Multidimensional Family Therapy: Addressing Co-occurring Substance Abuse and Other Problems Among Adolescents with Comprehensive Family-based Treatment

Cynthia L. Rowe, PhD

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- Multidimensional Family Therapy • Co-occurring disorders

Adolescent substance abuse rarely occurs in isolation from other developmental and psychiatric problems. Studies with community-based, clinical, and juvenile justice samples document that adolescent substance abuse is frequently comorbid with a host of other psychiatric disorders, most commonly conduct disorder (CD), attention deficit-hyperactivity disorder (ADHD), depression, and posttraumatic stress disorder (PTSD). Rates of co-occurring adolescent substance use and psychiatric disorders average 60% in community-based samples and can range up to 80% in adolescent psychiatric samples. Several studies also show that treatment engagement and successful outcomes can be more difficult to achieve with adolescents who have co-occurring substance use and psychiatric disorders. Many

Department of Epidemiology and Public Health, University of Miami Miller School of Medicine, Center for Treatment Research on Adolescent Drug Abuse, 1120 North W 14th Street, Suite 1014, Miami, FL 33136, USA
E-mail address: crove@med.miami.edu

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substance abusing youths with severe CD are at risk to progress to antisocial personality disorder and to experience chronic substance abuse, mental health, employment, health, and relationship difficulties into adulthood.14,15

Common factor or general deviance models are often invoked to explain the close association between substance use and psychiatric disorders, particularly externalizing problems such as CD.2 As posited by Jessar and Jessar's16 problem behavior theory, adolescent substance abuse tends to co-occur with a range of other disruptive behaviors that can have long-term consequences, including unsafe sexual practices, school failure, and social isolation, alienation, and conflict. The consistent clustering of these behaviors, and evidence that they can have reciprocal effects,27 has led to the examination of shared risk factors that may explain a range of adolescent problems, such as early temperament and environmental vulnerabilities.18,19 Given that common risk factors are known to contribute to substance abuse and other disorders in adolescence, addressing these vulnerabilities and promoting protective processes through targeted intervention may have broad and lasting effects.20,21

Family factors including parental rejection and family conflict, ineffective monitoring and parental discipline strategies, and compromised parental functioning resulting from substance abuse and mental health problems are among the strongest and most consistent predictors of adolescent problem behaviors such as substance abuse and CD.22,23 Protective factors within the family can also buffer against the negative effects of risk factors such as deviant peer involvement.24 Involved and supportive parenting was even found to ameliorate genetic risk for adolescent drug abuse in a recent study.25 The consistent associations among family factors and adolescent problem behaviors, as well as strong empirical support for family-based interventions tested in several rigorously controlled trials in the past 2 decades,26-28 has firmly established family involvement as a critical ingredient in the treatment of adolescent substance use disorders (SUDs).29 Because family factors predict a range of problems in adolescence, including internalized distress and externalizing behaviors, intervening to change negative interactions and patterns within the family may also be critical in improving co-occurring disorders as well as teen substance abuse.

Although several treatments have been shown to reduce adolescent substance use,29,30 many of these interventions focus on alleviating substance use alone rather than targeting multiple adolescent problem behaviors. In addition, with community programs and funding generally fragmented into substance abuse or mental health silos, progress in developing and implementing effective interventions for co-occurring disorders has been slow.29,30 Clinical research that purposely excludes complex cases with multiple comorbidities has not helped matters. Thus there are few examples of broad-based interventions that simultaneously and effectively tackle substance abuse, related risky behaviors such as unsafe sexual practices, delinquency, psychiatric symptoms, and school problems among adolescents.2 Given that substance abuse among teens tends to co-occur with, and may exacerbate (and be exacerbated by), other emotional and behavioral problems, interventions for this population must address multiple comorbidities.28 Integrated interventions that simultaneously treat SUDs and co-occurring problems are frequently recommended,5,31 but are rare in practice.

