

A typical Dutch problem?

81-years old patient with loss of consciousness.

The Netherlands

Dieuwke Bakker-Bos

ESIM Riga, February 2016

Mr. M.

- 81-years old
- Medical history:
 - Pacemaker because of 3th gr AV-block
 - Metastatic stomach carcinoma (lymph nodes and liver), no active treatment: best supportive care
 - Hypertension
- Drugs: antihypertensive agents (ACE-inhibitor and diuretics), iron, laxatives

Mr. M.

- During a visit to a restaurant:
 - Sweating, first drowsy and in the end unconscious
- ER:
 - A: free
 - B: respiratory rate: 10/min
saturation 93% with 2l/min O₂
 - C: hypotension (90/60), 80/min (PM), sweating
 - D: EMV: 3-6-5 (normal: 4-6-5), drowsy,
blood glucose 6.9
 - E: Celcius: 36.3
- Action: fluid and oxygen

Mr. M.

Arterial blood gas analysis	Mr M.	Normal range
pH	7.40	7.37-7.45
CO ₂	38	35-45 mmHg
O ₂	68	70-100 mmHg
HCO ₃	23.4	22-29 mmol/L
Base Excess	-1	-3-3 mmol/L
Saturation	0.93	0.96-1.00 mol/mol

- Other laboratory results are normal (complete blood count, renal function, liver tests, electrolytes, blood glucose, CRP)
- ECG: PM rhythm, 80/min, no signs of ischemia

Differential diagnosis?



Differential diagnosis?

- Syncope/Orthostatic hypotension
- Cardiac event
- Neurological disorder
- Shock (hypovolemic)
- Infection/sepsis
- Intoxication

[www.stichting medi wiet.nl](http://www.stichtingmediwiet.nl)

Cannabis sativa

A hand is holding a large, serrated cannabis leaf in the foreground. The leaf is green and has a prominent central vein with smaller veins branching out. The background is a blurred field of cannabis plants, suggesting a cultivation setting.

Flowers: marijuana

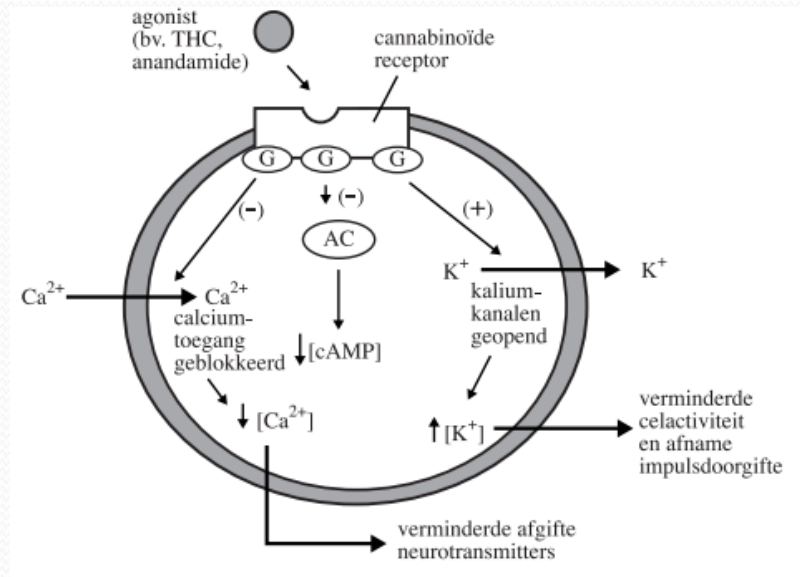
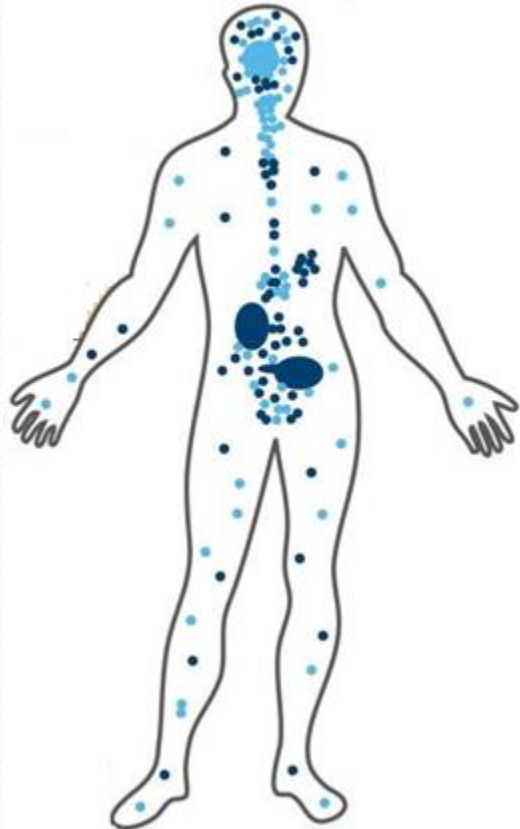
Stam and leafs: hashish

Dutch policy of tolerance:

- **5 gram cannabis**
- **5 plants**

Cannabinoïds

Receptors: **CB₁** (cerebral) and **CB₂** (immune system)



Acetylcholin, dopamin, GABA, histamine, serotonin, noradrenalin, prostaglandinen, opioid

Effects

- **THC** (delta-9 tetrahydrocannabinol)
 - Happiness
 - 'High'
 - Increased sensory functions: hearing, visual and sexual
 - Decreased perception of time
 - Increased appetite
 - Painkiller
- T-max: 15m-3h
- T_{1/2} (elimination THC): 15-18h

