Substance Abuse Treatment for Adolescents

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Objectives:

- Evidence-Based Treatments for adolescents and the data supporting their effectiveness.
- Common profiles of adolescents presenting in treatment
- Case example
Agenda

• Normal adolescent development
• Impact of substance misuse on adolescent development
• Implications for treatment
• Evidence-based treatments
  • Contingency Management for Youth Addiction (CM-YA)
  • Cognitive Behavioral Therapy (CBT)
  • Brief Strategic Family Therapy (BSFT)
• Case Example
• Wrap-Up
• Take Home Points
9.2% of US population has abused drugs

3,400 teens start using drugs each day

60-90% of teens in juvenile court have a SU problem

Each year, about 2 million adolescents needed treatment for SU but only 1% received treatment

90% of adults with a SU disorder started using before age 18
Serious Public Health Issue

- Societal costs (over $400 billion annually\(^6\)) exceeding all other health concerns

- Impacts education, mental health, social relationships, employment, & physical health \(^7,8,9,10,11,12,13,14\)

- Adolescents with SUD are \textit{2 to 8 times more likely} to acquire HIV/STI relative to their peers without SUD\(^{15}\)
What do we know about adolescents?
The Teen Years

- Move to independence
- Taking on new roles & responsibility
- Accelerated activity levels
- Increased socialization
- Peers are more important
- Increased experimentation
- Increased risk-taking
More sensitive to disruption of memory

Enhanced excitement seeking

*Underdeveloped capacity to delay gratification*

Things happening in the future are less meaningful

*Underdeveloped capacity to weigh priorities and plan ahead*

Less able to manage competing tasks (more easily frustrated!)
What do we know about adolescents in treatment?
Adolescents often have low motivation to change

Often do not see substance abuse as problematic

May not view quitting as urgent because they have not experienced negative consequences

Low motivation to remain abstinent

Low belief that they can quit 17
The Adolescent Brain
Brain Structure

- Made up of billions of nerve cells
- Nerves control everything from your heart to what you feel, think, and do
- Nerves send electrical signals throughout the body via chemicals called neurotransmitters
- Some neurotransmitters cause satisfaction or pleasure – natural rewards
- Takes the brain 25 years to develop

- Teen brain develops from back to front

  - First the back:
    - Physical activity
    - Emotion
    - Motivation & short term reward

  - Finally the front …the voice of reason… around age 25
    - Reasoning
    - Impulses

Drug use slows or prevents proper brain development
Brain Development Effects on Behavior

- Difficulty holding back
- Difficulty controlling emotions
- Prefer high excitement and low-effort activities
- Poor planning and judgement
  - Rarely think of the consequences
- More risky and impulsive
Natural Rewards

- Dopamine is the main “feel good” neurotransmitter

- The “feel good” chemicals make sure we look for more of what makes us feel good
  - E.g. eat something good makes us feel good so we eat more so we don’t starve

- We need these natural rewards for satisfaction and pleasure
Drugs hijack your dopamine

- Drugs overload the body with dopamine
- We receive too many “feel good” signals
- Our brain tries to balance this overload by letting fewer, natural, feel good signals through
- Unfortunately, as our brain tries to adjust with less dopamine we need more and more drugs to feel the same high as before – “tolerance”
Thoughts, Feelings, and Behavior are interrelated (The Cognitive Triad)
Thoughts & Feelings

<table>
<thead>
<tr>
<th>Voice of reason</th>
<th>Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less influential</td>
<td>Emotions are stronger</td>
</tr>
<tr>
<td>Takes longer to develop</td>
<td>Excitement</td>
</tr>
<tr>
<td>Ignores consequences</td>
<td>Short-term reward</td>
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<td></td>
<td>Overactive impulse to seek pleasure</td>
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</tbody>
</table>

Hormones can shift emotions into overdrive leading to unpredictable and risky behaviors
Teens misinterpret this “feel good” response.

They believe it improves their psychiatric functioning, concentration, performance, etc.

Therefore, they are more likely to continue to use.
So what happens?

- First use – positive, able to control
- Brain changes start to occur (some permanent, others temporary)
- Pleasure replaced by compulsion – you now need the drug to feel normal
- Tolerance causes escalation
- Withdrawal makes quitting difficult and painful
We all want to feel good

Finding ways to satisfy needs and desires is a part of life.

