

BASIC VOLUME

Elements of Drug Dependence Treatment

Treat  net

BASIC VOLUME

MODULE 1

**Drug dependence
concept and principles
of drug treatment**

Biology of drug
dependence

Addiction and the
brain

Principles of drug
dependence
treatment and care

MODULE 2

**Motivating clients for
treatment and
addressing resistance**

Basic counselling
skills for drug
dependence
treatment

Special
considerations when
involving families in
drug dependence
treatment

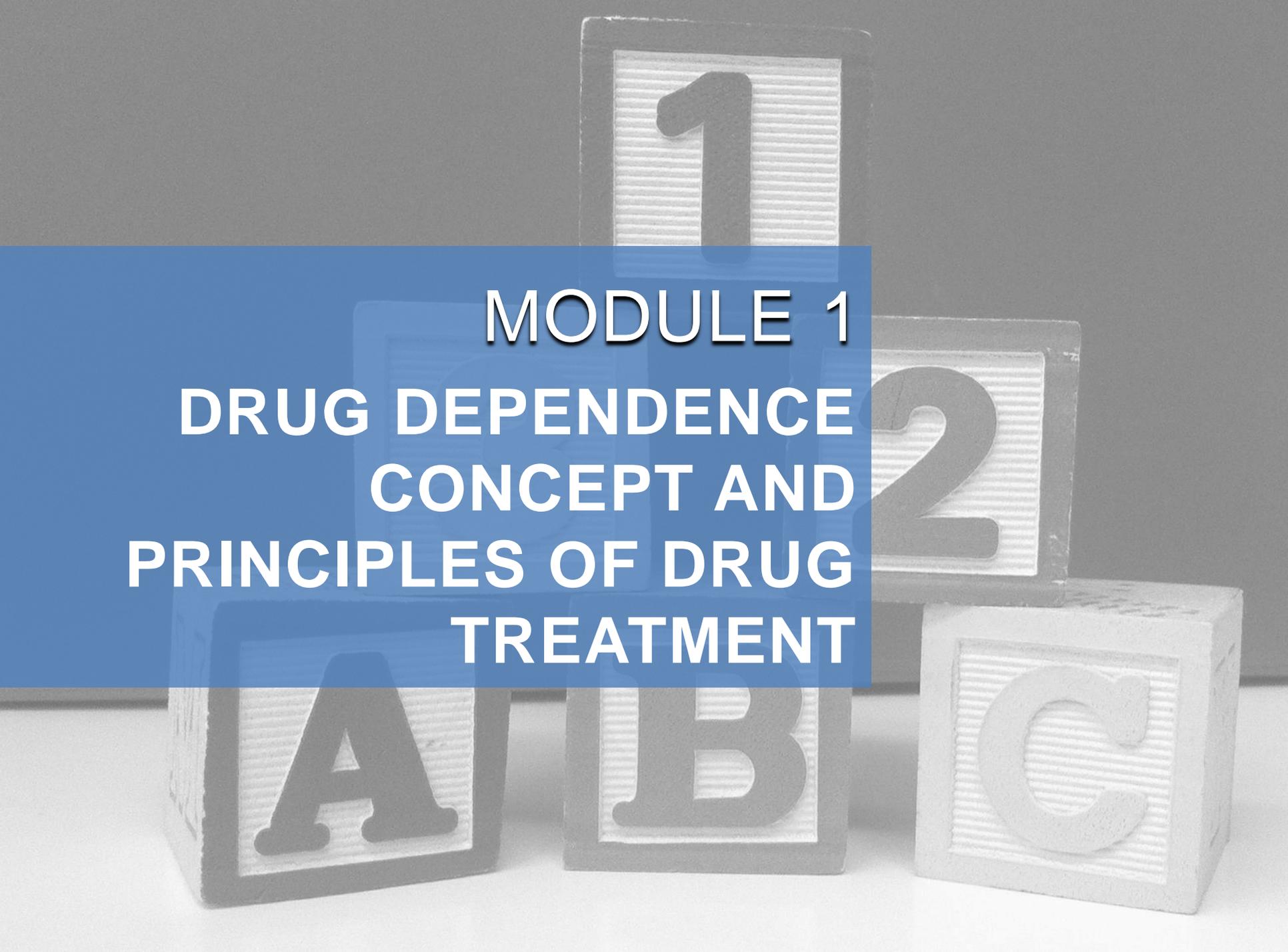
Principles of
motivational
interviewing

MODULE 3

**Principles of CBT and
relapse prevention
strategies**

Introduction to
Cognitive Behavioural
Therapy

Basics of
pharmacological
treatment



MODULE 1
DRUG DEPENDENCE
CONCEPT AND
PRINCIPLES OF DRUG
TREATMENT

Module 1

Training goals

- ▶ Increase knowledge about narcotics and psychoactive substances
- ▶ Understand the mechanisms leading to the vulnerability to start using drugs and develop drug dependence
- ▶ Learn about the reasons why people use drugs
- ▶ Increase knowledge of the biology of drug dependence
- ▶ Learn about the principles of drug dependence treatment and care

