Substance Abuse in Adolescence: Looking Beneath and Beyond

Concurrent Psychiatric Disorders in Today's Youth

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Session Objectives

- Able to identify substance abuse and dependence in children and adolescents
- Discuss the importance of screening for concomitant psychiatric illnesses in adolescents who present with substance use
- A look at various presentations of adolescents with concurrent disorders
- Treatment approaches for adolescents with concurrent disorders

Who am I?

- University of Calgary Psychiatry Residency Program
- Child and Adolescent Psychiatrist – Calgary
  - Adolescent Addictions Program
  - Inpatients - Young Adult Program
  - Adolescent Day Treatment Program
  - Refugee Mental Health Program
- Child and Adolescent Psychiatrist – Edmonton
  - CASA (Child, Adolescent, and Family Mental Health)
  - Telemental health - AMHB
- 2008-2009 – Addictions Fellowship, University of Michigan, Ann Arbor
Youth and Substance Use

- Continued INCREASE in the incidence of substance use among youth
- INCREASE in the lifetime prevalence of abuse and dependence in the general pop.
  - Johnson et al, 1996; Reich et al, 1988; Lewinsohn et al, 1996

Impact

- Use of alcohol and other substances is a leading cause of morbidity and mortality among adolescents from MVAs, suicidal behavior, violence, drowning, and unprotected sexual activity
- Important because early onset of drug use is an influential predictor of future drug problems
  - Edward et al, 2000

1999 Ontario Drug Use Survey

- n = 3990 students in Grades 7, 9, 11, and 13
- Surveyed between 1991-1999
- Steady increase in drug use
  - Adlaf et al, 2000
<table>
<thead>
<tr>
<th>Drug</th>
<th>1991 (%)</th>
<th>1995 (%)</th>
<th>1999 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>21.7</td>
<td>27.9</td>
<td>28.3</td>
</tr>
<tr>
<td>Alcohol</td>
<td>58.7</td>
<td>58.8</td>
<td>65.7</td>
</tr>
<tr>
<td>Cannabis</td>
<td>11.7</td>
<td>22.7</td>
<td>29.2</td>
</tr>
<tr>
<td>Cocaine</td>
<td>1.6</td>
<td>2.4</td>
<td>4.1</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>8.5</td>
<td>16.8</td>
<td>20.1</td>
</tr>
<tr>
<td>Crystal Meth</td>
<td>0.8</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>n/a</td>
<td>1.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Adlaf et al, 2000

**Risk Factors**
- Family History
- Perinatal Complications
- Temperament
- Family Conflict
- Parental Attitudes
- Education
- Peer Relationships
- Early Drug Use

**Protective Factors**
- Temperament
- Education
- Peer Relationships
- Family System

Radke-Yarrow et al. 1990; Kandel et al, 1992
Diagnosis

- The DSM-IV-TR diagnostic criteria for substance abuse and dependence are the same for adolescents and adults.

Substance Abuse vs. Dependence

- Substance abuse is a maladaptive pattern of substance use manifested by the harmful consequences of repeated use.

- Substance dependence is a pattern of repeated use that can result in tolerance, withdrawal, and compulsive drug-taking behavior.
  - “cravings”

Co-Morbidities

- Conduct Disorder
  - 50-80%
- ADHD
  - 20-35%
- Affective Disorders
  - 24-50%
- Anxiety Disorders
  - 7-40%
- Psychotic Disorders
Conduct Disorder

- A repetitive and persistent pattern of behavior in which the basic rights of others, societal norms, or rules are violated
  - Aggression to other people or animals
  - Destruction of property
  - Deceitfulness or theft
  - Serious violations of rules

Conduct Disorder

- Prevalence
  - 1-10% of general population
  - Higher in urban settings vs. rural communities

- Early age of onset
  - Predictive of a worse prognosis

- More common in males

Conduct Disorder

- Increase risk in children of parents who have been diagnosed with:
  - Antisocial Personality Disorder
  - Alcohol Dependence
  - ADHD
  - Mood Disorders
  - Schizophrenia
Attention Deficit/Hyperactivity Disorder (ADHD)

- A persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development
  - Observed in two settings
  - Onset prior to age 7

Attention Deficit/Hyperactivity Disorder (ADHD)

- Prevalence
  - 3-7% of school-age children
- More common in males
- Increased risk in children who have parents diagnosed with ADHD
- Studies also show higher prevalence of Substance Use Disorders, Mood Disorders, and Learning Disorders in family members of individuals with ADHD

Attention Deficit/Hyperactivity Disorder (ADHD)

