

CAT scans and MRIs have given researchers a better understanding of how alcohol and other drugs, including marijuana impacts the developing brain of a teenager.

The information acquired through technology have given insights to researchers to help them determine that the brain is not fully developed until a person is in their mid-twenties. Furthermore, this time of maturation is accompanied by a vulnerability to substances that can negatively impact the brain and in some cases lead to life long addiction.

The latest research on the relationship between marijuana and psychosis underscores the reality that science is truly still in its infancy in understanding the way chemicals impact the brain. What is known that is most compelling is that the longer a teen can be persuaded to wait to use alcohol and other drugs, the less likely they are to become addicted to a substance and have to deal with the negative consequences of addiction throughout their lives.

Many people who use marijuana, including teenagers, mistakenly regard this substance as a benign drug. In addition, the legalization of marijuana in many states for both medical and recreational use has increased the perception that marijuana is not harmful and is helpful to alleviate health problems.

However, a report that was released in January commissioned by the National Academy of Sciences, Engineering and Medicine tells a very different story. The report shows that there is evidence that heavy marijuana use, a long history of use and the age at the beginning of use may all be risk factors that can trigger a first episode of psychosis.

Studies conducted over the past ten years have shown that marijuana use during adolescence can be a contributing factor to both triggering or worsening mental illnesses including schizophrenia. These same studies have shown that a young person with a predisposition of developing a mental illness may be more likely to use marijuana at an earlier age than other adolescents.

Dr. Michael Birnbaum, a child and adolescent psychiatrist at Northwell Heath said that we do not have a lot of research on the effects of

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marijuana on the developing brain of adolescents. However, in his experience when working with young people who have mental illness, he says that “inevitably pot, and drugs and alcohol become part of the conversation.

Developing mental illness cannot be related to one thing so according to Dr. Birnbaum one cannot say that using marijuana causes schizophrenia. However, he goes on to say that “evidence suggests that pot smoking can lead to earlier onset (of psychosis)- that it can develop sooner that it would have otherwise. In addition, pot is also associated with development of illness in otherwise healthy individuals, meaning it is possible that psychosis would not have developed in that person if they had never smoked pot.”

Michael Compton, MD, MPH a professor of clinical psychiatry at Columbia University has also conducted several studies considering the association between first episode psychosis and cannabis use. The studies showed as reported by an article by Jukian Garey, “an association between the escalation of marijuana use and an earlier age of onset of prodromal symptoms and an earlier age at onset of psychotic symptoms.”

Dr Compton says that “These findings suggest that adolescent/premorbid marijuana use is not only a risk factor for the later development of primary psychotic disorders (which has been shown in prior studies), but is also a risk factor for an earlier onset of those disorders.”

The issue of onset is important because the long-term outlook for someone with schizophrenia is better, the later the disorder develops. Another issue of concern is that the risk of a first psychotic episode is lower if a young person uses marijuana less frequently, however, once it occurs, stopping the use of marijuana does not eliminate the mental illness.

As Dr Brinbaum observed, “If pot turns on that switch, it’s not something that can be easily turned off. Marijuana could effectively trigger a primary psychotic disorder, meaning that even once the substance is removed, the symptoms are still there.”

Dr. Birnbaum suggests that it is impossible to tell what risk a teenager is taking by smoking marijuana on a regular basis. He goes on to say that if an adolescent has hallucinations or other psychotic-

like experiences while using, that is an indicator that they may have a predisposition to some kind of psychotic illness. In this situation, it would be prudent for that teen to avoid substances.

It is important for parents to share this latest research with their children. Let them know that using marijuana could be setting them up for trouble. And that scientists do not know enough about the risks of marijuana to the developing brain. Starting to use marijuana at a young age increases the risk of dependency which negatively impacts a young person’s ability to perform well in school and have meaningful relationships.

There was an informative presentation given at the CADCA conference by Kathleen Nadeau, PhD who is the director of the Chesapeake ADHD Center of Maryland, about substance abuse patterns and ADHD. This is a lifespan disorder and both girls and boys are at risk for this disorder. The main issue with these students is executive functioning.