Module 1

Drug dependence concept and principles of drug treatment



Biology of drug dependence



Addiction and the brain



Principles of drug dependence treatment and care

Pre-assessment



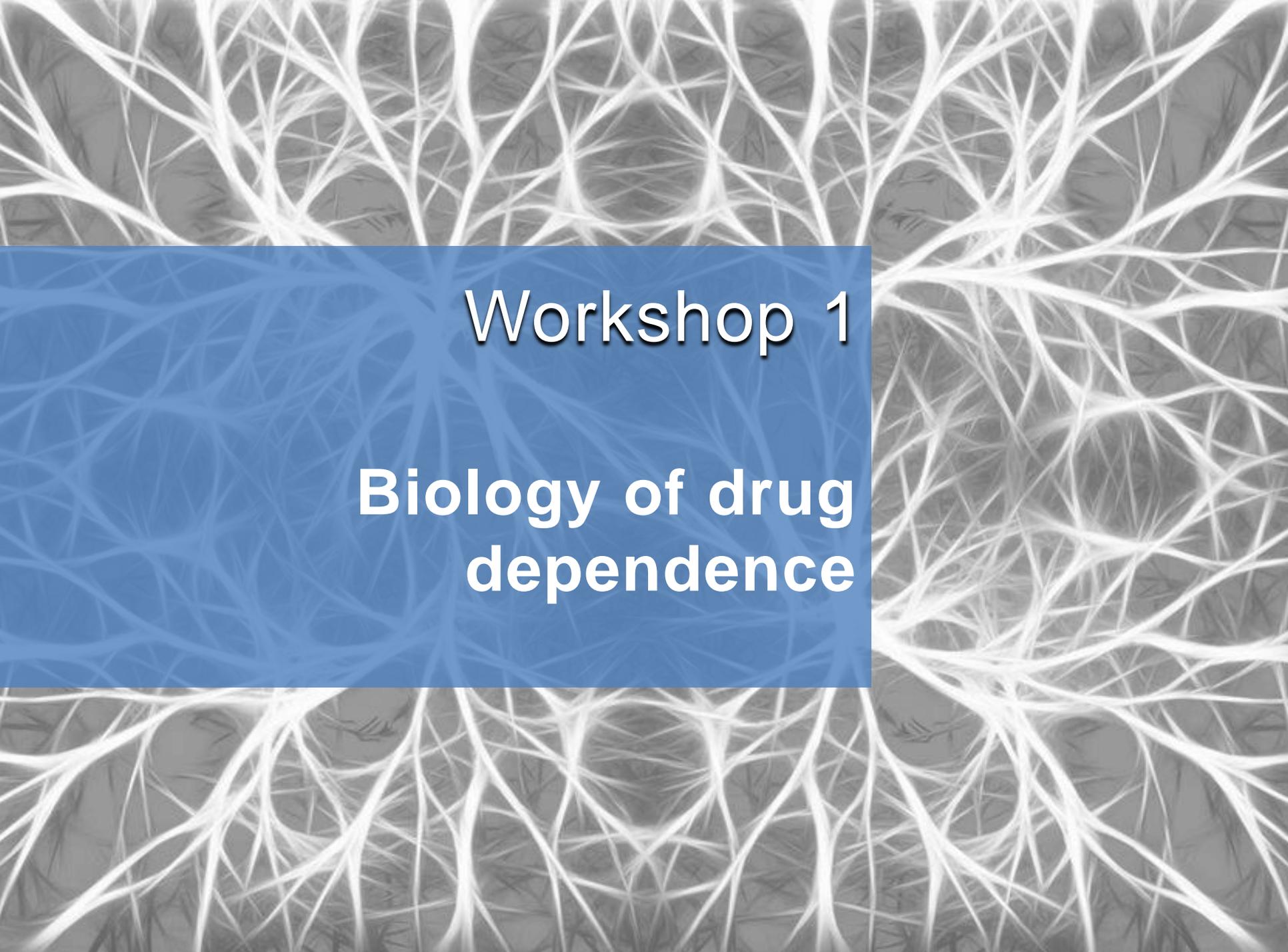
Icebreaker



Icebreaker

Please share some or all of the following information with your group (if you don't feel comfortable, then you may pass):

- a) My name is _____.
- b) My family is originally from _____.
- c) I am currently living in _____.
- d) I am a student at _____; a volunteer at _____; or work for _____.
- e) I became interested in my field because _____.
- f) The thing I like most about what I do is _____.
- g) I am attending this training because _____.

A background image showing a dense network of white, branching neural fibers against a dark grey background. A semi-transparent blue rectangular box is overlaid on the left side of the image, containing the text.

