Adolescents and Treatment of Tobacco Dependence

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Objectives

• Discuss the prevalence of tobacco use by adolescents and young adults
• Discuss factors that predispose adolescents to tobacco dependence
• Discuss treatment with adolescents
Tobacco Use is a Pediatric Illness

- Onset occurs during childhood and adolescence
  - 88% of daily smokers initiate at 18 or before (99% before age 26)
  - 2/3 of adult daily smokers smoked daily by age 18
- More than 6.3 million children alive today under 18 will eventually die from smoking

Committee on Environmental Health, Committee on Substance Abuse, Committee on Adolescence, and Committee on Native American Child Health (2009)
DANDY 2
Development and Assessment of Nicotine Dependence in Youth

• 1,246 Sixth Graders
  • Followed over 4 years
  • 3 meetings/Year

• Predictive Factors
  • Relaxation at first puff
  • Exposure to Joe Camel
  • Depressed Mood

### 6th Grade
- Taken a Puff: 15.4%
- Weekly Use: 1.3%

### 10th Grade
- Taken a Puff: 29.7%
- Weekly Use: 10.4%

Defranza et. Al. Susceptibility to Nicotine Dependence: Pediatrics; 120 974-83 2007
Average age of initiation (completed a whole cigarette)
Tenth grade smoking prevalence compared with adult smoking prevalence

- Adult smoking
- 10th grade 30 day


%: 0, 5, 10, 15, 20, 25, 30, 35
If progress had continued – 3 million fewer smokers

- Adult smoking
- 10th grade 30 day

Years

%
Preventing Tobacco Use Among Youth and Young Adults:

www.cdc.gov/tobacco/data_statistics/sgr/2012
The tobacco epidemic continues because youth and young adults begin to use – and become addicted to cigarettes and smokeless tobacco products.
Major conclusions

- Smoking has immediate adverse health effects
- Prevention must focus on young people
- Advertising and promotion cause the onset and continuation of smoking
- Progress in reducing prevalence has stalled
- Coordinated interventions work
  - Mass media
  - Price increases
  - Community programs
  - Smoke free policies
  - Help for stopping
Multiple product use

Source: 2009 YRBS: Centers for Disease Control and Prevention, Division of Adolescent and School Health (unpublished data).
Risk Factors for Initiating Tobacco Use

• Friends who smoke
• Parents behaviors and attitudes
• Comorbid psychiatric disorders
• Exposure to advertising

Sargent, DiFranza, Tobacco control for clinicians who treat adolescents CA Cancer J Clin 2003; 53:102-23
Pierce, et. Al. Tobacco marketing undermine the influence of parenting in discouraging adolescents from smoking Am J. Prev Med 2002;23
www.trinketsandtrash.org

sponsored by grant from RWJ Foundation
Teenagers with who think the tobacco industry is credible and legitimate have higher intentions to smoke, and more likely to smoke.
Teen & Young Adult Smoking Compared with Adult Smoking

- 10th grade 30 day
- 18-24 yr old
- Adult smoking

%: 0 5 10 15 20 25 30 35

Years:
- 1990
- 1992
- 1994
- 1996
- 1998
- 2000
- 2002
- 2004
- 2006
- 2008
Move to Young Adult Marketing

www.trinketsandtrash.org sponsored by grant from RWJ Foundation
Ongoing Seduction

- http://www.youtube.com/watch?v=qVgVDQCsoqM&feature=related
- http://www.youtube.com/watch?v=Vlhb8PXDi0&feature=related
- http://www.youtube.com/watch?v=H5TBrKEIlkAk&feature=watch_response

Sargent, DiFranza, Tobacco control for clinicians who treat adolescents CA Cancer J Clin 2003; 53:102-23
Pierce, et. Al. Does Tobacco marketing undermine the influence of parenting in discouraging adolescents from smoking Am J. Prev Med 2002;23
How long does it take for a child to become addicted?
Cumulative Age of Initiation of Cigarette Smoking*
United States, 1994/1995

*Among persons 30-39 years old who have ever smoked daily.
Gray Matter Maturation

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Maturation starts at the back of the brain ... and moves to the front