In recent guideline and review articles of co-occurring disorders for teens and adults, several experts call for interventions for substance abuse and mental health problems that are delivered in a truly integrated way rather than distinct treatments offered concurrently or consecutively.5,31 For instance, American Academy of Child and Adolescent Psychiatry (AACAP) practice parameters for the treatment of adolescent substance abuse include thorough assessment of possible co-occurring disorders as well as systematic incorporation of pharmacologic agents and other psychosocial interventions that address psychiatric symptoms.28 Similarly, in addition to multidimensional assessment of potential comorbidities, Kammer and colleagues5 recommend "simultaneous and coordinated implementation of psychiatric and substance abuse treatment services" in which psychotherapy targets the range of presenting symptoms and medications are used and closely monitored to reduce the debilitating symptoms of disorders such as depression. Although there seems to be consensus on the importance of such coordination and integration to reduce substance abuse and comorbid conditions among teens, there are few empirical studies of truly integrated approaches or detailed clinical protocols for how such a model can be delivered in practice.

This article reviews the evidence base for Multidimensional Family Therapy (MDFT),32 a comprehensive treatment that targets change in the multiple domains of the teen's life that are known to influence the development and maintenance of substance abuse and other problems. Clinical effectiveness of MDFT has been shown in 5 completed clinical randomized controlled trials (RCTs) and with promising interim findings from the same number of ongoing RCTs.33-37 The model is recognized as exemplary in independent reviews and is regularly listed as a best-practice model for teen drug abuse and delinquency.27,38-41

MDFT was recently included in a review of "a handful of research-supported integrated interventions that simultaneously address both mental health and substance use disorders."27,40 In that review, Hawkins emphasizes the negative clinical, systems, and policy implications of separating mental health and substance abuse arbitrarily into different categories for funding and treatment purposes. "Both mental health and substance abuse disorders must be conceptualized as psychiatric conditions, with common developmental etiologies and trajectories," Hawkins concludes: "In an adolescent with co-occurring disorders, both conditions must be considered primary and treated as such." Additional recommendations made in that review include reconsidering adolescent co-occurring disorders as chronic relapsing conditions potentially requiring multiple treatments, follow-up, and aftercare; greater attention and resources devoted to prevention and early intervention; simultaneous and integrated care plans for behavioral, emotional, and substance abuse disorders; and closer collaboration among agencies so that adolescents and families may access comprehensive quality services through any possible route, whether it be schools, courts, child welfare systems, mental health clinics, substance abuse treatment programs, or other social service agencies. The review concludes that additional research is needed to determine mechanisms and effects of treatment models with adolescents suffering from different types of co-occurring disorders. This article describes a comprehensive family-based approach to treating adolescent substance abuse and related comorbid conditions. Following a discussion of the clinical approach, the article reviews findings supporting MDFT's ability to achieve reductions in adolescent substance abuse, as well as co-occurring problems including risky sexual behaviors, school problems, delinquency, and mental health symptoms. The conclusions present certain challenges and the need for additional research on this and similar models.

MDFT

MDFT is an integrative outpatient treatment that has blended family therapy, individual therapy, drug counseling, and multiple-systems oriented intervention approaches.46 Interventions target the interconnected domains of adolescent development, and,
within these contexts, the circumstances and processes known to create and/or continue dysfunction. MDFT interventions work in 4 domains: changes in the adolescent (intrapsychic and relational development issues), the parent(s) (individual functioning of the parent as well as parenting), the family environment (family transactional patterns), and the extrafamilial systems of influence on the adolescent and family (e.g., working with schools, social service agencies, or the juvenile justice system). Early-stage interventions aim to develop multiple alliances with teens, parents, and influential members of extrafamilial systems, as well as motivating each to participate and change. Systematic and effective engagement strategies have paid off in high retention rates. For example, 87% of families completed 3 months of intensive outpatient MDFT compared with 59% in residential treatment, and 96% of young teens and families completed 4 months of MDFT compared with 78% in group therapy. MDFT retained 97% of youths in treatment during detention stays compared with 85% of youths receiving services as usual (SAU) in detention; 7% percent of youths in MDFT were retained in outpatient treatment for 3 months following detention release, compared with only 23% of youths in SAU.