- Associated with:
  - Early initiation of cigarette use
  - Higher risk of substance use disorders
  - Lower likelihood of cessation
- Treating ADHD pharmacologically does not appear to exacerbate a substance use disorder
  - Wilens, 2006
Affective Disorders

- **Major Depressive Episode**
  - at least two weeks of low mood, changes in sleep, appetite, energy, concentration, interest in activities, suicidality

- **Manic Episode**
  - at least one week of elevated euphoric mood, changes in sleep, energy, thoughts, agitation, increase in goal-directed activities

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Affective Disorders

- **Major Depressive Episode**
  - 1-3x more common in first degree relatives
  - Increased risk in biological families with
  - Prevalence rates
    - 10-25% women; 5-12% men
  - Women are at a higher risk of developing a depressive episode than men (almost twice as common)
    - In prepubertal children, boys and girls are equally affected

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Affective Disorders

- **Manic Episode**
  - Mania in adolescents more likely to include psychotic features, and may be associated with school truancy/failure, antisocial behavior and substance use
Affective Disorders

- Bipolar I Disorder
  - Manic episode and at least one depressive episode
  - Lifetime prevalence 0.4-1.6%
  - Equally common in women and in men
  - 10-15% of adolescents with recurrent depression will go on to develop Bipolar I disorder

- Bipolar II Disorder
  - At least one depressive episode and a hypomanic episode
  - More common in women than in men
  - Lifetime prevalence 0.5%

Anxiety Disorders

- Excessive anxiety
- Worry (apprehensive expectation)
- Panic symptoms
  - Difficult to control
  - Occurs more days than not
  - Fatigue, difficulty concentrating, irritability
### Anxiety Disorders
- **Generalized Anxiety Disorder**
  - Lifetime prevalence
  - 5%
- **Social Anxiety Disorder**
  - Lifetime prevalence
  - 3-13%
- **Panic Disorder**
  - Lifetime prevalence
  - 1-2%
- More common in females than in males

### Substance Induced...
- Substance-induced Mood Disorder
- Substance-induced Anxiety Disorder
- Substance-induced Psychosis

### Substance-induced vs. underlying disorder
- Importance of history and physical exam
- Onset and course
  - Timeline of symptomatology
    - Do the symptoms predate the substance use?
    - Are there symptoms once the patient has been abstaining from substances?
  - Collateral from family
CASE #1

- R.A., a 13yo female in Grade 8, lives in Calgary with both parents and 15yo brother
- Referred to the Adolescent Addictions Center by her family physician for concerns about “substance use and mood issues”

6 months prior, had snorted “white powder” believing it was cocaine
- It was actually crushed caffeine tablets
- Liked the effects (kept her awake, “a nice buzz”) so kept using it

Regular use: 1 ½ - 3 tablets three times/day
- Peak use: 13 tablets at one time
  - Nausea, lightheadedness, rapid heart rate
- Terminated use approx. 1 week prior
  - Headaches, feeling “shaky” and fatigued, cravings
CASE #1

- Experimental use of cannabis, inhalants (spray paint), Dexamphetamine, and Tylenol following use of caffeine
- Consequences of caffeine use:
  - Doing poorly in school
  - Difficult relationships (peers, family)
  - Unable to conc., insomnia, guilt

CASE #1

- Describes mood as “in-between”, rates mood as primarily 3/10 for 1-2 years
- Difficulty sleeping, unable to concentrate, low self-esteem, having dreams and flashbacks of brother’s SA 6 months ago
- Cutting upper limbs since start of Grade 7

CASE #1

- PMH: unremarkable
- FHx: strong fhx of psychiatric illness
- SHx: described as the “good child”
CASE #1


CASE #1

- Urine tox screen was negative

- Diagnosis
  - Caffeine Dependence
  - Dysthymia
  - R/O MDE

CASE #1

- Recommendations
  - Avoid all forms of caffeine
  - Individual and family counseling
  - May need antidepressant medication
CAFFEINE
• Most widely consumed psychoactive substance
• Contained in foods, drinks, OTC meds, and prescription meds
• Average consumption for adult in US is 200mg
• Studies suggest max. should not exceed 400mg/d
  • 20-30% of adults consume over 500mg/d

CAFFEINE

<table>
<thead>
<tr>
<th>Source</th>
<th>Caffeine per unit (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brewed coffee (5-6oz)</td>
<td>90-140</td>
</tr>
<tr>
<td>Instant coffee</td>
<td>66-100</td>
</tr>
<tr>
<td>Tea</td>
<td>30-100</td>
</tr>
<tr>
<td>OTC stimulants (Caffedrine)</td>
<td>250</td>
</tr>
<tr>
<td>Chocolate bar</td>
<td>25-35</td>
</tr>
<tr>
<td>Soft drinks (Coke, Mountain Dew) 12oz</td>
<td>25-50</td>
</tr>
</tbody>
</table>