Doing this in a healthy way is a skill being developed in teen years.
When a teen takes drugs to feel good, it interferes with the body’s natural ability to do so.
If you stop using drugs...

- Stop drugs – dopamine levels remain low for some time
  - You feel down
  - Flat
  - Unable to feel regular pleasures in life
    This reinforces the idea that the drugs are fixing everything. You feel worse when you stop.

- Brain eventually restores dopamine levels by itself but this can take hours, days, months depending on the length and amount of use
Teens respond poorly

- Teens have an overactive impulse to seek pleasure
- Their reward system is still being developed
- Teens’ ability to bounce back to normal is significantly compromised
- When they feel bad after quitting, they want to return to the drug as fast as possible to get those good feelings back. They don’t bounce back to “normal” as quickly
Withdrawal

- Psychological dependence is most common HOWEVER, physical dependence is possible with regular use.
  - Intense cravings
  - Irritability
  - Anxiety
  - Restlessness & agitation
  - Headaches
  - Nausea
  - Decrease in appetite
  - Sleep problems

Withdrawal symptoms as early as 1 day after last use up to 3 days. Symptoms can last a few days to few weeks.
Compared to adults, teens are:

- **Less** likely to report withdrawal symptoms
- **More** likely to hide their use
- **Less** able to stop using in spite of physical or mental health problems
- **More** likely to get complaints from others about their use and continue using despite fights or legal troubles
Developing brains are more prone to damage. Drugs and alcohol can have lasting, harmful effects on health.
## Short term effects (lasts as long as in your system)

- Decreased short-term memory
- Impaired ability to form new memories
- Disrupted coordination and balance
- Impaired complicated tasks such as athletics or driving
- Slower reaction time
- Decreased motivation
- Impaired mental flexibility
- Impaired problem solving
- Impaired focus
- Increased anxiety
- Paranoia
Long Term Effects

- Persistent deficits in short-term memory
- Permanently alter serotonin and norepinephrine – neurotransmitters associated with anxiety and mood disorders
  - More susceptible to mood disorders and panic attacks
- Impaired function, focus, and mental flexibility
- Schizophrenia
- Immune system
- Decreased IQ (8 points)
- Fertility issues
Brain Damage

- Smaller hippocampus & amygdala
  - Memory formation permanently impaired
  - Emotion regulation impaired
Impact on Life

- Lower potential income & more likely to be unemployed
- Decreased cognitive abilities
- Increased mental health concerns
- Physical health
- Lower satisfaction with life
- Memory Loss

- Education –
  - less likely to graduate from HS or college
  - Less likely to enroll in college
Risky outcomes of Substance Use

- **Early Use**: earlier a teen begins use more likely they will have serious abuse
  - Drugs alter the developing brain
  - Aggravates mental illness
  - Intensifies impact of unstable family relationships
  - Increases exposure to physical or sexual abuse

- **Adverse life experiences**:  
  - Exposure to stress (e.g. emotional or physical abuse)
  - Impulsivity
  - Aggression
  - Lack of nurturing
  - School stresses
Managing life without drugs

First hours, days and months are critical!
- Dopamine levels take time to return to pre-drug levels
- Teen will feel down, flat, unable to feel regular pleasure. Longer they used, longer they will feel this way
  - How will they manage feeling down?
  - How will they manage, and understand, why they feel flat?
- Activities to bring pleasure are important:
  - Physical activity is the easiest to combat the lack of pleasure they feel as their brain chemicals work to return to normal
Effective Treatments do Exist

- Developmentally appropriate
- CBT to address the misconceptions about drug use
- Behavioral therapy
- Rewards to enhance motivation
- Family involvement necessary to support change

But first...

Evidence-based treatment approaches—those that have been scientifically tested and found to be effective in the treatment of adolescent substance abuse.
Let’s get to know Rachel
16 y.o. female with alcohol abuse and marijuana use. Her mother and father have been participating in sessions.
• Problems at school.
• Drinks before school and while studying; it helps her calm down and manage anxiety.
• Drinks heavily when with friends and smokes pot on occasion
• Referred to court for drinking and driving.
• Has a DUI
• Lost license for a few months
Mother reports she would often come home drunk and would be sick from drinking. This led to intensive arguments in the home to the point she and mom stopped talking and she just stayed in her room.
• Drinking has decreased in treatment and drug use has stopped

• Tools for managing anxiety: journaling, using breathing techniques, and coping cards.