MDFT is a treatment system and not a singular, one-size-fits-all approach. It has been adapted and tested in various forms or versions according to target population and contextual characteristics in community-based clinical trials with samples of substance abusing teens demonstrating high rates of comorbid emotional and behavioral problems. Studies of MDFT have been conducted at sites across the United States and Europe, among diverse samples of adolescents (African American, Hispanic, and White youths aged 11-18 years) in urban, suburban, and rural settings, and youths of various socioeconomic backgrounds. These studies have primarily been conducted in community settings with masters-level nonresearch clinicians, increasing the transfer potential of the approach to standard clinical and juvenile justice settings. The model has been implemented successfully in substance abuse, mental health, and juvenile justice settings across the United States, Canada, and several European countries.

Several features of the MDFT model are hypothesized to increase its success with teens experiencing multiple problems. First, as recommended in virtually every review of practice guideline for co-occurring disorders, MDFT stage 1 work involves comprehensive, multidimensional assessment. Assessment in MDFT provides a therapeutic map, directing therapists where to intervene in the multiple domains of the adolescent’s life. A comprehensive, multidimensional assessment process involves not only the identification of different problem areas, symptoms, and co-occurring disorders, but also risk and protective factors in all relevant domains, so that these factors can be targeted for change. Through a series of individual and family interviews, meetings with school, court, and other mental health professionals, and observations of directed family interactions, the therapist seeks to answer critical questions about functioning in each area of the adolescent’s life. Assessment is based on empirically derived knowledge of the deficits of adolescent substance abusers and their life contexts as well as areas of strength, so as to provide a complete clinical picture of the unique combination of assets and weaknesses that the adolescent, family, and other systems bring to therapy. Assessment is an ongoing process throughout therapy, continually integrated with interventions to calibrate treatment planning and execution, and addressing what has not yet been sufficiently resolved.

Second, guided by this multidimensional assessment, the model addresses common root factors underlying a range of emotional and behavioral symptoms that co-occur with adolescent substance abuse, most importantly family relationship factors, parenting practices, family conflict and communication, and parental substance abuse. Because these shared factors have an influence on a range of negative developmental outcomes, the intensive work done in all domains of the therapy, but especially family sessions, alters the trajectories of these risk factors, promotes protective processes, and presumably improves adolescents’ outcomes as well.

Third, the therapy mobilizes and actively coordinates the efforts of many different systems affecting the teen’s life, including other mental health services and psychiatric consultation. A previous review of the model’s integrative treatment development framework described the systematic way in which MDFT therapists collaborate with psychiatrists in the treatment of adolescents with comorbid substance abuse and psychiatric problems. As with other components of MDFT, the therapists strive to integrate psychopharmacological interventions into the adolescent’s overall treatment plan in a way that is consistent with MDFT theory and principles, and ensure that they are based on a comprehensive evaluation of the adolescent’s functioning. MDFT therapists work in close collaboration with child/adolescent psychiatrists, encouraging the teen and family to participate actively in the close monitoring and integration of medication into the comprehensive treatment plan. The psychiatrist is integrated as an important member of the therapeutic team, and MDFT therapists may arrange joint phone calls or face-to-face visits with the family and psychiatrist to monitor symptoms, compliance issues, and the effectiveness of medications. Medications are presented to teens and families as being important in reducing the effect of symptoms, as well as improving the teen’s functioning so that he or she is more effective in his or her efforts in MDFT, school, and home.

Fourth, this type of active collaboration and coordination of services is also critical in reducing school problems. School success and reconnection are among the most important areas of work in MDFT because they are critical in creating a prosocial trajectory for the teen. Work in this realm is one of the most direct ways to bolster protective factors for teens because it gives them a sense of accomplishment, a powerful success experience, a tangible product (a General Equivalency Diploma or high-school diploma), and new relationships with more positive peers and adult advocates and role models. MDFT therapists, with parents, work actively with school personnel to institute changes in this realm, including integration of special programs, tutoring, and vocational training. Tutoring and vocational training services have also been established within several MDFT teams so that these efforts can be truly integrated with the MDFT treatment.

