

# Synthetic opioids and the Swedish Substance Maintenance Programme (LARO)

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# Two paths into dependency of drugs

- Iatrogenic dependency. The drug is prescribed for a medical condition
  - Tranquilizers
  - Opioids
- Epidemic dependency
  - Social initiation – youth
  - Antisocial behavior – criminality
  - Often same drugs as in iatrogenic

# Strategies to prevent epidemic drug use

- Primary prevention: discourage young people from testing drugs
- Secondary prevention: Early discovery and adequate consequences of experimental use
- Tertiary prevention: treatment of dependency and harm reduction

# Opioids – all drugs acting on the opioid receptors

- **Opioid receptors:**
  - mu-, delta-, kappa- receptors
- Natural opioids (“opiates”): opium, morphine, codeine
- Semisynthetic opioids: heroin, hydromorphone, oxycodone, ethylmorphine, buprenorphine
- Synthetic opioids: methadone, tramadol, phentanyl

# Opioids- pharmacology

- Effects: pain killers, anxiolytic, euphorising, antitussant
- Side effects: nausea, itch, constipation, sweating, diminished sexual interest, prolonged orgasm
- overdose: respiratory depression

# Opioid -farmacology, cont.

- Tolerance
- Withdrawal symptoms: nausea, vomiting, diarrhoea, sweating, shivering, gooseflesh, running eyes and nose, muscle pain, anxiety etc
- Addictive

# Iatrogenic opioid dependence common drugs in Sweden:

- codeine
- tramadol
- oxycodone
- morphine
- phentanyl plaster
  
- Reflects prescription practice

# Reasons for increased iatrogenic dependency of opioids

- Prescription for chronic pain
- Lack of adequate information when opiates are prescribed
- Heavy advertising from the pharmacological industry
- Difficulties to receive adequate treatment once dependency develops



# Epidemic opioid addiction

- Used to be mainly heroin, but no longer so
- Dramatic increase of prescription drugs
- Tramadol, buprenorphine, methadone, phentanyl, oxycodone, morphine
  - Leakage from prescription for pain and substitution treatment
  - From the internet
  - From the street market
- Many NPS of opioid character
  - From the internet
  - From the street market

# Treatment strategy today in Sweden

- Primary and secondary prevention
- If opioid dependency is established:
- Drug free treatment voluntary or compulsory
- If this fails: substitution treatment with buprenorphine or methadone - LARO
- Seldom used: Naltrexone

# Opioid detox

- Rapid detox with naltrexone – not used in Sweden
- With opioids: buprenorphine, methadone or morphine
- Without opioids: clonidine, mirtazapine
- Without medication – not dangerous, but very unpleasant
- No detox without a plan for treatment

# Methadone maintenance treatment

- Invented by Dole/Nyswander in New York in the 60:s. Started in Sweden in late 60:s
- Opiate receptors saturated with methadone, given orally once daily
- When full tolerance is developed there is no euphoria, and additional heroin (or other opioid) gives no effect
- Eliminates withdrawal and craving
- Facilitates social rehabilitation

# Problems with opioid substitution treatment - LARO

- No protection from other addictive substances
- Leakage from the program – methadone very toxic
- Side effects: sexual, sweating, sleep disturbances, weight gain e.g.
- Does not solve all problems: psychiatric, social e.g.
- LARO requires
  - Adequate funding
  - Well educated and experienced staff
  - Guidelines and supervision of programs

# Buprenorphine/Suboxone

- Partial agonist – less toxic than methadone
- Sublingual administration
- Less side effect compared to methadone – otherwise the same problems – very popular on the drug market usually taken nasally or injected
- Suboxone – not so popular for injection – cheaper on the market
- Maybe coming – depot buprenorphine

# Naltrexone

- Opioid antagonist, gives immediate withdrawal symptoms – must be preceded by detox
- Widely used for alcohol craving – can be used to prevent relapse of opioid misuse
- There are depot and implant preparations for long acting effect – not in Sweden yet
- Suited for patients who want to become opioid free

# The dilemma of maintenance treatment - LARO

- It can save lives and facilitate social rehabilitation in heavy opioid addiction
- Easy access to LARO can make experimentation with opioids seem less dangerous
- And seem like a more attractive and easier way to rehabilitation than drug free treatment also for persons with only a short history of opioid misuse



# Dilemma cont.

- LARO lowers the risk for over dose death—common in connection with relapse after drug free treatment and release from prison
- But it also makes the opioid dependence permanent and limits the personal freedom of the individual

# Problems in Sweden today

- Many new LARO-programs – lack of educated staff
- Regulations have changed, easier to get LARO, more tolerance to misuse in the program
- Increased risk of leakage and overdoses both outside and perhaps also inside programs