Pekka Heinälä

"Multiple substance use – a challenge for treatment and prevention"
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The five most important causes of premature death in Europe

Multiple substance use

- Polysubstance use
- Mixed patterns of substance use
- Intentional/ unintentional
- Patients met in specialized drug care units, especially in institutions
- More common in younger and elderly population
- A real problem with heavy economic burden and serious consequences
Mechanisms relating to psychoactive substance use to health and social problems

Neuroscience of psychoactive substance use and dependence. WHO 2004
Criteria for substance use dependence in ICD-10

Three or more of the following must have been experienced or exhibited 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 behaviour in terms of its onset, termination, or levels of use;
3. A physiological withdrawal state when substance use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a 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;
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 heavy substance use, or substance-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.

Neuroscience of psychoactive substance use and dependence. WHO 2004
The three stages of addiction

Kalivas & Volkow 2005
Preferred stimulant use in Europe
Characteristic of Finnish polydrug use

- Illicit drugs are often used concurrently with alcohol and/or sedative/hypnotic medication
  - Benzodiazepines
  - "Safe" medicines (pregablaine)
- Abuse of opioids is becoming more common
  - Buprenorphine still predominates but other opioids are emerging
- Younger people are offers of accidental overdoses
- Poorly controlled prescription practices
- Lack of a systematic feed-back mechanism to prescribing doctors
Patients with problematic alcohol use

- Treatment of choice (Current Care Guidelines)
  - Benzodiazepines in alcohol withdrawal syndrome
  - Hypnotics as recommended to general population [?]
- Long-lasting prescribing of benzodiazepines
  - Indication ?
  - Goal-oriented treatment plan missing
Opioid dependent patients in substitution treatment

- Treatment of choice (Current Care Guidelines)
  - Methadone
  - Buprenorphine with naloxone (Suboxone®) [or buprenorphine (Subutex®)]

- Concurrent use of benzodiazepines
  - indications?

- Problematic alcohol use (abuse, dependence)

- Unofficial substitution treatment (codeine)

- Adding on the effects of small doses of methadone or buprenorphine (benzodiazepines, tramadol, codeine, pregabaline)
Children/ young adults and recreational drug use

- Cannabis use
  - Experimentation and use of cannabis is likely to be more prevalent than some years ago
  - Potential risks to mental health and drug use

- Exposure to medicines available at home
  - Various (psychoactive) drugs: benzodiazepines and other sedatives and hypnotics

- Glue sniffing

- Unofficial substitution treatment (codeine)

- Adding on the effects of small doses of methadone or buprenorphine (benzodiazepines, tramadol, codeine, pregabalin)
Elderly citizens suffering from polydrug use

- A growing concern
  - In Finland, those 75 years of age or older
    - One third uses more than ten (prescribed) drug daily
    - Harmful effects and combined effects more often
  - Potential risks to mental health and drug use

- A national database is available for the professionals (especially in primary health care)
  - More than 350 most commonly used drugs are dealt with
  - Available at www.fimea.fi
Fentanyl

- A synthetic "low dose" opioid
  - 50-100 times more potent than morphine in pain relief
  - A short elimination half-life (1-6 h), but using plaster format through skin a half-life of 13-22 h is achieved

- Durogesic® plasters
  - Indicated in long lasting severe pain relief
  - Fentanyl dosage in anesthesia (50-200 microg iv.), in plasters 12-100 microg per hour
  - One plaster contains up to 16.8 mg fentanyl corresponding to 84 therapeutic iv. doses or 8-16 times the lethal dose

- Overdose results in severe breathing depression
- Typical in overdose cases: a plaster in the mouth or an extract of the plaster injected
Club drugs (as identified by NIDA)

- LSD
- Ketamine
- MDMA (methylendioxymetamphetamine)
- GHB (gamma-hydroxybutyrate)
- Flunitrazepam
- Other
  - Prescription opioids, other benzodiazepines, and over-the-counter cold preparations
- Serious intoxications especially in combination
Gammahydroxybutyrate (GHB) and other synthetic drugs as a challenge to treatment