• Addressing family conflict in session. Has led to better communication and decreased yelling.
• Addressing school organization and study skills.
• Mom has increased monitoring at home.
Contingency Management for Youth Addiction$^{20}$

CM-YA
Contingency Management (CM) is an evidence-based, outpatient family treatment for substance abuse that uses behavioral/cognitive behavioral principles to promote abstinence.
To help someone move toward abstinence we need to fight the powerful pull of the drugs with immediate rewards for NOT using.

By offering meaningful, planned incentives people can overcome ambivalence and speed up recovery while natural rewards take hold.
In drug use:

- There are often natural consequences (personal, family, legal, educational, social) of using drug... *unfortunately those are often delayed and not always obvious*

- There are also powerful rewards for using (social, physical, emotional)... *unfortunately those are often immediate and very tangible*

- The consequences of not using are often very powerful (rejection from peers, withdrawal, etc.)... *unfortunately those are often immediate and very tangible*
How does this affect treatment?

<table>
<thead>
<tr>
<th>If I Use Drugs:</th>
<th>If I Don’t Use Drugs:</th>
</tr>
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<tbody>
<tr>
<td>Immediately Rewarding</td>
<td>Rewards ARE NOT immediate</td>
</tr>
<tr>
<td>Refusing to use is immediately punishing!</td>
<td>Consequences ARE immediate</td>
</tr>
<tr>
<td>Consequences are delayed and therefore meaningless in the moment!</td>
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So in the moment, when I am feeling pressure, what am I going to do….
At its core, CM research has shown:

- If a behavior is reinforced or rewarded it is more likely to occur in the future
  - Negative Screen = immediate reward
  - Use a new skill = immediate reward
  - Drug-Interfering Activity = immediate reward

- If a behavior has an immediate and meaningful consequence it is less likely to occur
  - Positive Screen = immediate consequence
What does the current research say

Treatments that use rewards and positive reinforcement:
- have better outcomes
- are more therapeutic
- are more enjoyable for consumers and staff

Negative reinforcers and treatments with punishment are:
- largely ineffective
- unpleasant for both the consumer and staff
- have been linked to higher rates of dropout and resistance to treatment
Recovery is a long, difficult journey. CM helps tip the balance by providing positive reasons to make the next steps.
<table>
<thead>
<tr>
<th>CM Treatment Process Has 4 Modules:</th>
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<tbody>
<tr>
<td><strong>1</strong> Determining Need and Assessing Impact</td>
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<tr>
<td><strong>2</strong> ABC Assessment</td>
</tr>
<tr>
<td><strong>3</strong> Point-and-Level System</td>
</tr>
<tr>
<td><strong>4</strong> Self-Management Plan</td>
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</table>
Contingency Management is:

- Outpatient family treatment for teens struggling with addiction
- Ages 12-17 who have drug/alcohol use and abuse
- 14-18 sessions
- Majority of sessions are family sessions.
- Therapists use the CM modules to move through the CM treatment program.
- Manualized for training therapists
- Quality Assurance System and Consultation
CM-YA Certification

- 2 year certification process
- Initial 15-hour online training with a live Lead Trainer
- Ongoing Consultation includes monthly consult webinars, session tape reviews, client surveys, mini-boosters, & provider networking
- Quality Assurance monitoring to ensure fidelity to the model
- Year 2 includes 8-hour in person advanced booster training + ongoing consultation
- $1,535 for the 2-year certification
- [www.cmforaddiction.com](http://www.cmforaddiction.com)
Let’s review Rachel’s situation and approach her treatment from a Contingency Management family treatment perspective.
How would you approach this session as a CM therapist?
Cognitive Behavioral Therapy $^{21}$

CBT
What is CBT?

Theory that learning processes play a critical role in the development of problem behaviors like drug abuse.

A core element of CBT is teaching participants how to anticipate problems and helping them develop effective coping strategies.
In CBT, adolescents:

1. Explore the positive and negative consequences of using drugs
2. Learn to monitor their feelings and thoughts
3. Recognize distorted thinking patterns and cues that trigger their substance abuse
4. Identify and anticipate high-risk situations
5. Apply an array of self-control skills:
   a. emotional regulation
   b. anger management
   c. practical problem solving
   d. substance refusal.

