Counseling Parents and Teens About Marijuana In This Era of Legalization

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Topics to be Covered

1. Current epidemiology of youth marijuana use in the USA.

2. Issues concerning the use of medical marijuana in the pediatric and adolescent age groups, vs. adults.

3. Adverse Outcomes of Regular and Heavy Use of Recreational Marijuana by Adolescents.

4. How to counsel parents and teens about marijuana in this era of both medical and recreational marijuana legalization.
Current Epidemiology of Adolescent Substance Use

3 Longitudinal USA National Databases:

- Monitoring the Future (MTF): U. of Michigan, and the National Institute of Drug Abuse: annual survey of approximately 50,000 8th, 10th and 12th grade students.

- Youth Risk Behavior Survey (YRBS): Centers for Disease Control and Prevention: includes national, state, territorial, tribal government, and local school-based surveys of representative samples of 9th through 12th grade students. Surveys are conducted every two years.

- National Survey of Drug Use and Health (NSDUH): Substance Abuse and Mental Health Services Administration: annual nationwide survey involving interviews with approximately 70,000 randomly selected individuals aged 12 and older.
# MTF 2016 Data: Lifetime Prevalence
(Ever Used At Least Once)

<table>
<thead>
<tr>
<th>ANY ILLICIT DRUG</th>
<th>ALCOHOL</th>
<th>MARIJUANA</th>
<th>ELECTRONIC VAPORIZERS</th>
<th>ANY RX DRUGS</th>
<th>AMPHETAMINES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61.2%</td>
<td>44.5%</td>
<td>33.8%</td>
<td>18%</td>
<td>10%</td>
</tr>
<tr>
<td>Most commonly used, ranked, 12th grade</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th</td>
<td>17.2%</td>
</tr>
<tr>
<td>10th</td>
<td>33.7%</td>
</tr>
<tr>
<td>12th</td>
<td>48.3%</td>
</tr>
</tbody>
</table>

- Flavored Alcoholic Drinks: 53.6%
- ~125 Million Adults have tried marijuana – ½ of adults
- Cigarettes: 28.3%
- Smokeless Tobacco: 14.2%
- Been Drunk: 46.3%
MTF 2016 Data: **Current Use** (Used At Least Once In The Past 30 Days), 1 of 2

<table>
<thead>
<tr>
<th>ANY ILLICIT DRUG</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>33.2%</td>
<td>22.5%</td>
<td>12.5%</td>
<td>18%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Most commonly used, ranked, 12th grade (at least 10%)

- 8\textsuperscript{TH}: 6.9%
- 10\textsuperscript{TH}: 15.9%
- 12\textsuperscript{TH}: 24.4%

- Flavored Alcoholic Drinks: 18.3%
- Cigarettes: 10.5%
- Been Drunk: 20.4%
MTF 2016 Data: **Current Use**
(Used At Least Once In The Past 30 Days), 2 of 2

- Current users may be at risk of becoming Regular or Heavy users (slide 16). Thus it is important to encourage current users to decrease or quit use.
- Inhalants are the only category of drugs in which 8th graders have the highest use rates (1.8%), with 10th and 12th graders = 1.0% and 0.8% respectively.
## MTF 2016 Data: Daily Use

<table>
<thead>
<tr>
<th>ALCOHOL</th>
<th>MARIJUANA</th>
<th>Cigarettes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+ Drinks in the past 2 weeks:</td>
<td>6.0%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Most commonly used, ranked, 12th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any alcohol:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Been Drunk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokeless Tobacco:</td>
<td></td>
<td></td>
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<tr>
<td>2.7%</td>
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</table>
NSDUH 2015 Adolescents/Young Adults: Past Month Misuse of Prescription Pain Relievers, Tranquilizers, Stimulants, and Sedatives

<table>
<thead>
<tr>
<th></th>
<th>Ages 12-17</th>
<th>Ages 18-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain Relievers:</td>
<td>276,000 = 1.1%</td>
<td>829,000 = 2.4%</td>
</tr>
<tr>
<td>Tranquilizers:</td>
<td>162,000 = 0.7%</td>
<td>582,000 = 1.7%</td>
</tr>
<tr>
<td>Stimulants:</td>
<td>117,000 = 0.5%</td>
<td>757,000 = 2.2%</td>
</tr>
<tr>
<td>Sedatives:</td>
<td>21,000 = 0.1%</td>
<td>86,000 = 0.2%</td>
</tr>
</tbody>
</table>
Current research has demonstrated that medical marijuana may be helpful in adults for certain health care conditions, especially:

