Treating Youth Substance Use

Evidence Based Practices & Their Clinical Significance

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Susan Stoner, PhD, Research Consultant

The effectiveness of treatment interventions for adolescents with substance use problems is an important issue for parents, treatment providers, and policy makers in Washington State. In 2015, the Alcohol and Drug Abuse Institute at the University of Washington reviewed the available research literature to determine what treatment approaches for adolescent substance use are most effective. Practices were rated as *evidence-based*, *research-based*, or *promising*, according to state definitions set forth in RCW 71.24.025 and described below.

- An **evidence-based** program or practice is one that has been 1) tested in heterogeneous or intended populations with 2) multiple randomized or statistically controlled evaluations, or one large multiple-site randomized or statistically controlled evaluation, where 3) the weight of the evidence demonstrates sustained improvements in at least one outcome. "Evidence-based" also means a program or practice that 4) can be implemented with a set of procedures to allow successful replication and, when possible, is determined to be cost-beneficial.
- A **research-based** program or practice is one that has been 1) tested with a single, randomized, or statistically controlled evaluation, 2) demonstrating sustained desirable outcomes; or where the weight of the evidence review supports sustained outcomes.
- A **promising** program or practice is one that, 1) based on statistical analyses or a well-established theory of change, 2) shows potential for meeting the evidence-based or research-based criteria.

For our ratings of treatments, we examined evidence for any type of substance (alcohol, marijuana, opioids, cocaine, etc.). The treatments may have stronger or weaker evidence for *problems* associated with adolescent substance use, such as family functioning, mental health, recidivism, etc. However, our review focused primarily on measures of *use-related outcomes*.

Twenty-three treatment interventions listed below were rated according to their level of evidence. This summary briefly describes the **six treatments identified as evidence-based,** with particular attention to evidence related to **marijuana use-related outcomes.** The full inventory of all treatments is online at: http://adai.uw.edu/pubs/pdf/2015youthsubstuse.pdf

Evidence-based treatments

- Adolescent Community Reinforcement Approach
- Brief Intervention/Motivational Interviewing
- Cognitive Behavioral Therapy
- Functional Family Therapy
- Motivational Enhancement Therapy and Cognitive Behavioral Therapy
- Multidimensional Family Therapy

Research-based treatments

- Assertive Continuing Care
- Contingency Management
- Ecological Based Family Therapy

- Family Behavior Therapy
- Teen Marijuana Checkup

Promising treatments

- Adolescent Cannabis Checkup
- Brief Strategic Family Therapy
- Chestnut-Bloomington Outpatient Program (Best Practices)
- Culturally Informed and Flexible Family-Based Treatment (for Hispanics)
- Community Reinforcement and Family Training
- Motivational Enhancement Therapy
- MET/CBT Aftercare
- Multisystemic Therapy
- Seeking Safety for Adolescents
- Strengths-Oriented Family Therapy
- Structural Ecosystems Therapy
- The 7 Challenges

Below we describe each of the six treatments identified as evidence-based, with particular attention to evidence related to marijuana use-related outcomes.

The **Adolescent Community Reinforcement Approach (ACRA)** is a behavioral treatment for adolescents and young adults 12 to 24 years old that seeks to increase the family, social, and educational/vocational reinforcement to support recovery. Sessions address individuals alone, caregivers alone, and individuals and caregivers together. Clinicians choose from a variety of procedures that address the individual's assessed needs, such as problem-solving skills, communication skills, and positive recreational activities, with the goals of eliminating substance use problems and improving life satisfaction. Practicing new skills during sessions and homework assignments are critical components of the treatment. A study with 300 adolescents with marijuana-related disorders found that, while ACRA was not significantly more effective than the other two evidence-based treatments to which it was compared, it exhibited the highest percent of participants in recovery from marijuana use at 12 months (ACRA = 34%, MET/CBT5 = 23%, MDFT = 19%) and was most cost effective in terms of cost per days abstinent (ACRA = $6.62, MET/CBT5 = $9.00, MDFT = $10.38) (Dennis et al., 2004).

Brief Intervention (BI) is generally a one to two session intervention using **Motivational Interviewing (MI)** techniques. MI is described by one of its founders, Dr. Stephen Rollnick, as "is a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion…Its focus is on the language people use when they talk about change…MI was developed inductively, from clinical practice in very tough conversations about change, and provides a route to change that avoids confrontation, argument and time wasted on often fruitless efforts to instill motivation in others" (excerpted from http://www.stephenrollnick.com/about-mi.php). A study with 200 adolescents with weekly marijuana or stimulant use within the preceding 3 months found that, at the 3 month follow-up assessment, those who had received education as usual (EAU) increased their marijuana use frequency 27% while those who had received BI/MI decreased their marijuana use frequency 66%. At follow-up, on average, compared to EAU participants, MI participants used almost 1/8 oz less marijuana per week and used marijuana 4 fewer days per month (McCambridge & Strang, 2004).