Workshop 1

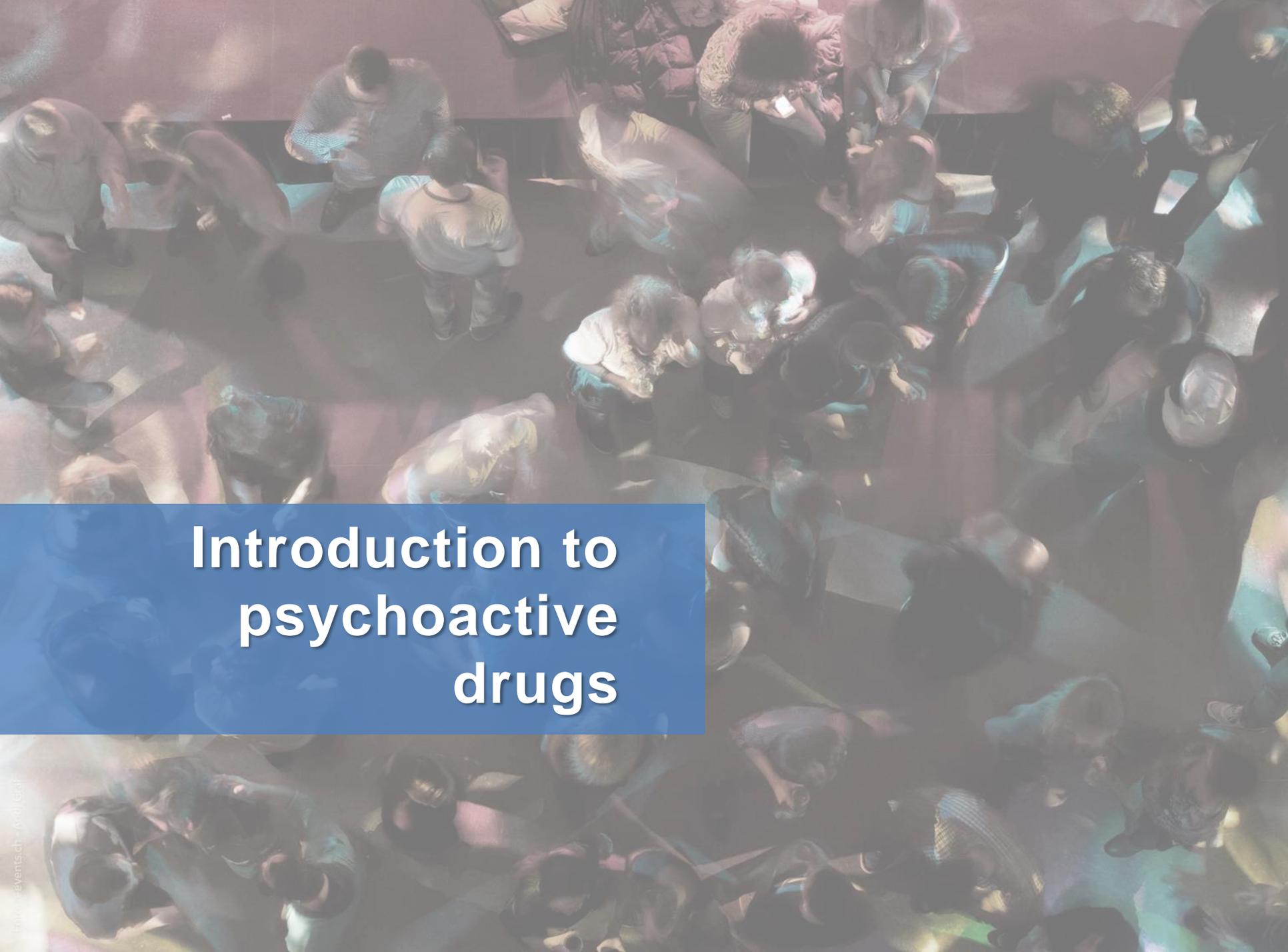
Biology of drug dependence

Training objectives

At the end of this workshop you will be able to:

- ▶ Understand characteristics and effects of major classes of psychoactive substances
- ▶ Identify the main defining characteristics of drug dependence and addiction





Introduction to psychoactive drugs

What are psychoactive drugs?

“...Any chemical substance which, when taken into the body, alters its function physically and/or psychologically....”

World Health Organization, 1989

“...Any substance people consider to be a drug, with the understanding that this will change from culture to culture and from time to time.”

Krivanek, 1982

What are psychoactive drugs?

Psychoactive drugs interact with the central nervous system (CNS) affecting:

- ▶ Mental processes and behaviour
- ▶ Perceptions of reality
- ▶ Level of alertness, response time and perception of the world

Why do people initiate drug use?

There is a believe that drug use is motivated (at least initially) by the pursuit of pleasure. However, according to scientific evidence, there are factors such as exposure to abuse, neglect, violence, etc., especially in childhood, leading to vulnerabilities to initiate drug use.



Why do people initiate drug use?

Drug use INITIATION starts through:

- Vulnerability conditions due to abuse, violence and neglect in early childhood
 - Exposure to abuse, neglect and violence in early childhood
 - Peer pressure
 - Personality disorder
 - Comorbid psychiatric disorder
 - Experimental use
-

Key MOTIVATORS & conditioning factors:

- Stress/pain amelioration
 - Functional (purposeful)
 - Fun (pleasure)
 - Psychiatric disorders
 - Social/educational disadvantages
-

Why do people continue drug use?



After repeated drug use, “deciding” to use drugs is no longer voluntary because

**DRUGS AFFECT THE
BRAIN!**

What is drug addiction?

Drug addiction is a complex illness characterised by compulsive and at times, uncontrollable drug craving, seeking, and use that persist even in the face of extremely negative consequences.