- Chronic neuropathic pain
- Post-chemotherapy nausea and vomiting
- Muscle spasticity
- Cachexia

Because medical marijuana is not regulated by the Food and Drug Administration, purity and THC and other cannabinoid content of medical marijuana cannot often be verified.
Medical Marijuana: Glaucoma

- Initial studies in the 1970s reported that smoking marijuana or administering it orally or intravenously (but not topically applied to the eye) did lower intra-ocular pressure (IOP) for 3 to 4 hours.
- No evidence to date that proves it alters the long-term course of the disease.
- In addition, marijuana lowers blood pressure throughout the body, resulting in the potential to lower the blood flow to the optic nerve which can lead to vision loss. This could effectively cancel out the benefit of a lowered IOP.
- 6/27/14: The American Academy of Ophthalmology stated that it does not recommend marijuana or other cannabis products for the treatment of glaucoma.
Other Clinical Uses of Medical Marijuana for Adults

Medical marijuana has been utilized for a wide variety of pathological states and diseases, including:

- cancer
- autoimmune and rheumatic diseases
- inflammatory bowel disease
- attention deficit disorder
- insomnia
- depression and anxiety

There have been no formal research studies on the use of medical marijuana for these conditions.
Child/Adolescent use of Medical Marijuana

- There are anecdotal reports of the successful use of medical marijuana for the treatment of a variety of health conditions, including:
  - attention deficit disorder
  - anxiety and depression
  - autism
  - anorexia
  - chronic pain
  - post-chemotherapy nausea and vomiting.

There are no published randomized controlled studies on the use of medical marijuana in the child/adolescent populations. There is currently a multi-center study in progress in the USA on the use of CBD for intractable seizures in children, and another in Israel on the use of CBD for autism in children.
Side Effects of Use of Medical Marijuana in Children

- As with any other prescribed medication for adults, children should not have access to medical marijuana.
- Ingestion of marijuana by children can result in a variety of symptoms, including:
  - drowsiness
  - ataxia
  - nystagmus
  - hypothermia
  - hypotonia
  - respiratory depression or coma can occur
Adverse Outcomes of Regular and Heavy Use of Recreational Marijuana by Adolescents

- The younger that a person starts using substances, the more likely problem use will develop:
  - Likely directly related to brain maturation/development; we now know that the adolescent brain continues to develop through the early-mid 20s (see next slide)
- Starting at age 14 > risk than age 16 > risk than age 18 > risk than age 21.
- Major threshold ages for decreasing risk seem to be ages 18 and 21.
Adolescent Brain Development

- New research in adolescent brain development has found that brain maturation does not occur until the early-mid 20's.
- As noted, the younger an adolescent starts using substances, whether tobacco, alcohol, marijuana, or other drugs, the more likely dependence on or addiction to that substance will occur.
- Additionally, use of substances may alter the developing brain itself, in ways that are not yet fully understood but are different than usual development.
- Side effects from medical marijuana, particularly cognitive impairment, would be of special concern in adolescent patients.
Age of Onset of Use and Risk for Addiction

- **Regular Users** (defined as using 10-19 times/month) and **Heavy Users** (defined as using >= 20 times a month) at particular risk of developing problem use.
  - Problem use includes cognitive, psycho-social, and mental health adverse consequences
- Other than + family history of problem use, which may put a particular adolescent at higher risk, it is difficult to predict who will become a regular or heavy user.
- Thus prevention and early intervention strategies are key to preventing the development of a SUD.
Substance Use: Other Relevant Points

- Dual Diagnosis common: Ages 18-25 with highest rates (NSDUH 2015):
  - SUD and any mental illness: 27.2%
  - SUD and serious mental illness: 33.8%
- Best friend who uses/User peer group predictive of an individual using.
- Evidence for use of “soft drugs,” i.e., alcohol, marijuana, and tobacco, being “Gateways” to “use of hard drugs” is very weak.
  - The vast majority of “soft drug” users do not go on to hard drug use.
  - The vast majority of users start with “soft drugs” because they are the most widely available and easily obtainable.
The concentration of tetrahydrocannabinol, or THC, the psychoactive substance in the marijuana plant, has increased considerably, from approximately 4% in the early 1980s to upward of 16% in 2017, increasing the potential risk of adverse effects and the potential for addiction.