- Most are not listed as controlled drugs
- Most are regarded as medicines (must be prescribed by a physician)
- If the substance is not classified as a medicine it belongs to a class of chemicals controlled by EU authorities
- The precursors are easily available (Internet)
- The synthesis is relatively easy
- Poor information of ingredients, dosing and dangers
- Mixed use with alcohol and other psychoactive drugs often results in intoxication
- Difficulties in making the right diagnosis of the intoxication
Gammahydroxybutyrate (GHB or "gamma" or "liquid ecstasy")

- First report of misuse in Finland in 1997
- Listed as as psychotropic substance by UN in 2001
- Classified as highly dangerous drug in Finland
- A metabolite of gamma-aminobutyrate acid (GABA) which naturally occurs in brain, heart and kidneys
- Similar mechanisms of actions as benzodiazepines, alcohol etc.
- Used as medicine in France, Germany, Austria, Italy, USA and Finland (Xyrem®)
- Case report of an intoxication with GHB
  - Nummi J: Yksi paukku kaatoi parikymppisen miehen (Suom lääkäril 43/2008)
Gammabutyrolactone (GBL) or ”lakka” in Finnish

- A precursor of GHB
- Classifies as a controlled drug (prescription required)
- Becomes GHB in the brain
- Misuse
  - Synthesis of GHB
  - Used as GHB but is much more potent, shorter duration of action
  - A couple of fatal poisonings in Finland
Methylenedioxypyrovalerone (MDPV) "monkey dust"

- Various compounds previously used as a medical stimulant in France and Germany
- First MDPV reports from the customs last year
- Classified as an illicit drug in Finland this summer
- Routes of administration: oral, intranasal, inhaling or iv
- Effects
  - Resembles stimulants like cocaine or other amphetamines
  - Short elimination half-life
  - Risk of delirium and psychosis
  - Harmful effects still remain poorly understood
Treatment of patients with synthetic drug use

- No specific medical treatment (yet)
  - Clinical trials of methamphetamine and MDMA dependence
- Symptomatic treatment of withdrawal
- Medical treatment of comorbid disorders (depression and anxiety disorders)
- Psychosocial intervention
  - CBT
  - Relapse prevention
  - Motivational interviewing
- Peer support
- Institutional rehabilitation (therapeutic community)
Problem drinking and mental health problems

- **Double diagnosis**
  - Concurrent alcohol or drug disorder and major psychiatric disorder

- **Problem drinking and major depression**
  - A clear association between these two disorders
  - In clinical setting 30-60% of problem drinkers suffer from major depression and up to 30% of patients with major depression have concurrent alcohol use disorder (AUD)

- **AUD increases the severity of depression, increases suicidality and reduces the likelihood of remission**
Integrated services for mental health, alcohol and drug problems

- An integrated plan for mental health, alcohol and drug services published in 2009
  - Includes guidelines for service development up to 2015
    - Goal of development: easily available integrated mental health, alcohol and drug treatment services
    - Main focus on outpatient based, low threshold, primary level services
    - Specialized outpatient mental health and alcohol drug treatment services to be integrated
Organisation of integrated mental health, alcohol and drug treatment services

Clients with mental health, alcohol or drug problems – entry to treatment services

Primary health care and social services unit

- Phone
- Päivystys

- Inpatient wards in primary services
- Unit for sobering and acute help
- Alcohol and drug Inpatient units
- Rehabilitation units
- Hospital wards in specialised hospitals

Receptions:
- nurses’ and social workers’ low threshold reception
- depression and addictions nurses’ and social workers’ receptions
- physicians’ or nurses’ reception

Combined specialised outpatient unit for clients with alcohol and/or drug and/or mental health problems
- Psychiatric outpatient units in general hospitals

Needle exchange

Housing services
Low Threshold Health Service Centres

- More than 30 locations in 23 municipalities in Finland
  - Helsinki Needle Exchange Drop in Point, Vinkki, established in 1997

- Saving lives and suffering with small money
  - Especially effective in preventing the spread of HIV

- Peer support and activity
  - Establishing contact and therapeutic alliance, education
  - Targeted information of especially harmful new drugs (GHB, GBL, MDPV)
References

- Pesola E. Kokemuksia päihteiden sekakäyttäjien hoidosta. Yhteiskuntapolitiikka 2004;69(5): 517-528
- www.paihdelinkki.fi
Thank you
Time for Q &A