(NIDA, 1999)

Substance dependence is not a failure of will or of strength of character but a medical disorder that could affect any human being. Dependence is a chronic and relapsing disorder, often co-occurring with other physical and mental conditions"

(WHO, 2004)

Characteristics of drug addiction



- ▶ Compulsive behaviour
- ▶ Behaviour is reinforcing (rewarding or pleasurable)
- ▶ Loss of control in limiting intake

Important terminology



- ▶ Psychological craving
- ▶ Tolerance
- ▶ Withdrawal symptoms

Psychological craving

- ▶ Craving refers to the **desire or urge to re-experience** the effect of a previously experienced psychoactive substance
- ▶ It is often described as the subjective experience (psychological) of the motivational state that **increases the likelihood of drug use** (although it is not directly responsible for it)
- ▶ Cravings are most apparent during drug **withdrawal** and when exposed to **triggers**

Psychological craving

Craving can also be described as the conscious/subjective experience of the following:

- ▶ Feelings of urge
- ▶ Physical/physiological sensations (heart rate increase, perspiration, etc.)
- ▶ Actual temptation
- ▶ Uncontrollable thoughts

Psychological craving features

- ▶ Craving tends to be highly associated with the context
- ▶ Triggers are stimuli previously associated with drug use:
 - people
 - places
 - paraphernalia
 - money
 - certain days of the week, etc.
- ▶ Craving can persist far beyond the cessation of drug use

Psychological craving

Psychological craving is a complex phenomenon

- ▶ Craving report and drug use is not as tightly related as initially thought
- ▶ Craving report and cue reactivity (heart rate, sweat-gland activity, blood pressure, temperature, etc.) don't show a systematic co-variation among studies
- ▶ More research is needed to clarify this complex phenomenon in order to improve treatment programs

Tolerance

Tolerance is a state in which a person no longer gets the expected responses from a drug as it was experienced before. A higher dose is now required to achieve the same effect.