Although there are currently no initiatives to legalize the recreational use of marijuana for minors, and marijuana is still a federally controlled substance, changes in the legal status of marijuana, even if limited to adults, may affect use among adolescents by:
- Decreasing the perceived risk of harm,
- Or through the marketing of legal marijuana, despite restrictions that prohibit marketing and advertising to this age group.

The 2013 National Survey on Drug and Health recently documented a decline in the percentage of 12- to 17-year-olds who perceived that there is “great risk” in smoking marijuana once a month or 1 to 2 times per week
- This is concerning, because the same survey has documented that decreases in perceived risk typically precede or occur at the same time as increases in use.
Evidence clearly shows that marijuana is an addictive substance; overall, 9% of those experimenting with marijuana will become addicted.

This percentage increases to 17% among those who initiate marijuana use in adolescence, and to a range of 25%-50% among teenagers who smoke marijuana daily.

It should be noted that most teenage patients addicted to marijuana do not have lifelong addiction; however, significant effects on cognitive and psychosocial function may occur during the addiction period, which may last up to a decade.
Practical Tips in Counseling Parents and Teens
Marijuana is not a benign drug for teens. The teen brain is still developing, and marijuana may cause abnormal brain development.

Teens who use marijuana regularly may develop serious mental health disorders, including addiction, depression, and psychosis.

There are no research studies on the use of medical marijuana in teens, so actual indications, appropriate dosing, effects, and side effects, are unknown.
Counseling Tips 4-6 of 10: for both Parents and Teens

- Recreational use of marijuana by minors and young adults under the age of 21 years is illegal, and if prosecuted, may result in a permanent criminal record, affecting schooling, jobs, etc.
- Never drive under the influence of marijuana, or ride in a car with a driver who is under the influence of marijuana. Adults and teens regularly get into serious and even fatal car accidents while under the influence of marijuana.
- Marijuana smoke is toxic, similar to secondhand tobacco smoke. Use of vaporizers or hookahs does not eliminate the toxic chemicals in marijuana smoke.
Counseling Tips 7-10 of 10: for Parents

- You are role models for your children, and actions speak louder than words. So if you use marijuana in front of your teens, they are more likely to use it themselves, regardless of whether you tell them not to.
- It is important to keep all marijuana products away from children. As with other medications and toxic products, containers that are child proof and kept out of reach should be used. For small children, marijuana edibles and drinks can be particularly dangerous.
- Being “high” from your own recreational or medical marijuana use may alter your capacity to function safely as a parent, or provide a safe environment for infants and children.
- If your child asks you directly whether you have used marijuana, a brief, honest answer may help the child feel comfortable talking with you about drug use issues. However, it is best to not share your own histories of drug use with your children. Rather, discussion of drug use scenarios, in general, may be a more helpful approach.
Summary

- Recreational use of marijuana should be discouraged in adolescents, due to possible adverse effects on brain development, development of problem use/addiction, and possible adverse cognitive, psycho-social, and mental health outcomes.

- Current research has demonstrated that medical marijuana may be helpful in adults for certain health care conditions, especially:
  - Chronic neuropathic pain, Post-chemotherapy nausea and vomiting, Muscle spasticity, and Cachexia.

- Because medical marijuana is not regulated by the Food and Drug Administration, purity, dosing, effects, side effects, and THC & other cannabinoid content of medical marijuana cannot usually be verified.

- Medical and/or recreational marijuana for adults may or may not lead to an increase of the use of recreational marijuana by adolescents.

- Physicians may technically recommend medical marijuana, but without any published studies concerning the use of medical marijuana in child and adolescent populations, recommending medical marijuana for adolescents would not be based on any formal randomized controlled research studies at this time.
References

- Ryan S, Ammerman S. Counseling Parents and Teens About Marijuana In This Era of Legalization. COMMITTEE ON SUBSTANCE USE AND PREVENTION. 2017.
Resources

- www.aap.org/marijuana
- Youth risk behavior survey (CDC): http://www.cdc.gov/HealthyYouth/yrbs/index.htm
- Monitoring the future (U. of MI and NIDA): www.monitoringthefuture.org
- Marijuana Policy Project: www.mpp.org
- Drug Policy Alliance: www.drugpolicy.org
- Apps: e.g., Leafly: $1.99; comprehensive info on > 400 strains of marijuana, news updates, and related
THANK YOU!