Fifth, conduct problems and delinquency are addressed not only in ongoing individual and family sessions but also through intensive collaborative work with representatives from the juvenile justice system. Using the same principles of alliance building, regularity, and consistency of contacts, and careful assessment and follow-through that characterize the therapist’s work in all domains, these relationships are built on respect and mutual accountability for the adolescent’s outcome. Therapists clarify with the probation officer (PO) the monitoring protocol (e.g., weekly drug screens, meetings) and takes steps with the adolescent and family to abide by the PO’s requests. The therapist offers an analysis of the teen and family that provides hope for change, helping the PO understand that the focus on family relationship dynamics will pay off in practical terms, such as better parental monitoring and compliance with the terms of probation. Judges also must have adequate information on treatment to make informed decisions on the disposition of adolescent cases; not only an understanding of the theory and the science supporting MDFT’s efficacy, but also the basic structure and progress in therapy. POs and judges act on their experience with the teens and families, and therapists can help emphasize areas of progress and strengths that may elicit reasonableness from the system.
MDFT treatment incorporates specific protocols for addressing certain symptoms, such as depression and trauma, as well as high-risk behaviors. For example, a new module created as part of the Delinquent Treatment Project in the Community (DTCP) integrated multifamily groups with ongoing MDFT for the specific purpose of reducing high-risk sexual behaviors. Marvel and colleagues described the process of developing and testing this new component of MDFT with juveniles recruited in detention and following release to the community. First, treatment developers designed the new human immunodeficiency virus (HIV)/sexually transmitted disease (STD) prevention multifamily groups focusing specifically on reducing sexual risk-taking behaviors; and second, the groups were integrated into ongoing adolescent, parent, and family sessions in MDFT. Multiple revisions, pilot testing, and a rigorous evaluation attest to the effectiveness of the family-based HIV prevention module.

**EFFECTS OF MDFT ON ADOLESCENT SUBSTANCE USE**

Previous reviews have shown MDFT's potential to reduce adolescent drug and alcohol use to a greater extent than any other treatments. For example, in the first randomized trial of MDFT conducted in the San Francisco Bay area in the mid-1980s, the model was compared with 2 manualized active treatments, Adolescent Group Therapy and Multifamily Educational Interventions, with 182 clinically referred drug and alcohol abusing adolescents. The results revealed significant decreases in substance use and problem behaviors at termination for all treatments, with youths receiving MDFT showing significantly less substance use than the 2 comparison treatments. At the 1-year follow-up, MDFT youths again decreased their substance use to a greater extent than either of the other treatments. The second randomized trial compared MDFT with an empirically supported, individual-based adolescent treatment, Cognitive behavioral therapy (CBT), with 224 male and African American adolescents referred to a drug treatment clinic in North Philadelphia. Youths who received MDFT showed more rapid decreases in psychological involvement with drugs through the 12-month follow-up. In addition, youths receiving MDFT continued to improve following treatment discharge, so that at the 6- and 12-month follow-up assessments, their psychological involvement with substances was lower than that of youths in CBT. A greater proportion of youths receiving MDFT (64% vs 42%) reported no or 1 occasion of drug use at the 12-month follow-up. A third randomized trial tested MDFT as an early intervention for 83 minority adolescents (ages 11-15 years) referred for drug treatment in Miami. MDFT youths showed greater decreases in marijuana and alcohol abuse than youths receiving a manualized CBT-based peer-group treatment. Youths in MDFT were more likely to abstain from drug use, report no problems associated with drug use, and decrease their delinquent behavior more rapidly than youths in group treatment over 12 months of follow-up.

The Cannabis Youth Treatment (CYT) study, a rigorous 4-site clinical trial of 5 adolescent substance abuse treatment models, showed the long-term sustainability of MDFT's effects on teens' substance use frequency and problems up to 30 months posttreatment. This study also involved the first evaluation of adolescent drug treatment costs and benefits using standard economic methods, and found average weekly cost estimates of MDFT to compare favorably with cost parameters of standard outpatient adolescent treatment ($164 vs $365). Benefit-cost analyses revealed that MDFT had a statistically significant baseline to 12-month reduction in drug use consequences and greater net benefits associated with reduced drug use consequences than a brief, inexpensive intervention (motivational enhancement therapy [MET]/cognitive behavioral therapy [CBT]) at 30-month follow-up.

To summarize, MDFT decreases delinquency related impairment 1 year after intake; 93% of young adolescents in MDFT reported no substance-related problems at 12-month follow-up. The rigorous multisite CYT study also supports the sustainability of MDFT's effects and its positive benefit-cost ratio up to 30-month follow-up.