Withdrawal symptoms



Physiological reactions that occur when after a period of using a drug this habit is discontinued. The reaction could be mild e.g., tobacco to life threatening e.g., alcohol.

Withdrawal symptoms

The following symptoms may occur when drug use is reduced or discontinued:

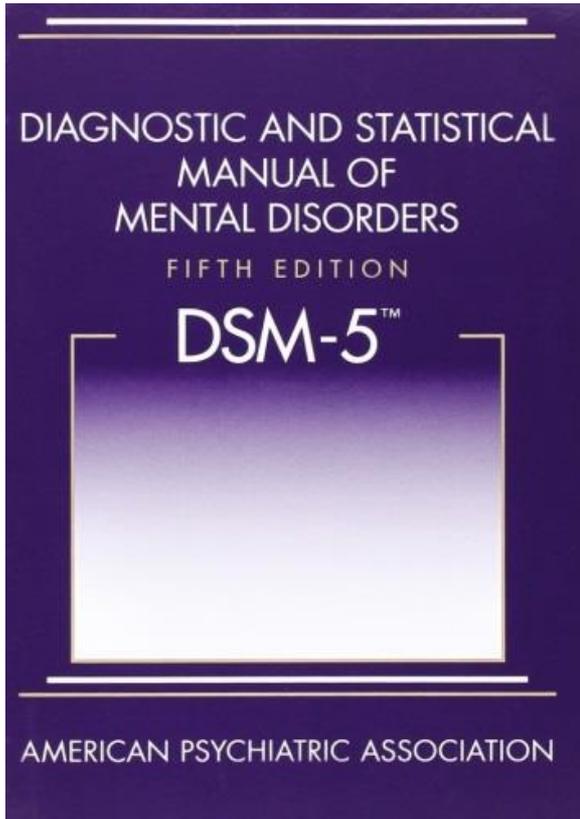
- ▶ Tremors, chills
- ▶ Cramps
- ▶ Emotional problems
- ▶ Cognitive and attention deficits
- ▶ Hallucinations
- ▶ Convulsions
- ▶ Death



DSM-5

Diagnostic and Statistical Manual of Mental Disorders

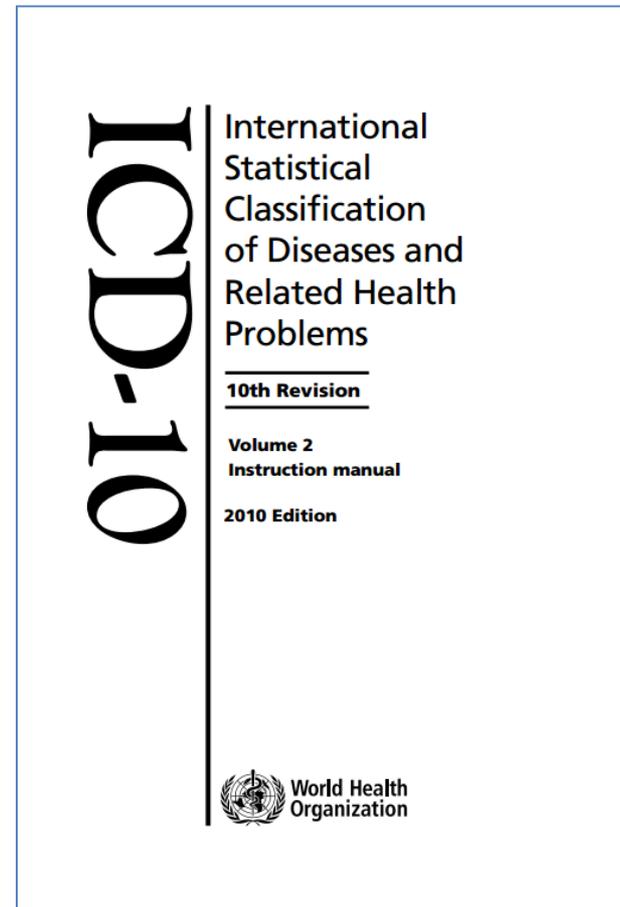
- ▶ DSM 5: American Psychiatric Association made changes to the DSM – Diagnostic and Statistical Manual of Mental Disorders
- ▶ SUD defined: SUD is defined a problematic pattern of substance use leading to clinically significant impairment or distress as manifested by at least two criteria occurring in a 12-month period



