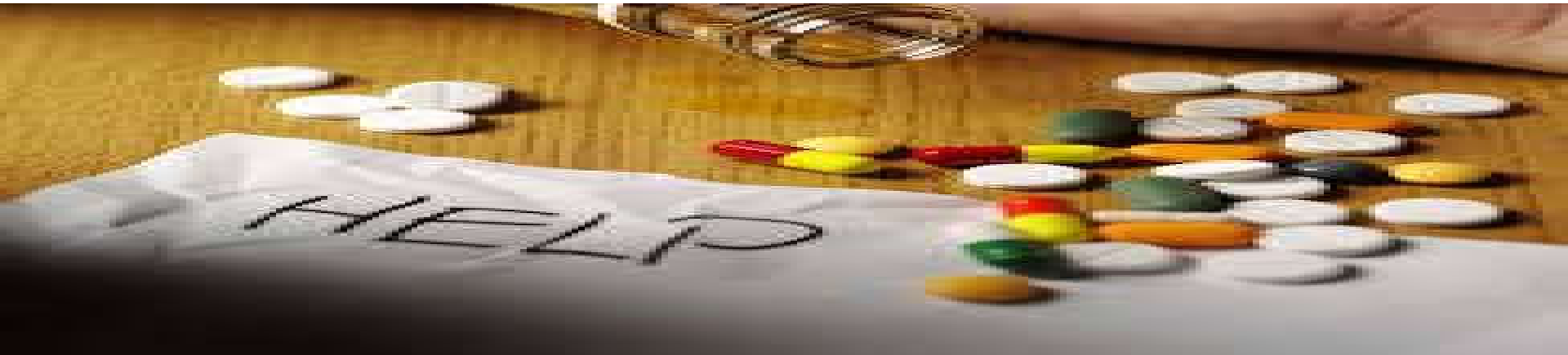
Drug dependence

Prepared by
Dr/ Wafaa Abdel-Ghaffar Ali
Lecturer of Forensic Medicine & Clinical Toxicology



Misuse:

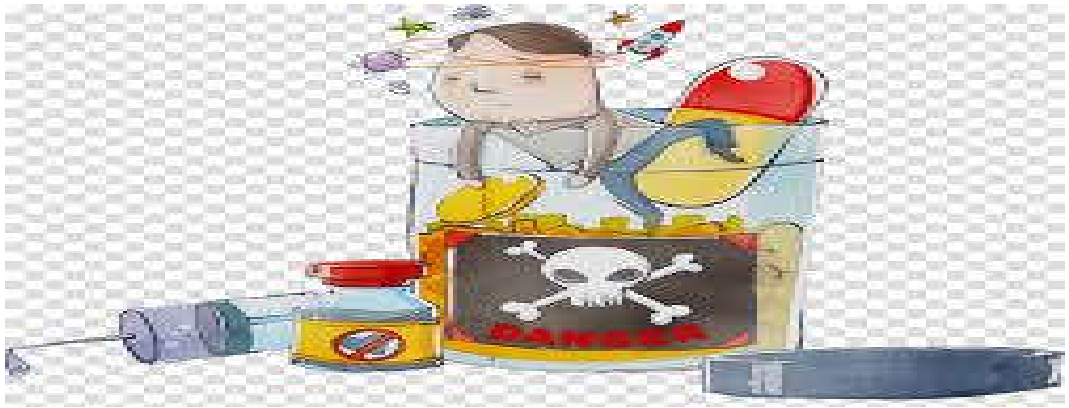
Non-medical use of drugs that may not necessarily involve dependence but cause harm to the user.

Drug abuse:

A patterned use of a drug in which the user consumes the substance in amounts or with methods which are harmful to themselves or others

Dependence syndrome:

A cluster of physiological, behavioral, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviors that once had greater value.



The Tenth Revision of the International Classification of Diseases and Health Problems (ICD-10) Diagnostic guidelines:

-A definite diagnosis of dependence should usually be made only if three or more of the following have been present together at some time during the previous year:

1- A strong desire or sense of compulsion to take the substance.

