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A communication periodical for our clients, staff & the community at large

The Chronicle

A Paterson Counseling Center Newsletter

Special points of interest:

- New information distributed on website
- PCC improves facilities for clients
- Mobile van services available for clients
- Staff pursuing training and learning opportunities
- Clients continue to share feedback on services
- Community outreach program a success

Inside this issue:

Addiction is a Disease of the Brain

Drug addiction is a brain disease because the abuse of drugs leads to changes in the structure and function of the brain. Although it is true that for most people the initial decision to take drugs is voluntary,

over time the changes in the brain caused by repeated drug abuse can affect a person's self control and ability to make sound decisions, and at the same time send intense impulses to continue to use and take drugs.

It is because of these changes in the brain that it is so challenging for a person who is addicted to stop abusing drugs. Fortunately, there are treatments that help people to counteract addiction's powerful disruptive effects and regain control.

What Happens to the Brain

Drugs are chemicals that tap into the brain's communication system and disrupt the way nerve cells normally send, receive, and process information. There are at least two ways that drugs are able to do this: by imitating the brain's natural chemical messengers, and/or by over stimulating the "reward circuit" of the brain.

Some drugs, such as marijuana and heroin, have a similar structure to chemical messengers, called neurotransmitters, which are naturally produced by the brain. Because of this similarity, these drugs are able to "fool" the brain's receptors and activate nerve cells to send abnormal messages.

Other drugs, such as cocaine or methamphetamine, can cause the nerve cells to release abnormally large amounts of natural neurotransmitters, or prevent the normal recycling of these brain chemicals, which is needed to shut off the signal between neurons. This disruption produces a greatly amplified message that ultimately disrupts normal communication patterns.

Rewards System

Nearly all drugs, directly or indirectly, target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that control movement, emotion, motivation, and feelings of pleasure. The over stimulation

Addiction (Continued)

of this system, which normally responds to natural behaviors that are linked to survival (eating, spending time with loved ones, etc.), produces euphoric effects in response to the drugs. This reaction sets in motion a pattern that "teaches" people to repeat the behavior of abusing drugs.

As a person continues to abuse drugs, the brain adapts to the overwhelming surges in dopamine by producing less dopamine or by reducing the number of dopamine receptors in the reward circuit. As a result, dopamine's impact on the reward circuit is lessened, reducing the abuser's ability to enjoy the drugs and the things that previously brought pleasure. This de-

crease compels those addicted to drugs to keep abusing drugs in order to attempt to bring their dopamine function back to normal. And, they may now require larger amounts of the drug than they first did to achieve the dopamine high-an effect known as tolerance.

Long-term abuse causes changes in other brain chemical systems and circuits as well. Glutamate is a neurotransmitter that influences the reward circuit and the ability to

Addiction Continued

learn. When the optimal concentration of glutamate is altered by drug abuse, the brain attempts to compensate, which can impair cognitive function. Drugs of abuse facilitate unconscious (conditioned) learning, which leads the user to experience uncontrollable cravings when they see a place or person they associate with the drug experience, even when the drug itself is not available.

Brain imaging studies of drug-addicted individuals show changes in areas of the brain that are critical to judgment, decision making, learning and memory, and behavior control. Together, these changes can drive an abuser to seek out and take drugs compulsively despite adverse consequences-in other words, to become addicted to drugs.

Drug Addiction Is A Relapsing Disease

Similar to other chronic, relapsing diseases, such as diabetes, asthma, or heart disease, drug addiction can be managed successfully. And, as with other chronic diseases, it is not uncommon for a person to relapse and begin abusing drugs again.

Relapse, however, does not signal failure, rather, it indicates that treatment should be reinstated, adjusted, or that alternate treatment is needed to help the individual regain control and recover.

The Cost of Drug Addiction

Drug abuse and addiction are a major burden to society. Estimates of the total overall costs of substance abuse in the United States, including health, crime-related costs, as well as losses in productivity exceed half a trillion dollars annually.

$181 billion for illicit drugs
$168 billion for tobacco
$185 billion for alcohol

Staggering as these numbers are, however, they do not fully describe the breadth of deleterious public health and safety implications, including family disintegration, loss of employment, failure in school, domestic violence, child abuse, and other crimes.

Treatment for Drug Addiction

Research shows combining addiction treatment medications, if available, with behavioral therapy is the best way to ensure success for most patients. Treatment approaches that are tailored to each patient's drug abuse

Relapse Continued

patterns and any co-occurring medical, psychiatric, and social problems can lead to sustained recovery and a life without drug abuse.

Number of persons who used illicit drugs in the past month was 19.9 million

- Number of persons who used marijuana in the past month was 14.4 million
- Number of persons who used psychotherapeutics in the past month was 6.9 million
- The number of persons who used cocaine in the past month was 2.1 million
- The number of persons who used hallucinogens in the past month was 1.0 million
- The number of persons who used inhalants in the past month was 0.6 million
- The number of persons who used heroin in the past month was 0.2 million

What is Second Hand Smoke?

Secondhand smoke comes from both the smoke that smokers exhale (called mainstream smoke) and the smoke floating from the end of the cigarette, cigar, or pipe (called side-stream smoke).

It may seem pretty harmless, but secondhand smoke actually contains thousands of chemicals — from arsenic and ammonia to hydrogen cyanide — many of which have been proven to be toxic or to cause cancer (called carcinogens).

High concentrations of many of these chemicals are found in secondhand smoke. In fact, secondhand smoke significantly increases a person's risk for: respiratory infections (like bronchitis and pneumonia) asthma (secondhand smoke is a risk factor for the development of asthma and can trigger attacks in those who already have it) coughing, sore throats, sniffling, and sneezing cancer and heart disease.

So secondhand smoke doesn't just impact a person in the future. It can cause problems right now, like affecting someone's sports performance or ability to be physically active.

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