CBT may be offered in outpatient settings in either individual or group sessions or in residential settings.
TOOLS:

- SODAS PROBLEM SOLVING
- COST-BENEFIT ANALYSIS
- COPING CARDS
SO DAS WORKSHEET
Cost-Benefit Analysis

Pros & Cons
Let’s review Rachel’s situation again.
How would you approach this session using CBT?
Brief Strategic Family Therapy$^{22}$
BSFT is an evidence-based, short-term, structured, problem-focused, approach to intervention and treatment that targets families in which youth engage in problematic behaviors, including drug and alcohol use, delinquency, affiliation with antisocial peers, and unsafe sexual activity, and the accompanying maladaptive family interactions.
Assumptions:

• Family-based interactions strongly influence how children behave
• Targeting and improving maladaptive family interactions to reduce likelihood of symptomatic behaviors
• Addresses cognitive, behavioral, and affective aspects of family life
BSFT is:

- Family treatment
- Can be applied in variety of settings (outpatient, residential, day treatment, aftercare)
- Ages 6-17
- 8-24 sessions
- Majority of sessions are family sessions.
- Therapists use an integrative model that combines structural and strategic family therapy to address family interactions, CBT, and eco-systemic approaches
- Manualized for training therapists
- Quality Assurance System and Consultation
BSFT Goals & 3 Core Principles

Goals:

1. Change family dynamics, patterns, and interactions
2. Patterns of Interaction
3. Plan Interventions

1. Family Systems Approach
Implementing BSFT in community settings will provide therapists with an effective tool to increase family involvement in therapy, increase retention, reduce adolescent drug use and related risk-taking behaviors, and reconfigure family interactions to support healthy development.
BSFT Certification

- Training program: workshops and supervised practicum to prepare for Certification Panel Board
  - Onsite training (9 days over several months)
  - Master Trainers - provide demonstrations and clinical case consultations
- 4-6 months of supervision following training until certification
  - Weekly phone/video reviews of sessions
- Certification required for first 3 years and recert. every 2 years
- Monthly adherence monitoring
- https://brief-strategic-family-therapy.com/
Let’s review Rachel’s situation and approach her treatment from a BSFT perspective.
How would you approach this session as a BSFT therapist?
Invest in Effective Treatment!
According to NIH NIDA:

- Substance abuse costs our Nation over $600 billion annually and treatment can help reduce these costs.

- Every dollar invested in addiction treatment programs yields a return of between $4 and $7 in reduced drug-related crime, criminal justice costs, and theft.

- When savings related to healthcare are included, total savings can exceed costs by a ratio of 12 to 1.
Major savings to the individual and to society also stem from:

- fewer interpersonal conflicts;
- greater workplace productivity;
- fewer drug-related accidents, including overdoses and deaths.
**Take Home Points:**

- **Adolescents have unique developmental needs.** Adult approaches will not work as well, or at all, with teens.

- **Effective treatments do exist!** Find a program that is a good match to your theoretical orientation and organizational goals.

| All EBP’s have the same core: involve the family; use CBT to target T/F/B related to drug use; use behavioral interventions to increase motivation |
| CM |
| CBT |
| BSFT |
| Are just a few… |
Resources

Contingency Management:
- CM-YA  www.cmforaddiction.com
- NIDA/SAMHSA
  http://www.bettertxoutcomes.org/bettertxoutcomes/

BSFT:
https://brief-strategic-family-therapy.com/

CBT:
- MET/CBT:  https://nrepp.samhsa.gov/ProgramProfile.aspx?id=1251
- Cognitive Therapy of Substance Abuse (book): Aaron Beck
  Beck Institute: CBT for Substance Use Disorders workshop: https://beckinstitute.org/cbt-for-substance-abuse/

Additional adolescent resources:
National Registry of EBPs:  www.nrepp.samhsa.gov
NIH NIDA Principles of Adolescent SUD Treatment: A Research-Based Guide
Blueprints for Health Youth Development:  http://www.blueprintsprograms.com/
Questions?