- Physical coordination, sensory processing
- Motivation
- Emotion
- Judgment
- Nucleus Accumbens
- Amygdala
- Prefrontal Cortex

Notice: Judgment is last to develop!
# Hooked on Nicotine Checklist

**DANDY 1**

<table>
<thead>
<tr>
<th></th>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you ever tried to quit, but couldn’t?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do you smoke <strong>now</strong> because it is really hard to quit?</td>
<td></td>
<td></td>
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<tr>
<td>3. Have you ever felt like you were addicted to tobacco?</td>
<td></td>
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<tr>
<td>4. Do you ever have strong cravings to smoke?</td>
<td></td>
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<tr>
<td>5. Have you ever felt like you really needed a cigarette?</td>
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<tr>
<td>6. Is it hard to keep from smoking in places where you are not supposed to?</td>
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<tr>
<td>When you haven’t used tobacco for a while ... OR When you tried to stop smoking ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. did you find it hard to concentrate because you couldn't smoke?</td>
<td></td>
<td></td>
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<tr>
<td>8. did you feel more irritable because you couldn't smoke?</td>
<td></td>
<td></td>
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<tr>
<td>9. did you feel a strong need or urge to smoke?</td>
<td></td>
<td></td>
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<tr>
<td>10. did you feel nervous, restless or anxious because you couldn’t smoke?</td>
<td></td>
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</tbody>
</table>
DANDY 2
Development and Assessment of Nicotine Dependence in Youth

• 1,246 enrolled in 6th grade and followed over 4 years with meetings 3 x per year

• Some children become addicted early and easily
  • As few as 2 cigarettes per week
  • One positive item on the HONC
  • Daily smoking in two years almost certain
    • Odds ratio 44!!!

Defranza et. Al. Susceptibility to Nicotine Dependence: Pediatrics; 120 974-83 2007
Do young people want to quit?
Tried to Quit Smoking During Past Year
Nationwide – 2000

BRFSS, 2002
Adolescents
Treatment Guidelines

1. Provide a strong message regarding the importance of abstaining from tobacco use

2. Counseling interventions are shown to be effective with adolescents. More effect with greater intensity

3. Pharmacotherapy, while NRT is safe, efficacy is not established for NRT or bupropion

4. Offer smoking cessation advice and interventions to parents to limit ETS exposure

Fiore et al: DHHS, 2008
A model for integrating treatment in pediatric practice (Pbert, 2009)

- Pediatric provider and peer health educator
  - Provider Asks, advises, assesses
  - Both smoking and non-smoking referred to peer led group
  - Peer counselors trained in MI
  - Followed by phone for 4 (10 minute) phone calls

- Significantly prevented smoking uptake and improved success in stopping smoking
Adolescents
Cognitive-Behavioral Components of Treatment

- Motivational interviewing
- Address misperceptions
- Set goals that fit the person
- Practice/role play problem solving
- Engage social support
Address Misperceptions

• Early in smoking career adolescents develop disengagement beliefs
  • If it were that bad it would be forbidden
  • You have to die of something
  • Everything is unhealthy

• All significantly negatively predictive of motivation to quit

• Severity of dependence overrides these as predictor of actual quitting at one year
Treatment goals should fit the individual

• Appropriate for developmental stage
• Adolescent development goals
  • Independence
  • Identify with peer group
  • Risk taking
Practice role play for problem solving

• Have adolescents develop refusal words for self-selected situations

• Practice and act out scenarios
http://www.thetruth.com

http://www.youtube.com/watch?v=CWx8ogKY1Zg&feature=related

https://www.youtube.com/watch?v=53syYBLZcbQ

https://www.youtube.com/watch?v=lly5oCoE_HMk
References


• Grimshaw G, Stanton A. Tobacco cessation interventions for young people. Cochrane Database of Systematic Reviews. Issue 1, 2009

• Kleinjan M, Van den Eijnden RJ, Enhels R. Adolescents' rationalizations to continue smoking: the role of disengagement beliefs and nicotine dependence in smoking cessation. Addictive Behaviors; 2009; 34 440-45


Discussion