The research evidence supporting MDFT's effects is strong in several respects. First, the studies have shown favorable outcomes for youths in MDFT in comparison with other-state-of-the-art, well-articulated, and carefully monitored treatments. Second, the studies have recruited clinically referred samples with a range of problems, and the authors have achieved effects within community clinics, showing MDFT's effectiveness in real-world settings as well as its efficacy. Third, youths' and families' functioning in a range of domains have been shown to improve during treatment and to maintain gains following treatment. The following sections highlight findings from completed and ongoing studies that show MDFT's potential to address problem behaviors that frequently co-occur with substance abuse.

**EFFECTS ON DELINQUENT BEHAVIORS AND AFFILIATION WITH DELINQUENT PEERS**

Four trials showed that MDFT decreases delinquent behavior and affiliation with delinquent peers more than comparison treatments. Pogue and colleagues tested MDFT as a prevention approach with a sample of at-risk, inner-city young adolescents and their families in North Philadelphia. Study participants were early adolescents (mean age 12.5 years), predominantly girls (58%), African American (91%), and from low-income homes. Youths in MDFT showed greater gains than controls in decreasing involvement with antisocial peers over the course of the intervention. Although controls reported increased peer delinquency, MDFT subjects reduced peer delinquency.

In the randomized trial of MDFT with clinically referred young teens described earlier, court records showed that MDFT clients were less likely to be arrested or placed on probation than youths in group-based CBT during the 12-month follow-up period. Similar to results in the prevention trial, although youths in the peer-group treatment increased their affiliation with delinquent peers during the 12-month follow-up period, MDFT teens showed marked reductions in peer delinquency during this period.

In a third randomized trial, MDFT was tested as a therapeutic and cost-effective outpatient alternative to residential treatment. All teens had at least 1 comorbid psychiatric disorder in addition to an SUD and were referred for residential treatment. The average age was 15 (standard deviation [SD] = 1.07); and the sample was predominantly male (74.5%); Hispanic (67%), and almost all were juvenile-justice involved. Outcomes were assessed at intake and 2-, 4-, 12-, 18-, 24-, 36-, and 48-months follow-up. Consistent with hypotheses, from 2 to 18 months, youths in MDFT more rapidly decreased their self- and parent-reported aggressive behavior and self- and parent-reported delinquent activity than youths who received residential treatment. Residential treatment youths spent an average of 60 more days in controlled environments during the 18-month follow-up period than youths in MDFT, leading to an average of more than $35,000 greater economic costs per client.
for residential treatment. Preliminary analyses also reveal that the gains favoring MDFT achieved through the 18 months are maintained through 48 months for self- and parent-reported aggressive behavior and parent-reported delinquency.

In the DTC study, MDFT was tested in a 2-site National Institute of Drug Abuse Criminal Justice Drug Abuse Treatment Studies randomized trial as a cross-systems integrative model with youth in detention and providing continuous services in MDFT after they were released.49 Starting in detention, eligible youths were randomized to MDFT or Enhanced Services as Usual (ESAU). Adolescents and their caregivers were assessed at intake to detention, discharge from detention, and at 3, 6, and 9 months following release from detention. Participants (average age 15 years) were primarily men (83%) and African American (60%); 17% were white, non-Hispanic, and 22% were Hispanic. At intake, participants averaged 3.9 lifetime arrests (SD = 3.3), with 2.3 (SD = 2.1) in the last year. Youths receiving MDFT were detained for fewer days (following their original discharge from detention) than youths in SAU. At 1 site that was characterized by greater juvenile justice systems collaboration, MDFT youths received fewer punitive dispositions (eg, diversion, reconviction, charges, judicial warnings, as opposed to being placed on probation or committed to Department of Juvenile Justice Custody) than youths in SAU. The study is currently following participants at 18-, 24-, 36-, and 42-months follow-up to determine the long-term effects of the integrative MDFT-DTC model.