WHO ICD-10

Substance Use Disorders:

- ▶ “Harmful Use” and
- ▶ “Dependence Syndrome





Drug categories



Classifying psychoactive drugs

The following classification is based on the psychoactive effects of drugs. It is intended as a general guide to better understand relative drug effects, harms and potential withdrawal features.



Variations in effects and intensity for drugs in the same category may occur for drugs within the same class.

Classifying psychoactive drugs

Depressants

- **Slow down the CNS** and body functions, such as heart rate, breathing, blood pressure, etc. and behaviour e.g., slow/uncoordinated movements, slurred speech, etc.

Stimulants

- **Speed up the CNS** and body functions. It can be noticed on mood – happy, excited, euphoria; cognitive performance – better concentration, increased alertness; and behaviour – insomnia, fast movements/speech, etc.

Hallucinogens

- **Alter states of perception and feelings**, there are 3 types. **Psychedelics**: feeling new ways of relating with their inner mind. **Dissociative**: feelings of being separated from one's body and environment. **Delirants**: confusional state and problems to focus attention.

Classifying psychoactive drugs

Depressants	Stimulants	Hallucinogens
Alcohol (high doses)	Alcohol (low doses)	LSD, DMT
Benzodiazepines	Amphetamines	Mescaline
Opioids	Methamphetamine	PCP
Solvents	Cocaine	Ketamine
Barbiturates	Nicotine	Cannabis (high doses)
Cannabis (low doses)	Khat	Magic mushrooms
	MDMA	MDMA



Alcohol

Alcohol: basic facts

Description

- ▶ Alcohol or ethylalcohol (ethanol) is present in varying amounts in beer, wine, and liquors

Route of administration

- ▶ Oral

Acute psychological effects

- ▶ Sedation, euphoria, slowed reaction time, impaired coordination

Acute physiological effects

- ▶ Lower heart rate and respiration, coma, death

Alcohol: basic facts

Withdrawal Symptoms:

- ▶ Tremors, chills
- ▶ Cramps
- ▶ Hallucinations
- ▶ Convulsions
- ▶ Delirium tremens
- ▶ Death

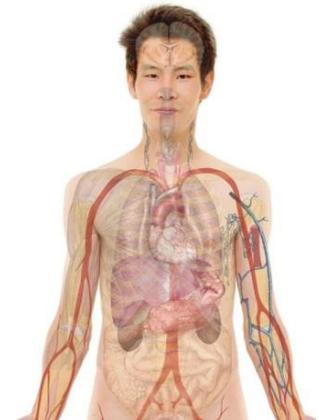


Long-term effects of regular use/abuse of alcohol

- ▶ Decrease in blood cells leading to anaemia, slow-healing wounds and other diseases
- ▶ Brain damage, loss of memory, blackouts, poor vision, slurred speech, and decreased motor control
- ▶ Increased risk of high blood pressure, hardening of arteries, and heart disease

Long-term effects of regular use/abuse of alcohol

- ▶ Liver cirrhosis, jaundice, and diabetes
- ▶ Immune system dysfunction
- ▶ Stomach ulcers, haemorrhaging, and gastritis
- ▶ Thiamine (and other) deficiencies
- ▶ Testicular and ovarian atrophy
- ▶ Harm to a foetus during pregnancy
- ▶ Increased risk for different types of cancer





Tobacco

Tobacco: basic facts

Description

- ▶ Tobacco products contain nicotine plus more than 4,000 chemicals and a dozen gases (mainly carbon monoxide)

Route of administration

- ▶ Smoking, chewing

Acute psychological effects

- ▶ Relaxation, pleasure, increased concentration

Acute physiological effects

- ▶ Release of glucose, increased blood pressure, respiration and heart rate

Tobacco: basic facts

Withdrawal symptoms:

