

Module 4 of the *Brain Power! Challenge* focuses on marijuana, the most commonly abused illegal drug in the United States. Nearly 45% of all high school seniors have used marijuana. Many children, adolescents, and even adults think of it as a harmless drug compared to heroin and cocaine. But marijuana is not harmless. Today's marijuana is 10 to 15 times stronger than it was in the 1960s.

Summary

Marijuana comes from the dried leaves and flowers of the cannabis plant. It contains more than 400 chemicals and can be smoked, cooked into baked goods, or brewed into tea. Smoking marijuana can cause lung problems and cancer, just as smoking tobacco does. In low to medium doses, marijuana can cause relaxation, reduced coordination, reduced blood pressure, sleepiness, attention problems, and an altered sense of time and space. In high doses, marijuana can cause hallucinations, delusions, memory problems, and disorientation.

Marijuana affects receptors in three major parts of the brain:

- The hippocampus, which is responsible for learning and memory
- The cerebellum, which coordinates movement
- The cerebral cortex, which is responsible for integration of information from the senses and higher-order thinking

Recent research has shown that marijuana use can damage the hippocampus. The risk of damage is greater if marijuana use begins when the brain is still developing. For example, one study showed that people who used marijuana before the age of 17 had significantly lower verbal IQs than both those who began using it at an older age and those who never used it at all.

Long-term marijuana use has been shown to decrease motivation. Related symptoms can include fatigue, lack of concern about personal appearance, and decreased interest in attending work or spending time with family and friends. This can increase the risk of academic, social, and emotional problems. Finally, marijuana use is associated with use of other drugs of abuse. One study also shows that 90% of cocaine abusers smoked tobacco, drank alcohol, or used marijuana before trying cocaine.

In Module 4, students are introduced to this information in greater detail and work with their classmates to develop materials to spread the word about the risks of marijuana use.

Science at Home

Why is it important to talk to your child about marijuana? One of the main reasons is that your child is probably already learning about drugs—from friends, movies, and music. However, information from these sources is unlikely to be correct or complete. Also, your child needs to hear what you have to say about drugs because children really do value their parents' opinions. The following is a guide for talking to your child about marijuana, but the same ideas apply to talking about any drug.

How to bring it up

Watch for times when the topic can be brought up naturally. For example, if the evening news or a TV commercial mentions marijuana or some other drug, use this as a conversation starter. Remember that if you are waiting for your child to bring up the subject, you have to be prepared at any moment to talk about it.

How to talk about it

Show that you respect your child's opinions. A good way to do this is to start out by asking questions. For example, ask your child what he or she has learned about marijuana. Listen patiently, no matter what your child says. Only after he or she has finished should you step in and calmly share what you know about marijuana. It is important that you have your facts straight and that you do not exaggerate them. Providing your child with false or exaggerated information is likely to lead to a loss of trust and respect, because he or she may already know a lot about marijuana. Also, make sure that your child understands what you say and give your child a chance to ask questions. If you do not know the answer, tell your child that, and then try to find it together.

Helping your child say "no"

As parents, make sure your child clearly knows the house rules on drug use. Be clear about your opinions and rules concerning marijuana. Being involved in your child's life and knowing who they spend time with or where they hang out is a good way to prevent drug use. Ask plenty of questions, and have open conversations about marijuana with your child.

Resources

National Institute on Drug Abuse (NIDA)

www.drugabuse.gov, 301-443-1124

This Web site contains information about drug abuse as well as a section designed specifically for parents, teachers, and students.

National Clearinghouse for Alcohol and Drug Information (NCADI)

<http://ncadi.samhsa.gov>, 1-800-729-6686

NCADI is the world's largest resource for information and materials concerning substance abuse. Many free publications are available here.

Parents: The Anti-Drug

www.theantidrug.com

This site is designed for parents and covers the risks and consequences of various drugs, and provides news, advice, and real-life stories. Includes information to help children say "no."

Marijuana. Mehling, R. Philadelphia, PA: Chelsea House Publishers, 2003. Part of the "Drugs: The Straight Facts" series. Contains a thorough discussion of marijuana, including how it acts in the brain, history, health effects, usage trends, and relevant laws.