EFFECTS ON SCHOOL FUNCTIONING

MDFT clients show significantly greater improvement in school behaviors and grades than youths in comparison treatments. For instance, in the first trial of MDFT, MDFT clients improved their grades drastically from mainly falling grades at intake to mostly receiving passing grades at 12-month follow-up. Specifically, in MDFT, only 25% had a grade-point average of C or higher at intake, whereas 76% were passing at 12-month follow-up; in the family educational group, 36% were passing at intake compared with 40% at 12-month follow-up; and in peer-group therapy, 43% were passing at intake compared with 60% at 12-month follow-up.54 In the randomized trial of MDFT with clinically referred young teens described earlier, MDFT clients not only showed more significant improvements in academic grades but also improved their conduct grades (or school behavior) to a greater extent than in peer-group therapy.57 In the prevention study described earlier with at-risk, inner-city young adolescents, MDFT more significantly increased school bonding than the control condition.65

EFFECTS ON HIV/STD RISK BEHAVIORS

In the 2-site DTC randomized trial described earlier,48 an integrated substance abuse treatment and HIV prevention intervention (MDFT-HIV) was developed, and then experimentally tested, specifically for juvenile detainees. All youth received a high-quality, but standard, HIV prevention in detention, and MDFT youths received family-based HIV/STD prevention during the outpatient phase. Youth receiving MDFT engaged in fewer unprotected sex acts between intake and 9-month follow-up at both sites.

EFFECTS ON INTERNALIZING SYMPTOMS AND OUTCOME TRAJECTORIES OF YOUTHS WITH GREATER COMORBIDITY

In 2 of the studies described earlier, MDFT also showed greater effects on internalized distress, including depression and anxiety symptoms. In our early adolescent trial, MDFT showed more significant effects on internalized distress between intake and 12-month follow-up than CBT peer-group treatment.55,57 In addition, in the DTC study, MDFT was more effective in reducing self-reported internalizing symptoms among youths recruited in detention facilities than SAU.49 Another important line of investigation has examined trajectories of youths with greater severity of comorbid problems in 2 RCTs.57 In the trial comparing MDFT with individually focused CBT, and in the DTC study, analyses supported the distinctiveness of 2 classes of substance use severity, characterized primarily by adolescents with higher and lower initial severity (higher severity class having greater psychiatric comorbidity). As hypothesized, in both studies, the 2 treatments (MDFT and CBT in study 1, and MDFT and ESAU in study 2) were similarly effective in the classes with fewer comorbid diagnoses, but MDFT was more effective for the class with greater overall severity and comorbidity. Results suggest that general therapy factors might be sufficient to understand outcomes for youths with less-severe drug use and less comorbidity. However, for more-severe drug users with greater psychiatric comorbidity, the results suggest specific treatment factors such as family-based, multiple-systems interventions may produce superior treatment outcomes.

An ongoing randomized trial set in Greater New Orleans tests MDFT as an integrative family-based approach to treatment comorbid substance abuse and trauma symptoms among teens and families in the wake of Hurricane Katrina. This study has a treatment development component in which MDFT developers have systematically incorporated trauma-focused interventions within the model.58 The approach is unique in that few trauma-focused interventions have been integrated within an empirically supported substance abuse program. In addition, few empirically based trauma interventions concurrently address the stress and coping of teens and their parents, or leverage the healing potential of the family as a larger unit. Participants were adolescents aged 13 to 17 years who had lived in a Greater New Orleans parish when Hurricane Katrina struck and were referred for drug treatment. Adolescents were randomized into standard group drug treatment or MDFT, both delivered within the same community-based treatment agency. Outcomes are assessed at intake, 2-, 4-, 6-, and 12-months follow-up.

Eighty adolescents and their parents participated in the trial. The average age of participants was 15.6 years (SD = 1.0) and the sample was predominantly male (87%) and juvenile-justice involved (65% had 1 or more arrests at intake). The sample was 29% African American; 49% white, non-Hispanic; 4% Hispanic, and 3% other. Participants were primarily marijuana users with 21% meeting Diagnostic and Statistical Manual IV (DSM IV) diagnostic criteria for cannabis dependence and 43% meeting criteria for cannabis abuse (another 18% had alcohol abuse or dependence). A total of 68% met criteria for any AUD. Comorbid psychiatric diagnoses were also common among youths (78%): 30% had CD, 21% generalized anxiety disorder, 34% ADHD, and 18% major depressive disorder. Trauma symptoms were of particular interest given high rates of PTSD among youths in previous disaster studies. In addition to the disruptive experience and aftermath of Hurricane Katrina, 73% had experienced the death of a loved one, and 71% reported 1 or more significant traumatic life events (average life events = 2). According to youth reports on the Diagnostic Interview Schedule for Children, 29% had PTSD symptoms, and parents also reported high rates of youths' symptoms meeting criteria for PTSD (13%). Parents' own psychological symptoms were also high: 22% of parents scored in the clinical range on the Brief Symptom Inventory Global Severity Index; 41% were in the clinical range for depression; 45% for anxiety; 58% for somatization; 54% for obsessive-compulsive symptoms. According to youth and parent reports, 34% had a family
member with an alcohol problem; 35% had a family member with a drug problem; and 45% had a family member with police/court involvement. Although outcome analyses are ongoing, the study has shown that an integrated substance abuse and trauma intervention could be delivered with youths and parents following a major disaster. In addition, community-based providers delivered the approach with fidelity and good retention rates.