Dr Nadeau confirmed the large body of research concluding that stimulant medication has NOT been shown to be a gateway drug for illicit drug use. However, there are connections between ADHD and substance abuse for teens who are not properly medicated and/or given educational and social supports when needed. Some have poor impulse control, poor sleep patterns, stimulation craving, risk-taking tendencies and anxiety and depression. With this profile, these students have a tendency to look at substance use as exciting which can also lead to self-mediation.

Research done by Dr. Nadeau confirms that at age 15, 35% of teens with ADHD reported using one or more substances compared to 20% of non-ADHD kids. Three times as many teens with ADHD (10% vs 3%) reported significant problems with substance abuse

Tim Wilens, MD of Harvard University reports that of the ADHD students, 30 percent reported that they were using the substance to “get high.” However, 70% reported doing it to improve their mood, to sleep better or for other reasons related to self medication.

This is a critical distinction, teens that are self-medicating need a different treatment approach than kids who are getting high, behaving in a self-destructive or rebellious way. There are many ADHD students using drugs not to get high but to feel less anxiety and feel more “normal.”

As children with ADHD enter adolescence they tend to fall into three tracks;

1. those that will struggle academically and in socially significant ways.
2. those with moderate impairment
3. those with mild impairment

Next months *Parenting for Prevention* will further report on this presentation and discuss the various initiatives and strategies that can be put in place to help these children navigate the teen years in a positive way.

Now that “March Madness” is over, it is a good time to ask teens about their involvement in betting on “the brackets,” other sports, or other forms of gambling. According to research (Welte, 2007) 68% of American youth between the ages of 14 and 21 have gambled in the last year, and 1 in 10 adolescents in New York State has a gambling problem. While gambling may not always involve money between 60-80% of high school students report having gambled for money during the past year; 4-6% of these students are considered pathological gamblers (addicted to gambling) while another 6-8% are at risk of developing a serious gambling problem, or show signs of loss of control. Boys are more likely than girls to gamble and experience gambling problems. Yet for most parents and teens, gambling is seen as an innocuous behavior with few negative consequences. (Welte, 2007)

Youth who do participate in underage gambling are more likely to:

- Suffer poor relationships with friends and family,
- depression,
- substance abuse disorders

Did you know...

- You're more likely to pick a 4-leaf clover on your first try than you are to win a large-sum lottery jackpot
- You're more likely to be struck by lightning than you are to win a large-sum lottery jackpot
- You're more likely to become an astronaut at some point in the next 54 years than you are to win a large-sum lottery jackpot
- You're more likely to test as a genius than you are to win a large-sum lottery jackpot.

Of the 68% of American youth between the ages of 14 and 21 who have gambled in the last year.

- 11% gambled 2 times a week or more
- 6.5% are at-risk for or have already developed a gambling problem. Welte, 2007

The consequences of underage gambling include:

- Increased risk for addiction
- Increased risk for delinquency and crime
- Damaged relationships
- Poor academic performance
- Mental health issues including depression and anxiety
- Increased risk for substance use and abuse
- Overall, poor health

Teens who gamble are more likely to...

- have depression
- get lower grades
- use illegal drugs
- get into fights
- have low self-esteem
- attempt suicide

It is important to note that of the youth who struggle with problem gambling, their struggles affect an average of 10 other people (such as close friends and family members).

Despite the legal gambling age of 18 in New York State...

- over 40% of youth survey respondents indicated they had played the lottery in the past year;
 - 13% of students in grades 7-12 played slot, poker, or other gambling machines in the past year;
 - 12% of students in grades 7-12 played Quick Draw in the past year;
 - 9% of students bet money on horses or other animal races in the past year.
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The most frequent gambling problems involve cards, games of skill, sports, dice, and lottery

Warning signs:

- Changes in mood
- Missing money and valuables
- Excessive time spent watching sports or playing cards
- Change in peer group

Resources:

1877-HOPE-NY
Youthdecideny.org
Nyproblemgambling.org
Kidshealth.org/en/teens/gambling.html
Teenhelp.com/money/teen-gambling/
Youthgambling.com/



Upcoming Events

April 20
Healthy Teen
Brain Day
Interactive Inflatable Brain at Maria Ferrari Children's Hospital
Contact: 332-1300

May 18 7:30 to 8:45pm
Blind Brook High School
Prom Panel
Contact: 332-1300

May 30 7 to 8pm
Fox Lane High School
Prom Panel
Contact: 332-1300