.0499
Outcome Rating Scale (ORS), using hospital based data only (n=41)	22.5 (8.6)	29.3 (8.8)	T ₃₀ =-5.12	<0.0001