2- Difficulties in controlling substance-taking behavior in terms of its onset, termination, or levels of use.

3- A physiological withdrawal state when substance use has ceased or have been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or closely related) substance with the intention of relieving or avoiding withdrawal symptoms.

4- Evidence of tolerance, such that increased doses of the psychoactive substance are required in order to achieve effects originally produced by lower doses (clear examples of this are found in alcohol- and opiate-dependent individuals who may take daily doses sufficient to incapacitate or kill non tolerant users).

5- Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects.

6- Persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy substance use, or drug-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

Stoppage of the drug will lead to:

1- Withdrawal "abstinence" symptoms (physical dependence).

2- Desire to the euphoria which the drug produce (psychological dependence).

Tolerance

Failure of the same dose of the drug to produce its previous effects.

Lead to:

* Physical deterioration
* Moral deterioration

Cross-tolerance:

The ability of one drug to suppress the manifestation of physical dependence produced by another (substitution therapy).

Clinical manifestation in general:

Signs due to dependence: withdrawal symptoms, craving.

Signs due to tolerance: physical and moral deterioration.

Signs of acute intoxication: over-dose, synergism, potentiation with other drugs or adulterants and foreign substances.

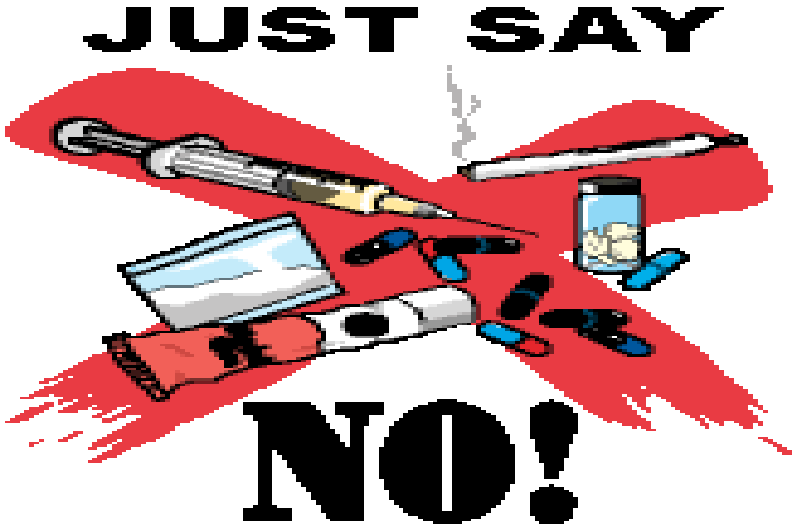
Infective diseases: AIDS and viral hepatitis.

General management of dependence:

Treatment of physical dependence: abrupt, rapid, gradual withdrawal according to the type of abused drug and general health of the person.

Treatment of psychological dependence" rehabilitation": 1-6 weeks.

After care "follow up“



Designer drugs (new psychoactive substances)

A designer drug is a structural or functional analog of a controlled substance that has been designed to mimic the pharmacological effects of the original drug, while avoiding classification as illegal and/or detection in standard drug tests.

“Designer drugs” are chemicals that have been specifically made or “designed” by underground chemists so that they:

(1) are not covered by controlled substance statutes (and hence are not illegal).

(2) still have the same “psychotropic effect” (cause stimulation, sedation, or hallucination, etc.) of the illegal popular drugs that people use.

Examples:

Synthetic cannabinoids. cathinone derivatives. Phenethylamines derivatives.

WHO classification of dependence producing drugs:

- Opioid drugs.
- Amphetamine type.
- Cannabis type.
- Cocaine type.
- Hallucinogen type
- Khat type
- Inhalants and volatile solvents.

Alcohol dependence

Manifestations

Dependence in general

Physical deterioration: gastric, liver cirrhosis, vit. Deficiencies (A, B)

Action on the CNS:

Mental deterioration: Korsakow's psychosis, Dementia, Delusions, Course tremors.

Eye symptoms.

Chronic subdural hematoma.

Abstinence syndrome.

Abrupt withdrawal.

Substitution therapy.

Treatment of delirium tremens: lumber puncture or IV hypertonic glucose.