- ▶ Cognitive/attention deficits
- ▶ Sleep disturbance
- ▶ Increased appetite
- ▶ Hostility
- ▶ Irritability
- ▶ Low energy
- ▶ Headaches



Long-term effects of tobacco use

- ▶ Aneurysm
- ▶ Cataracts
- ▶ Cancer (lung and other types)
- ▶ Obstructive pulmonary diseases
- ▶ Heart disease (stroke, heart attack)
- ▶ Vascular disease
- ▶ Harm to a foetus during pregnancy, low weight at birth
- ▶ Chronic bronchitis
- ▶ Emphysema
- ▶ Asthma symptoms



Break



Cannabis

Cannabis: basic facts

Description

The active ingredient in cannabis is delta-9-tetrahydrocannabinol (THC)

- ▶ Marijuana: Tops and leaves of the plant *Cannabis sativa*
- ▶ Hashish: More concentrated resinous form of the plant

Route of administration

- ▶ Smoked as a cigarette or in a pipe
- ▶ Oral, brewed as a tea or mixed with food

Let's think!



- ▶ What are the names for marijuana in your community?
- ▶ How is this drug is consumed?

Cannabis: basic facts

Acute PHYSIOLOGICAL effects:

- Increased heart rate and blood pressure
- Increased appetite
- Dry mouth
- Bloodshot eyes
- Reduced nausea

Acute PSYCHOLOGICAL effects:

- Altered time sense
- Mood changes
- Impaired short-term memory
- Reduced cognitive capacity (e.g. judgment, attention)
- Paranoid ideation/psychotic episodes
- Impairs coordination and balance

Cannabis: basic facts



Withdrawal Symptoms:

- ▶ Insomnia
- ▶ Restlessness
- ▶ Loss of appetite
- ▶ Irritability
- ▶ Sweating
- ▶ Tremors
- ▶ Nausea
- ▶ Diarrhoea

Long-term effects of cannabis use

Long-term effects of cannabis use:

- ▶ Increase in activation of stress-response system
- ▶ Amotivational syndrome
- ▶ Changes in neurotransmitter levels
- ▶ Psychosis in vulnerable individuals
- ▶ Increased risk for cancer, especially lung, head and neck
- ▶ Respiratory illnesses (cough, phlegm) and lung infections
- ▶ Immune system dysfunction
- ▶ Harm to a foetus during pregnancy

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COCAINE



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Stimulants, ATS and cocaine

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ICE



Types of stimulants

Amphetamine Type Stimulants (ATS):

- ▶ Methamphetamine
- ▶ Speed, crystal, ice, yaba, shabu
- ▶ Amphetamine
- ▶ Pharmaceutical products used for ADD and ADHD

Methamphetamine half-life: 8-10 hours.

Types of stimulants

- ▶ Cocaine
- ▶ Powder cocaine (Hydrochloride salt)
- ▶ Smokeable cocaine
 - Crack
 - Rock
 - Freebase



Cocaine half-life: 1-2 hours.

Let's think!



What stimulants are used in your community and how are they consumed?

Stimulants: basic facts

Description

Stimulants increase alertness and arousal by stimulating the central nervous system. They include:

- ▶ A group of synthetic drugs (ATS)
- ▶ Plant-derived compounds (cocaine)

Route of administration

Smoked, injected, snorted or administered by mouth or rectum

Stimulants: basic facts

Acute PSYCHOLOGICAL effects:

- Euphoria, rush or flash
- Wakefulness, insomnia
- Irritability
- Anxiety
- Paranoia
- Aggressiveness

Acute PHYSIOLOGICAL effects:

- Decreased appetite
- Increased respiration
- Increased physical activity
- Hyperthermia
- Tremors, convulsions

Stimulants: basic facts

Withdrawal symptoms:

- ▶ Dysphoric mood (sadness, anhedonia)
- ▶ Fatigue
- ▶ Insomnia or hypersomnia
- ▶ Psychomotor agitation or retardation
- ▶ Craving
- ▶ Increased appetite
- ▶ Vivid, unpleasant dreams

Long-term effects of stimulants

- ▶ Strokes, seizures, headaches
- ▶ Depression, anxiety, irritability, anger
- ▶ Memory loss, confusion, attention problems
- ▶ Insomnia, hypersomnia, fatigue
- ▶ Paranoia, hallucinations, panic reactions
- ▶ Suicidal ideation