CAFFEINE
• At low doses (100mg) induces a mild euphoria while higher doses of 300mg produce anxiety and mild dysphoria
• Consumption of more than 1g:
  • Rambling speech, confused thinking, cardiac arrhythmias, tinnitus, and mild visual hallucinations (light flashes)
• Consumption of more than 10g:
  • Generalized tonic-clonic seizures, respiratory failure, death
Case #2

- 16yo Aboriginal female, PGO, lives in group home, distant learning
- Referred for depression, already on Celexa 20mg, and Seroquel 50mg

Case #2

- Past two years, on and off use of:
  - Cannabis
  - Alcohol
  - Ecstasy
- Use increasing steadily
  - Daily use of cannabis, weekend use of alcohol, daily cravings for ecstasy
- Binges with infrequent visitations biological family

Case #2

- Pt clearly identifies low mood, poor sleep, variable appetite, low energy, amotivation, suicidal ideation, and thoughts of self-harm, nightmares and flashbacks of past abuse, hypervigilance
  - Began at age 11
  - Periods when she is sober, pt feels she cannot cope
  - States she uses substances to “feel better”
- Suicide attempt 6 mos ago
Case #2

- **PMH:** Celexa and Seroquel started 6mos. prior (after suicide attempt) - pt felt minimal benefit
- **FHX:** Significant for alcohol and substance dependence, suicide attempts/completion
- **SHX:** Physical abuse and neglect by mother, sexual assaults, removed from the home numerous times before PGO

Case #2

- **MSE:** Alert and oriented. Occ. eye contact. Numerous piercings on her face, tattoos on her limbs. Mood “okay.” Affect superficial, limited range, appropriate. Speech normal rate and rhythm. No perceptual disturbances. Ongoing suicidal ideation but no current plan or intent. No homicidal ideation. Judgment impulsive, insight partial.

Case #2

- **Urine tox screen positive for cannabis**
- **Diagnosis**
  - Post traumatic Stress Disorder
  - Cannabis Dependence, Ecstasy Dependence, Alcohol Abuse
  - Substance induced mood disorder, most likely underlying mood disorder
- **Treatment**
  - Pt extremely precontemplative re: substance use
  - Continue medications
Treatment

- Treatment of co-morbid illnesses
  - 28% of adolescents sought treatment because of another psychiatric illness
    - Friedman et al., 1987
  - Two interventions have been shown to be particularly useful:
    - Family therapy
    - Cognitive-behavioral therapy
      - Barrett et al., 1998; Kaminer 1994

Treatment

- Treatment needs of patients with a substance use disorder and a co-morbid psychiatric condition should be integrated

- However, it is best to address the substance use disorder initially, especially if it is active
  - Wilens, 2006

Treatment

- Stages of Treatment:
  - Facilitation of awareness/insight/motivation and readiness to change
    - Precontemplation, Contemplation, Preparation, Action, Management
  - Patient Education
  - Detoxification (medical vs. social detox)
Treatment

• Stages of Treatment:...cont’d
  • Abstinence vs. Harm-reduction
  • Continuum of treatment/levels of care
  • Community Support
    • AADAC
    • 12-step programs (AA, etc.)
    • Addictions Centre (Calgary)
    • SMART recovery

• Harm Reduction Approach
  • Strategies focusing on minimizing consequences associated with substance use
  • Individual and group therapy
  • Education is the primary focus
  • Different than prevention programs that focus on abstinence and promote zero tolerance “just say no”
  • Coping skills, feedback, role playing
    • Rehearsing ways to refuse alcohol at a party

• Pharmacology
  • Antidepressants/Anxiolytics - SSRI’s
  • Benzodiazepines
  • Atypical Antipsychotics

  • The ideal medication should have low abuse liability, require infrequent dosing, be well tolerated, and have few side effects
    • Kosten and Kosten, 2007
References

- Ogborne A. Characteristics of Youth and Young Adults Seeking Residential Treatment for Substance Use Problems: An Exploratory Study. Addictive Behaviors 1995, Vol 20, No. 5: 675-678
References

Thank you for your participation

For information about Telemental Health education sessions:

- (403) 783-7736
- www.amhb.ab.ca
  - Initiatives
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  - Current Telelearning Sessions