Cognitive Behavioral Therapy (CBT) is a form of psychotherapy that addresses the interactions of thoughts, emotions, and behaviors. It emphasizes coping skills, problem-solving, and changing problematic behaviors and

thought processes. The primary goal of CBT for substance abuse is to master skills to maintain abstinence from alcohol and other drugs or to minimize the harm that comes from substance use. Identifying and coping with high-risk situations is a major emphasis. This type of treatment often employs role playing and homework practice exercises to help persons to develop, rehearse, and enact new skills to meet their own particular needs. A study of 109 adolescents with cannabis use disorder in The Netherlands compared CBT to another evidence-based intervention, Multidimensional Family Therapy. Adolescents in both treatments showed significant and clinically meaningful reductions in cannabis use and delinquency from baseline to one-year follow-up, with treatment effects in the moderate range (Hendricks et al., 2011).

Functional Family Therapy (FFT) is a two-phase treatment that targets behavioral and cognitive intervention strategies to maladaptive family interaction patterns, seeking to build coping and problem-solving skills. The primary focus of sessions is on family interaction and behavior change. The first phase focuses on engaging families in treatment and enhancing motivation to change, seeking to maximize expectations for change by reducing blame and emphasizing the role of relationships in identified problems. In the second phase, the focus shifts to implementation of specific behavioral change techniques to bring about change in the family (Slesnick & Prestopnik, 2009). A study of 120 adolescents, most of whom were referred for treatment by the court, probation officers, or schools found that youths receiving FFT showed significant reductions in days of marijuana use from baseline to 4 month follow-up. (Waldron et al., 2001).

Motivational Enhancement Therapy and Cognitive Behavioral Therapy (MET/CBT) is usually composed of 2 individual sessions of Motivational Enhancement Therapy (MET) and 3-10 weekly group sessions of CBT. The MET sessions focus on factors that motivate participants who abuse substances to change. In the CBT sessions, participants learn skills to cope with problems and meet needs in ways that do not involve turning to marijuana or alcohol, including how to refuse marijuana; how to increase the adolescent's social support network and non-drug activities; and how to avoid and cope with relapses. The 5-session version of the treatment (MET/CBT5; Sampl & Kadden, 2001) appears to have just as good if not better outcomes than the 12-session version (MET/CBT12; Webb et al., 2001). A study of 300 adolescents with cannabis-related disorders compared found that the percent of participants in recovery at one year was 27% for MET/CBT5 compared to 17% for MET/CBT12 (Dennis et al., 2004).

Multidimensional Family Therapy (MDFT) takes the multidimensional perspective that adolescent drug use is determined by individual, family, peer, and community influences and suggests that improvement can occur via multiple pathways. Therefore, MDFT targets the processes known to produce or maintain drug taking and related problem behaviors as they relate to 1) the youth's own functioning, 2) parent functioning, 3) youth-parent interaction, and (4) communication between families and social systems (e.g., school, child welfare, mental health, juvenile justice). Treatment includes both individual and family sessions. A study of 224 drug-using youth (75% meeting criteria for cannabis dependence) compared MDFT to CBT and found that, while both treatments showed significant decreases in frequency of cannabis use, those who received MDFT retained more treatment gains at the 6-and 12-month follow-ups and were more likely to report minimal substance use (zero or one occasion) at the 12-month follow-up.

Commentary

Our review found that there are many good treatment approaches for adolescents with substance use disorders. It is very important to point out that, while the evidence-based practices have the highest level of evidence, **this does not mean that evidence-based practices are necessarily superior to research-based or promising practices.** A number of the research-based and promising practices simply have not yet been studied enough to determine whether they will reach the level where they can be categorized as evidence-based. On the other hand, even evidence-based approaches often have relatively modest effects. Very few studies have looked at cost-effectiveness or systematically considered tradeoffs between treatment intensity and outcomes. Because the evidence base is

limited, we categorized treatment approaches based on all the available published randomized, controlled studies of adolescent substance use disorder treatment, regardless of the substance(s) being examined. Above we described representative findings for studies looking at cannabis-related outcomes, but many of the studies did not focus specifically on cannabis. Findings for other drugs such as alcohol may or may not mirror findings for cannabis. More studies are certainly needed to offer the best guidance to those seeking effective treatments for substance use disorders in general and cannabis use disorders in particular.

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