SUMMARY

Given the difficulties inherent in treating substance abusing youths with multiple impairments (including school failure; family dysfunction; relationships with antisocial, drug using peers; co-existing psychiatric disorders; high-risk sexual behavior; and other problems), there is general agreement that interventions for these youths must be comprehensive and integrated. Family-based approaches, such as MDFT, which target change in the multiple systems associated with development and maintenance of these problems, are among the most effective treatments for adolescent substance abuse and comorbid psychiatric symptoms.

However, challenges remain in maximizing the effect of these treatments on the range of problems that co-occur with adolescent substance abuse. Despite the strong outcomes across many functional domains shown here, it is certainly difficult to address all of the related problems that some adolescents and families present with given 4 to 6 months of even the most intensive treatment. Some have advocated for a chronic-care model in which 1 treatment episode would set a foundation for ongoing services and booster sessions, but would not be considered a cure-all for the rest of the teen’s development. MDFT has not yet been tested as a continuing-care model; however, the model lends itself well to such an approach in practice.

Although certain features of the model are believed to explain MDFT's effects on multiple problems as outlined earlier, empirical research on mediators of such effects are only in beginning stages. Henderson and colleagues recently found that changes in parental monitoring mediated reductions in adolescent substance use in MDFT. However, there is virtually no research examining mediators of co-occurring adolescent problems.

A new and important area of research involves the modeling of different emotional and behavioral symptoms and how these trajectories interact over time, which would also apply in critical ways to treatment outcomes. For instance, Hussong and colleagues recently showed, using different growth curve models, that substance use in late adolescence plays a launching role on trajectories of antisocial behavior in young adulthood, as well as predicting increases at specific periods of time. This type of analysis, combined with parallel growth mixture modeling, has the potential to assist treatment researchers in understanding whether reductions in substance use drive decreases in other problem behaviors during and following treatment, or whether there are reciprocal effects. These and other studies represent great opportunities for further development of effective intervention for co-occurring adolescent problems.

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From Assessment Reactivity to Aftercare for Adolescent Substance Abuse: Are We There Yet?

Yifrah Kaminer, MD, MBA, Mark Godley, PhD

Keywords
- Adolescent substance abuse
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- Adaptive treatment

Significant progress has been made in the development of evidence-based practice treatment protocols for youth with alcohol and substance use disorders (AOSUD) in the last 20 years. Most interventions have been provided in outpatient settings where more than 80% of youth are being treated. The focus has been on several therapeutic approaches and modalities including family/community therapies, cognitive behavioral therapy (CBT), motivational interviewing (MI), and 12-step/fellowship meetings as reviewed in recent meta-analyses, as well as integrated interventions reported in the benchmark Cannabis Youth Treatment (CYT) study.

The purpose of this article is to address less developed areas of clinical research that are of great importance for better understanding the therapeutic process along the continuum of care in youth with AOSUD. These include the rationale, design, mechanisms of behavior change (MBCs), implementation, monitoring, and outcome-based modification of treatment continuum for youth with AOSUD. The specific objectives are: (1) present current knowledge pertaining to the pretreatment phase including the effect of baseline assessment on treatment outcome; (2) address potential MBCs in treatment; (3) discuss the importance of aftercare, also known as continued care, to prevent postintervention relapse; (4) consider how reconceptualization of therapeutic paradigms might advance the field, in particular treatment algorithm or adaptive treatment (AT) strategies addressing poor response to treatment.

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