Supportive drugs.

Disulfiram.

Barbiturates dependence

There is cross tolerance between it and alcohol, opium and tranquilizers.

Manifestation:

Dependence in general.
Impaired mental function.

Physical disorders.
Abstinence syndrome.

Management:

Gradual withdrawal. Nourishing.
Rehabilitation.

Opium or morphine and heroin dependence:

Mode of intake

Eating, drinking, smoking, IV injection.

Manifestation:

Dependence in general.

Local action: pricks of needles, scar, abscess, phlebitis and infection anywhere with liability of embolisms.

General action of morphine: miosis, constipation……ect

Withdrawal symptoms:

Increased body secretion.

Increased pulse rate and respiration.

Elevated blood pressure.

CNS excitability. Yawing.

Management

Gradual withdrawal.

Symptoms improved by the end of the third day and end 10-15 days.

Substitution therapy.

Medical, psychological care and general and symptomatic treatment.

Amphetamines

Sympathomimetic actions:

Direct release of catecholamine.

Inhibition of monoamine oxidase.

Central stimulant action

Less cardiovascular.

Actions

Stimulation of cerebral cortex.

Stimulation of reticular system.

Suppression of appetite.

Therapeutic uses:

Dexedrine, Ritaline: Analeptic in Poisoning and coma.

Anorex: Running nose and asthma

Manifestation:

Hyper excitability, tremors, anxiety, insomnia.

Visual and auditory hallucinations.

Personality changes.

Loss of appetite, palpitation.

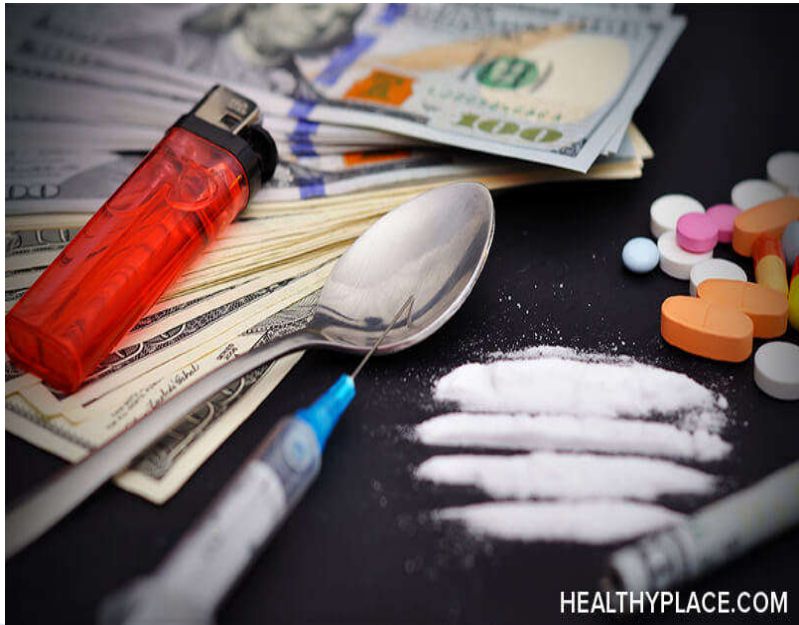
Withdrawal symptoms is mild.

Treatment:

Abrupt withdrawal.

Sedation.

Psychiatric therapy.



Cocaine dependence

Mode of intake:

Snuff: pure, or with boric acid or salicylates. S.C., I.V.
Chewing leaves of coca plant. Ingestion of cocaine.

Manifestations:

Physical dependence
Moral deterioration
Decrease all secretions
Neuralgic pains in the limbs
Mental deterioration
Withdrawal symptoms
Irritability

Treatment

Sudden withdrawal.
Psychiatric treatment
Sedative and symptomatic treatment.

Hallucinogens

Natural : Cannabis, Khat, Nutmug
Synthetic hallucinogens:
LSD "lysergic acid diethylamide"

Action:
CNS
Pyramidal and extrapyramidal
Mood effects

Behavioral treatment
Abrupt withdrawal and symptomatic treatment


Thank you