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WHAT IS ADDICTION?

- Addiction is not limited to drugs and alcohol. People can be addicted to many things, such as food, gambling, shopping, or most anything that gets in the way of a healthy lifestyle. When things get out of hand, and people behave compulsively, regardless of the consequences.
- When the person is no longer in charge of their life, regardless of the triggering mechanism, they are addicted. The addiction can take over a person's entire life. Nothing else matters.

- Drug addiction is a chronic disease affecting the brain, and just about everyone is different.

- Drugs affect different people in different ways. One person can take and abuse drugs, yet never become addicted, while another merely has one experience and is immediately hooked.

- There are several factors and causes to consider with addiction, first there is a genetic component, that is, what is passed on to you through your family.
- If your blood relatives had a predisposition to become addicted, chances are you have that same tendency.
- Personality contributes to drug addiction.
- Peer pressure is huge, both for teenagers and adults alike.

Stage 1: Experimentation



Stage 2: Regular Use



Stage 3: Risky Use/Abuse



Stage 4: Dependency



STAGE 1

- CURIOSITY IS THE MOTIVATOR
- LEARNING TO TRUST/MISTRUST THE DRUG USED
- “HIGH” IS STILL A NEW FEELING

STAGE 2

- USER IS THINKING MORE ABOUT DRUGS
- PREVIOUS RELATIONSHIP BECOMES DIFFICULT
- USER USES WHEN ALONE
- USER STILL THINKS THEY HAVE CONTROL

STAGE 3

- SEEKS OUT THE “HIGH”
- HAS CONFIDENCE IN USING THE DRUG
- USER THINKS THE DRUG WON’T HURT THEM
- PEER GROUP USES

STAGE 4

- CAN NO LONGER GET HIGH
- USER USES THE DRUG TO AVOID BEING SICK
- DRUGS BECOME THE CENTER OF THEIR LIFE

- MARIJUANA
- HEROIN
- COCAINE
- ALCOHOL
- TOBACCO
- LSD (Lysergic acid diethylamide)
- SPEEDBALL
- MDMA
- KETAMINE
- CRYSTAL- METH

- LOSS OF APPETITE
- HEADACHES
- ANXIETY
- ELEVATED BLOOD PRESSURE
- CHEST PAIN
- IRREGULAR HEARTBEAT
- COLD/BLUISH FINGERS
- DIFFICULTY IN URINATING
- CHANGES IN BODY TEMPERATURE

Drugs are chemicals. Different drugs, because of their chemical structures, can affect the body in different ways. In fact, some drugs can even change a person's body and brain in ways that last long after the person has stopped taking drugs, maybe even permanently.

- Weaken the immune system, increasing susceptibility to infections.
- Cause cardiovascular conditions ranging from abnormal heart rate to heart attacks.
 - Cause nausea, vomiting and abdominal pain.
- Cause the liver to have to work harder, possibly causing significant damage or liver failure.
- Cause seizures, stroke and widespread brain damage
- Produce global body changes such as breast development in men, dramatic fluctuations in appetite and increases in body temperature, which may impact a variety of health conditions.

BRAIN- All drugs of abuse - nicotine, cocaine, marijuana, and others - effect the brain's "reward" circuit, which is part of the limbic system.

- Drugs hijack this "reward" system, causing unusually large amounts of dopamine to flood the system.
- This flood of dopamine is what causes the "high" or euphoria associated with drug abuse.

BIRTH-

- These and other illicit drugs may pose various risks for pregnant women and their babies. Some of these drugs can cause a baby to be born too small or too soon, or to have withdrawal symptoms, birth defects or learning and behavioral problems.
- Pregnant women who use illicit drugs may engage in other unhealthy behaviors that place their pregnancy at risk, such as having extremely poor nutrition or developing sexually transmitted infections.

BEHAVIORAL PROBLEMS-

- PARANOIA
- AGGRESSIVENESS
- HALLUCINATIONS
- ADDICTION
- IMPAIRED JUDGMENT
- IMPULSIVENESS
- LOSS OF SELF-CONTROL

- It is the appearance of characteristic toxic effects of a drug in an individual at therapeutic doses.
- It is the converse of tolerance and **indicates a low threshold of the individual to the action of a drug.**

Examples are:

- A single dose of triflupromazine (antipsychotic medication) induces muscular dystonias (movement disorder in which a person's muscles contract uncontrollably) in some individuals, specially children.
- Only few doses of carbamazepine (antipsychotic medication) may cause ataxia in some people.
- One tablet of chloroquine (anti malarial) may cause vomiting and abdominal pain in an occasional patient.

It is genetically determined abnormal reactivity to a chemical. The drug interacts with some unique feature of the individual, not found in majority of subjects, and produces the uncharacteristic reaction. As such, the type of reaction is restricted to individuals with a particular genotype. In addition, certain bizarre drug effects due to peculiarities of an individual (for which no definite genotype has been described) are included among idiosyncratic reactions, e.g.:

- **Barbiturates** cause excitement and mental confusion in some individuals.
- **Quinine/quinidine** cause cramps, diarrhoea, asthma and vascular collapse in some patients.
- **Chloramphenicol** produces non dose-related serious aplastic anaemia (body stops producing enough new blood cells) in rare individuals.

Drugs capable of altering mood and feelings are liable to repetitive use to derive euphoria (experience (or affect) of pleasure), recreation, withdrawal from reality, social adjustment, etc. **Drug dependence is a state in which use of drugs for personal satisfaction is accorded a higher priority than other basic needs, often in the face of known risks to health.**

- **Psychological dependence** It is said to have developed when the individual believes that optimal state of wellbeing is achieved only through the actions of the drug. The subject feels emotionally distressed if the drug is not taken.
- **Physical dependence** It is an altered physiological state produced by repeated administration of a drug which necessitates the continued presence of the drug to maintain physiological equilibrium. Discontinuation of the drug results in a characteristic *withdrawal (abstinence) syndrome*. Since the essence of the process is adaptation of the nervous system to function normally in the presence of the drug, it has been called '*neuroadaptation*'.

- (*Tachy-fast, phylaxis-protection*) It refers to rapid development of tolerance when doses of a drug repeated in quick succession result in marked reduction in response. This is usually seen with indirectly acting drugs, such as ephedrine, tyramine, nicotine. These drugs act by releasing catecholamines in the body, synthesis of which is unable to match the rate of release: stores get depleted. Other mechanisms like slow dissociation of the drug from its receptor, desensitization/internalization or down regulation of receptor, etc. and/or compensatory homeostatic adaptation.

- Receptors may be considered spare when the maximal response is elicited by an agonist at a concentration that does not produce full occupancy of the available receptors.

History

- Nickerson (1957) - histamine on a guinea pig ileum preparation
- Furchgott (1964) - adrenaline induced contraction of the rabbit aortic strips
- Only small percentage of receptors had to be occupied by agonist to produce maximum contraction(response)
- ‘spare’ or ‘reserve’ receptor
- proposed by Stephenson

- Not all of the receptors in the tissue are required to achieve a maximal response.
- Spare receptors exist when maximum drug response is achieved prior to saturation of all receptors.

