Uppers, Downers and All Arounders

Summary

This lesson will help students to understand how alcohol, tobacco and other drugs affect the human body and can impair an individual's actions.

Main Core Tie

Health Education II (9-12)

Strand 4: SUBSTANCE ABUSE PREVENTION (SAP) Standard HII.SAP.4

Materials

- PowerPoint presentation "Uppers, Downers and All Arounders
  Chalkboard/whiteboard
  Projector

Intended Learning Outcomes

Students will understand how alcohol, tobacco and other drugs (ATOD) affects the brain and impairs the actions of an individual.
Students will be able to describe the impact of ATOD on the human body.
Students will be able to describe appropriate use of legal drugs and supplements.

Instructional Procedures

Readiness or Setting the Focus (getting the lesson started)

Option 1 - List an assortment of drugs that are abused on the board.
Option 2 - Ask students to brainstorm drugs that they have heard about that people abuse. Make it clear that it is drugs they have heard about, not necessarily drugs that they know are abused by someone they know. With option 2, care must be given that the exercise does not become a lesson in how to get high. Also, care must be given to avoid any "bragging" by someone who has used drugs.

Strategies and Activities

Ask the question: Ever wondered how drugs affect the body?

Most drugs that people abuse change they way they think, feel, and act.
Most drugs affect the brain, while other affect other parts of the body.
Drugs are not magic; rather, they are shaped very similar to naturally occurring things in the brain called neurotransmitters.

Draw a series of neurons/ brain cells on the board.

Explain how the cells communicate by sending neurotransmitters to each other. Indicate this by placing several dots between each brain cell.
These neurotransmitters are messengers in the brain.

Explain the 5 senses people use to acquire information from their environment. Sight, Smell, Hear, Taste, Touch.

Add an eye to the head you just drew and demonstrate how the eye receives light and through a process of sending neurotransmitters throughout the brain, the brain computes the image to a meaning. This is demonstrated by drawing a square near the eye and filling it in with a black marker. The eye picks up the image, and the brain moves the message around until it interprets the message as "black".
These messengers are also responsible for conveying information about mood. Sometimes we feel good, sometimes we feel a little down. Sometimes the messengers fail

to convey an accurate message. This can be due to a biological problem in the brain that someone is born with, such as a mental illness, or it can be due to a temporary issue in life one is dealing with. Another reason is being a result of chemicals that act like the neurotransmitters and hijack the normal thinking and feeling process.

Once the chemicals hijack the brain, the brain discontinues producing the normal messenger and the amount of the feel good chemicals decreases. This is why when people abuse drugs, they feel awful once the drug wears off. Drugs produce a short term "high" followed by a long term "low".

Let's look at how these drugs affect the brain.

This drug, cocaine, is what we call an upper.

Uppers increase the amount of messengers that make a person feel like they have a lot of energy.

They can even make a person think they are more attractive than they really are!

Uppers also tell the brain to speed up every body function including heart rate and respiratory rate.

Demonstrate this by adding a lot of dots (messengers/ neurotransmitters) between each of the brain cells you drew on the board.

Help the students identify the other "uppers" on the board by placing a "U" by them. It is not important to label them all at this time.

Another type of drug is a downer.

These chemicals hijack the brain and diminish the thoughts that would normally occur.

Demonstrate this by erasing some of the messengers you drew on the board- make sure there are fewer than you initially started with.

Downers slow everything down including the thought process and bodily functions.

Some people who taken enough downers to not only slow down their heart, but enough to actually stop it. This is one example of how and overdose can kill a person.

There are enough chemical hijackers in their brain that they are able to tell the brain to shut down the heart, lungs, or other vital functions of the body.

Help the students identify the "downers" on the board by placing a D by them.

The last major drug group is "all arounders".

These chemicals mess up the brain message system in a way that the brain cells are getting messages from places other than they should be getting the message.

Demonstrate this by drawing lines between cells making sure the lines do not connect the regular series of messages.

In other words, the thinking gets totally dysfunctional and the brain cannot tell what is real and what is not.

Explain that a hallucination is when the brain is convinced that the body is picking up sensations through the 5 senses that aren't really there. Some people may see colors floating around, others will taste things differently, and others will hear voices that aren't really there.

Going back to the black box drawn on the board, demonstrate a hallucination by showing that the eye sees "black" but the brain may interpret it as music, or voices.

Help the students identify the "all arounders" on the board by placing an A by them.

Point out that there are still some drugs on the board that haven't been classified.

Point at an inhalant, such as hairspray or gas.

Tell the students that this classification will be called "dissolvers".

These chemicals are solvents, meaning they break down tissue and destroy it.

Demonstrate how this works in the brain by erasing some of the brain cells. Most

dissolvers cause irreparable damage to the brain tissue as well as other organs in the body.

Help students identify the dissolvers by placing an "S" (solvent) by them.

At this point, there may be one more drugs listed that does not fit in any of the classifications.

Steroids.

People that abuse steroids are looking for an increase in a hormone called testosterone.

Testosterone helps the body become more muscular and take on male features such as beard, broad shoulders, narrow hips and less body fat.

Most people, including most professional athletes, realize the significant side effects of steroids and determine the temporary effects of steroids is not worth the long term consequences.

These consequences include chronic health problems, severe acne, balding, and cancer. Because many abusers use needles, they also run risks associated with other intravenous drug use such as hepatitis and HIV.

Lastly, there may be some drugs that students have not classified yet. This may be due to not knowing the classification, or may be due to students not recognizing over the counter drugs or pharmaceuticals being in the same classification as illegal drugs.

Given current issues with prescription drug abuse, it is important for students to realize that just because you can purchase the drug in a store or pharmacy does not make it safe to abuse.

Over the counter medications, prescription drugs and most supplements sold in stores are safe to use, but ONLY AS DIRECTED

Also point out that there is no difference in the drugs sold at the pharmacy and drugs sold on the streets in the way the drug affects the brain. In other words, prescription pain killers are downers- they diminish the message (in this case, pain) in the brain, and like street drugs, can cause addiction and death when abused.

Extensions

Resources and opportunities for continued development and independent practice.

Use this lesson in various school subject areas.

Biology/ Physiology: Brain Science

Nutrition: (appropriate use of supplements)

Health: nutrition, short and long term effects of drug use,

Social Science: Drugs and the workforce- the cost of individual impairment on society.

Assessment Plan

Each student writes a question about the content of this lesson on a 3X5 card.

Students will ask the question on his or her card to another student in the group.

After a short time for discussion, the students in section "B" exchange cards find another student in the group.

Repeat "B" and "C" as time and energy permit.

Authors

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