You can reach me any time at:

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Or

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References Cited


References Cited


The SODAs Method

S: ______________________________________________________________

O
1. ______________________________________________________________
2. ______________________________________________________________
3. ______________________________________________________________

D
1. ____________________________  a. ____________________________
   b. ____________________________  b. ____________________________
   c. ____________________________  c. ____________________________
2. ____________________________  a. ____________________________
   b. ____________________________  b. ____________________________
   c. ____________________________  c. ____________________________
3. ____________________________
   a. ____________________________
   b. ____________________________
   c. ____________________________

A
1. ____________________________  a. ____________________________
   b. ____________________________  b. ____________________________
   c. ____________________________  c. ____________________________
2. ____________________________  a. ____________________________
   b. ____________________________  b. ____________________________
   c. ____________________________  c. ____________________________
3. ____________________________
   a. ____________________________
   b. ____________________________
   c. ____________________________

S: Solution(s) | Difficulty (1-5 scale; 5 = most difficult) | How likely are you to use this solution (1-5 scale; 5 = not at all likely)
--- | --- | ---

Skills to Use: | Difficulty (1-5 scale; 5 = most difficult) | How likely are you to use this skill (1-5 scale; 5 = not at all likely)
--- | --- | ---
SODAS Exercise

S = Situation
O = Options
D = Disadvantages of each option
A = Advantages of each option
S = Solution

Step 1:
Identify the situation that is a problem. Write Situation next to the S on the form.

Step 2: Identify 3 different Options for dealing with the situation.
Write Options in the 3 spots next to the O. Options can be appropriate or not appropriate. The goal is to have the client brainstorm the top 3 options for dealing with this situation. They may identify 10 options. Have them then rank order the options from best option to worst option and then write in the top 3 on the form.

Step 3: Identify 3 Disadvantages for each option.
Ex. D1a. Is the first disadvantage of option 1; D1b is the second disadvantage of option 1, etc. Continue until there are 3 disadvantages for each option.

Step 4: Same as step 3 but this time you identify the advantages of each option

Step 5: Now that you have identified the disadvantages and advantages of each option you can now lead the youth and family in a discussion about how to weigh the options to select the best solution for this situation. Decide on a solution and write it in next to the S.

Step 6: Identify the specific skills you will need to use to follow through with your solution. These may be skills that the youth already has, in which case you can just practice them with the family to reinforce the skills. Or, you have identified that the youth is lacking the skills to effectively implement this solution (e.g. they have trouble managing frustration so in order to walk away from a situation they need to manage their frustration). In this case the session would focus on developing that skill and then reinforcing that skill in subsequent sessions.

This is a great exercise to do with a youth as a way to think through problems. It is also a great homework assignment and you can reinforce them for completing the assignment. You can even reinforce them if they recognize that they need to do a SODAS and they ask you, or a parent/support to help them.
Cost Benefit Analysis

Continue my ______________ the same as always.

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<tr>
<th>Pros</th>
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Change my __________ by ________________________________

<table>
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<th>Pros</th>
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1 Some options for filling in this blank are: a) quitting, b) adding abstinence days, c) safer drinking, d) sticking to moderate limits, e) stopping earlier, f) not drinking on work nights, etc. etc.
## Decision Making Worksheet / Cost Benefit Analysis

The substance or activity to consider is: ___________________________ Date:__________

<table>
<thead>
<tr>
<th>Using or doing</th>
<th>NOT using or NOT doing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong> (benefits and rewards)</td>
<td><strong>Disadvantages</strong> (costs and risks)</td>
</tr>
<tr>
<td><strong>Advantages</strong> (benefits and rewards)</td>
<td><strong>Disadvantages</strong> (costs and risks)</td>
</tr>
</tbody>
</table>

Label each item either short term or long term.
COPING CARD EXAMPLES

**Automatic Thoughts:**
I should be able to do this. I’m so stupid.

**Adaptive Responses:**
Actually, I shouldn’t be able to do this. It’s a new skill; I’ll learn to do it eventually, but it may take more practice first. It has nothing to do with whether or not I’m stupid.

**Automatic Thoughts:**

**Adaptive Responses:**
STRATEGIES FOR WHEN I AM ANXIOUS:

1. Journal
2. Read Coping Cards
3. Call [friend]
4. Go for a walk or run

STRATEGIES FOR WHEN ____________________
COPING CARD EXAMPLES

When I want to: ask my teacher for help:

1. Remind myself it’s no big deal. The worst that happens is she says she is busy.
2. Remember this is an experiment. Even if it doesn’t work this time, it’s good practice.
3. If she can’t meet it probably has nothing to do with me, she’s just busy.
4. Even if she can’t help, so what?
5. So I will go knock on her door. Remember, at worst, it’s good practice.

When I want to: ________________________________

1.
2.
3.
4.