Long-term effects of stimulants

- ▶ Nosebleeds, chronic runny nose, hoarseness, sinus infection
- ▶ Dry mouth, burned lips, worn teeth
- ▶ Chest pain, cough, respiratory failure
- ▶ Disturbances in heart rhythm and heart attack
- ▶ Loss of libido
- ▶ Weight loss, anorexia, malnourishment
- ▶ Skin problems

Methamphetamine use



Methamphetamine use



Serious and permanent scars caused by scratching in a Methamphetamine user

Methamphetamine use



Scars from infected injection sites are often referred to as “tracks”

Methamphetamine use



“Meth Mouth”

Methamphetamine use leads to severe tooth decay



Opioids

Opioids



- ▶ Buprenorphine
- ▶ Codeine
- ▶ Heroin
- ▶ Hydrocodone
- ▶ Methadone
- ▶ Morphine
- ▶ Opium
- ▶ Oxycodone
- ▶ Thebaine
- ▶ Tramadol

Opioids: basic facts

Description

Opium-derived or synthetic compounds that relieve pain, produce morphine-like addiction, or relieve symptoms during withdrawal from morphine addiction.

Route of administration

Intravenous, smoked, chased, intranasal, oral and intrarectal.

Opioids: basic facts

Acute PSYCHOLOGICAL effects:

- Euphoria
- Pain relief
- Sense of well-being

Acute PHYSIOLOGICAL effects:

- Suppresses cough reflex
- Histamine release
- Warm flushing of the skin
- Dry mouth
- Drowsiness and lethargy
- Depression of the central nervous system (mental functioning clouded)

Opioids: basic facts

Withdrawal symptoms:

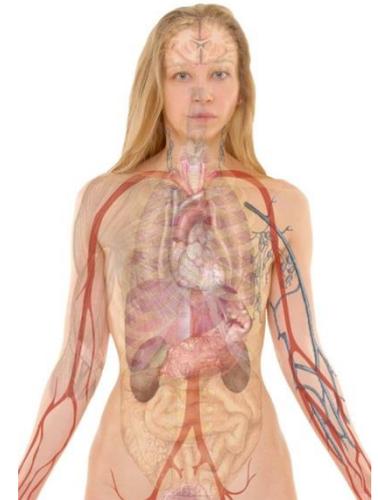
- ▶ Intensity of withdrawal varies with level and chronicity of use
- ▶ Cessation of opioids causes a rebound in functions depressed by chronic use
- ▶ Withdrawal symptoms usually start a few hours after the last dose*
- ▶ For short-acting opioids (e.g., heroin), major withdrawal symptoms peak between 24 to 48 hours after the last dose
- ▶ Acute symptoms subside over 3 to 7 days
- ▶ Ongoing symptoms may linger for weeks or months

Long-term effects of opioids

- ▶ Not easy reversible changes in the physical structure and physiology of the brain
- ▶ Fatal overdose
- ▶ Collapsed veins (intravenous)
- ▶ Infectious diseases (intravenous)
- ▶ Higher risk of HIV/AIDS and hepatitis
- ▶ Infection of the heart lining and valves

Long-term effects of opioids

- ▶ Pulmonary complications & pneumonia
- ▶ Respiratory problems
- ▶ Abscesses
- ▶ Liver disease
- ▶ Low birth weight and developmental delay
- ▶ Spontaneous abortion
- ▶ Cellulitis



Other drugs

- ▶ Barbiturates
- ▶ Benzodiazepines
- ▶ Club drugs (MDMA-ecstasy, GHB, poppers, etc.)
- ▶ Hallucinogens (LSD, mushrooms, PCP, ketamine)
- ▶ Hypnotics (quaaludes, mandrax)
- ▶ Inhalants
 - petroleum products, glue, paint, paint removers
 - aerosols, sprays, gases, amyl nitrite
- ▶ Khat (*Catha edulis*)
- ▶ Steroids

Let's discuss!



- ▶ What drugs are consumed in your area?
- ▶ How are they consumed both by youth and adults?

Questions



Wrap-up



- ▶ Why people start using drugs?
- ▶ What are the 3 main defining characteristics of drug addiction?
- ▶ What are the major types of psychoactive substances?

Thank you for your time!

End of workshop 1

Treat  net