

Psychoactive substance use disorders

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Basic conceptions

- **Psychoactive substance:** compound that can alter one's state of mind
- **Reinforcer:** that causes pleasant or stops unpleasant conditions

Abuse

**Maladaptive use of the substance
/It interferes with the person's life,
causes harm in social functioning, in
family life, health, atc./**

Addiction

Compulsive behavioural pattern of seeking drugs, consumption of drugs

**Characterized by
strong desire towards the drugs, and
strong tendency to the relapse after the
withdrawal**

Tolerance

The dose of the drug has to be increased in order to reach the desired effect

Level of tolerance

effect of
drug develops



effect of
drug doesn't develop

Dependence

When the substance use is reduced or ceased
withdrawal symptoms develop

Level of dependence

lack of withdrawal symptoms

withdrawal symptoms

Two types - physiological dependence
psychological dependence

Categories of drugs

CNS Depressants

Alcohol

Sedatives, hypnotics, and anxiolytics

Opiates

Heroin

Meperidine

Codeine

Hydromorphone

Hallucinogens

Stimulants

Amphetamines

Methylphenidate

Cocaine

Cannabis

Inhalants

Neuropsychiatric disorders due to alcohol consumption

Delirium tremens

Alcoholic hallucinatory state

Alcoholic delusional disorder

Alcoholic personality changes

Alcohol-induced Persisting Dementia

Wernicke's encephalopathy

Korsakoff syndrome

Delírium tremens

Most severe form of alcohol withdrawal

At 15 % of Alcoholic persons

Untreated delirium has a mortality rate of
20 %

Occurs after prolonged and heavy alcohol
consumption at cease or reduction of alcohol use

Provoking factors can often be seen
(fever, internal disturbance)

Symptoms of delirium

Psychic, vegetative, somatic symptoms

Disturbance of consciousness, Desorientation

Hallucinations (visual, tactile etc.)

Psychomotor agitation

Trembling, sweating

Hypertension, fever

Increased pulse rate, inversion of sleeping

Epileptic attacks

Treatment of delirium

Prevention

Benzodiazepines

Ensure fluid and electrolyte ballance

High calorie, high-carbohydrate diet
supplemented by multivitamins

Treatment of internal disorders, infections,
etc.

Alcoholic hallucinatory state

At prolonged and heavy alcohol-
consumption,
after alcohol-abuse or cease of alcohol
consumption

Alcoholic hallucinatory state

Symptoms:

Hallucinations

Clear consciousness, kept orientation

Severe anxiety

Persecutory delusions

Delusions of reference

Altered behaviour by the Psychotic contents

Suicidal danger

Alcoholic delusional disorder

Delusions of jealousy (most often)
persecutory
reference

Alcoholic personality changes

Slowly progressing chronic psychic disturbance involving all parts of personality after prolonged alcohol consumption

Symptoms

- Changeable mood, Superficial emotions, Bursts of anger
- Superficial attachment to the family
- Lack of inhibitions, Lack of ethic
- Decreased critical sense, Unconscientiousness
- Irritability, Agressivity
- Decreased adapting to the society
- Decreased judgement
- Deterioration of intellectual functions

Alcohol-induced Persisting Dementia

- Reason:

Direct neurotoxic effect of alcohol and thiamine deficiency

Symptoms:

- Deterioration of intellectual functions
 - Impaired memory, Impaired ability of abstraction
- Impaired judgement, Impaired problemsolving thinking
 - Impaired orientation

Wernicke's encephalopathy

Prolonged and heavy drinking

Acute illness

Usually starts before the Korsakoff syndrome

At 2-6% of alcoholic patients

Reason of the illness:

Thiamine (vitamine B1) deficiency

Symptoms of Wernicke's encephalopathy

Ocular motility abnormalities
Lateral rectal palsy, gaze palsy
Disturbance of consciousness
Ataxia

Korsakoff syndrome

Prolonged and heavy drinking

Chronic illness, slowly progressing

Starts after Wernicke encephalopathy, or
without it

Symptoms of Korsakoff syndrome

Memory disturbance

Impaired short term memory, impaired ability of learning

(Immediate recall, and long term memory is relatively kept)

Patient is not able to memorize even simple informations

Reason of the illness: Thiamine (vitamine B1) deficiency

Thiamine

Reason of thiamine deficiency:

- Poor nutrition
- Malabsorption
- Thiamine is a cofactor for several important enzymes
- It's involved in the conduction of the axon potential along the axon and in synaptic transmission

Neuropathological lesions in Wernicke – Korsakoff Syndrome

- Lesions are symmetrical, Paraventricular
- Mammillary bodies, Thalamus, Hypothalamus
 - Midbrain, Pons, Medulla
 - Fornix, Cerebellum

Effects and consequences of illegal drug use

Effects of opiate use

- flushing
- orgasmic sensation in the abdomen
- euphoria
- calmness

Withdrawal symptoms of opiates

lacrimation

sweating

hot and cold flashes

muscle and joint pain

vomiting

sever anxiety

rhinorrhea

yawning

insomnia

nausea

abdominal

cramps

irritability

Effects of stimulants

elevated mood

increased energy

increased alertness

transient psychosis

decreased appetite

autonomic hyperarousal:

- tachicardia

- elevated blood pressure

Effects of cocaine

euphoria

disinhibition

enhanced sense of mastery

sexual alertness

improved self esteem

rush (rapid onset of euphoria)

tactile hallucinations (coke bugs)

Stimulant withdrawal

fatigue

depression

nightmares

headache

sweating

muscle cramps

hunger

Hallucinogens

Agents, that induce psychotic-like experiences, hallucinations, perceptual disturbances, feeling of unreality

Hallucinogens

LSD (lysergic acid diethylamide)

peyote

mescaline

MDMA

Effects of Hallucinogens

Alterations in perception:
hallucinations, illusions
synthesias

(e.g. colors are brighter and more intense or
colors may be heard and sounds seen)

Emotions become intense and labile

Introspection

Depersonalisation, Derealization

Bad trips

**Patient develop marked anxiety and
paranoia**

**Flashback: a brief reoccurrence of a
drug induced experience
that occurs in situations unrelated to
taking the drug**

Cannabis

- Cannabis derivatives are produced from the hemp *Cannabis sativa*.
- The active ingredient is the THC (delta-9-tetrahydrocannabinol).
- The illicit psychoactive compound (marijuana) is probably the most widely used.

Effects

- euphoria
- drowsiness
- feeling of calm
- feeling that time has slowed
 - improved self confidence
 - perceptual distortions
 - paranoia (suspiciousness)
- decreased motor coordination

Cosequences

Amotivation syndrome

Memory disturbance

**Marijuana impairs the transfer of
material from mediate to long term
memory**

Inhalants

Chemicals, that produces psychoactive vapours

- airplane glue
- paint thinner
- nail-polish remover
 - gasoline
- many substances in aerosol cans

Active substances:

Toluane, acetone, benzene, other organic hydrocarbons

Effects

excitation

euphoria

slurred speech

delirium

delusions

double vision

At higher doses:

stupor, coma

disinhibition

dizziness

ataxia

hallucinations

nystagmus

Consequences

**Neuromuscular and brain damage,
damage to the kidneys, liver
due to high concentrations of heavy
metals**

Therapy of addictive disorders

Connected therapeutic chain from
detoxification to resocialisation and
rehabilitation

Aim of treatment:

**Improve ability to community and social
functioning**

Therapy of addictive disorders

Different methods in treatment
since drug abuse is

a medical

- a psychological and
- sociological problem

Therapy

Pharmacotherapy

Psychoterapy

Relapse prevention