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, etc./
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

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<th>Withdrawal symptoms</th>
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<td>Lack of withdrawal symptoms</td>
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Two types - physiological dependence, psychological dependence.
Categories of drugs

**CNS Depressants**
- Alcohol
- Sedatives, hypnotics, and anxiolytics

**Opiates**
- Heroin
- Meperidine
- Codeine
- Hydromorphone

**Stimulants**
- Amphetamines
- Methylphenidate
- Cocaine

**Hallucinogens**

**Cannabis**

**Inhalants**
Neuropsychiatric disorders due to alcohol consumption

Delirium tremens
Alcoholic hallucinatory state
Alcoholic delusive disorder
Alcoholic personality changes
Alcohol-induced Persisting Dementia
Wernicke’s encephalopathy
Korsakoff syndrome
Delirium 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 balance

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 problem solving 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
- Mamillary 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
- severe anxiety
- rhinorrhea
- yawning
- insomnia
- nausea
- abdominal cramps
- irritability
Effects of stimulants

- elevated mood
- increased alertness
- decreased appetite

- increased energy
- transient psychosis

Autonomic hyperarousal:
- tachicardia
- elevated blood pressure
Effects of cocaine

euphoria
disinhibition
enhanced sens of mastery
sexual alartness
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

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 heared 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 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  disinhibition
- euphoria  dizziness
- slurred speech  ataxia
- delirium  hallucinations
- delusions  nystagmus
- double vision
- At higher doses:  stupor, coma
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

Psychoterialy

Relapse prevention