Side effects

- Psychiatric:
 - Psychosis, delirium, hallucinations
- Neurologic:
 - Decreased coordination and concentration, lethargie and drowsyness, depression of CNS (hypoventilation and coma)
- Cardiac:
 - Fluctuations in bloodpressure, myocardial infarction
- Pulm/GI/UG:
 - Bronchodilation, dry mouth, nausea, vomiting, diarrhea, abdominal cramps, urinary retention, pneumothorax
-

Medical use of cannabis

FDA-approved (dronabinol/nabilone):

- Anti-emetic during chemotherapy
- Stimulation of appetite 'Wasting illnesses'

Original Investigation

Cannabinoids for Medical Use A Systematic Review and Meta-analysis

Penny F. Whiting, PhD; Robert F. Wolff, MD; Sohan Deshpande, MSc; Marcello Di Nisio, PhD; Steven Duffy, PgD; Adrian V. Hernandez, MD, PhD; J. Christiaan Keurentjes, MD, PhD; Shona Lang, PhD; Kate Misso, MSc; Steve Ryder, MSc; Simone Schmidtkofer, MSc; Marie Westwood, PhD; Jos Kleijnen, MD, PhD

JAMA. 2015;313(24):2456-2473.

In Holland reimbursed in most health insurance

Mr. M. & cannabis intoxications

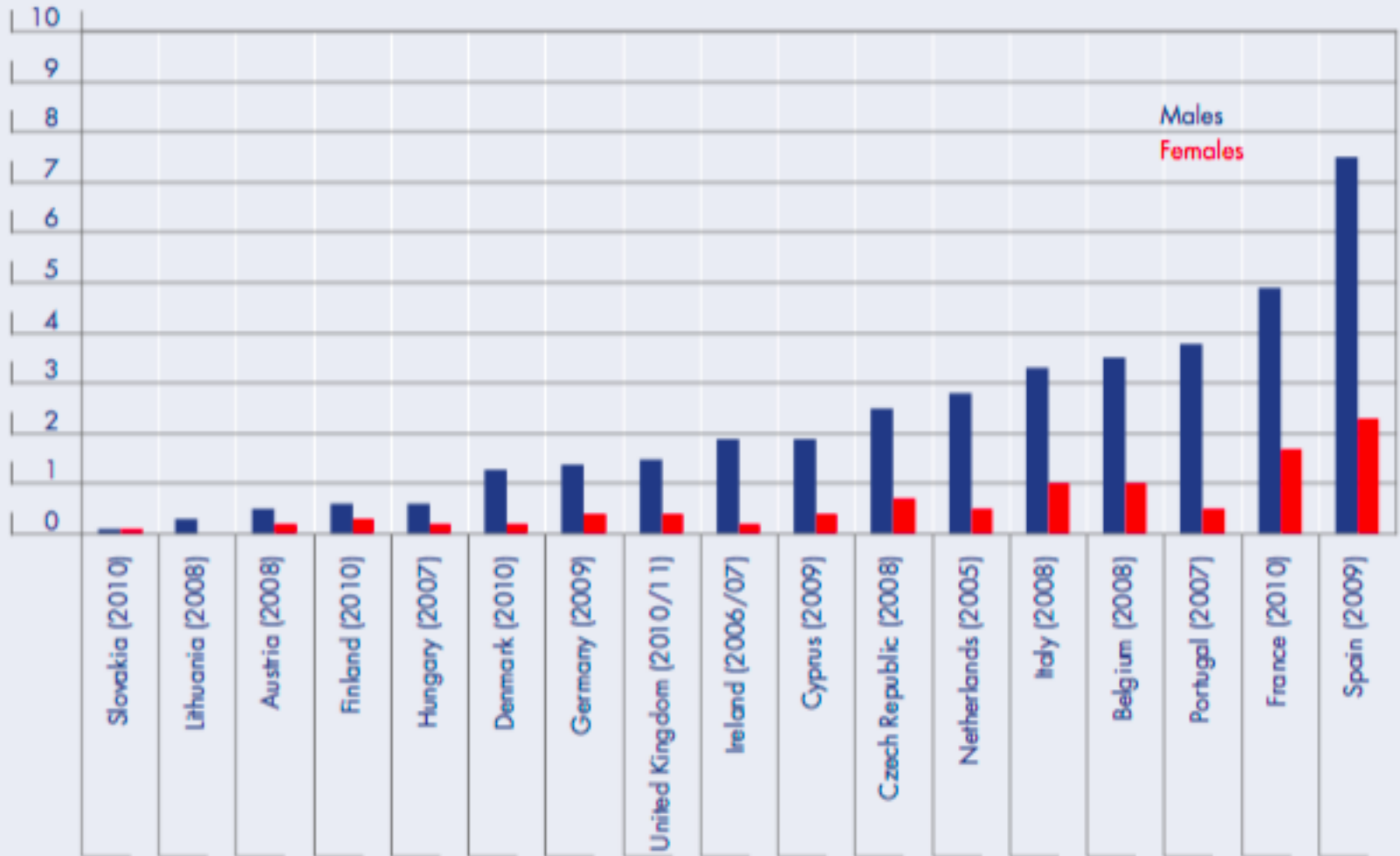
- Treatment option:
 - Reduction absorption
 - Monitoring and supportive care
 - Treatment psychiatric/neurological problems

Mr. M:

- Observation overnight and discharge

A typical Dutch problem?

Figure 2. Prevalence of last-month daily cannabis use among 15- to 34-year-olds by gender



Take home message

- Drug abuse is a world wide problem
- Unconsciousness: could it be a drug intoxication (like Cannabis/THC)?
- Variety of symptoms and signs
- Treatment: supportive care

