

# DRUGS THAT SHAPE SOCIETY NOTES

## Lecture 1

### Alcohol influences violence

- Society views this as young people who drink out and become violent

### William Hogarth's Gin Lane (propaganda)

- Depicts careless mother drinking too much gin and dropping her child
- Beer street contrasted gin lane and depicted high class people
  - o Propaganda proposing beer as beer makers wanted to reduce gin consumption

### Perspectives on alcohol

- Paul Nicolaou (chief executive officer of Australia Hotels Association New South Wales)
  - o Dismissed claims that alcohol is fuelling late night violence, arguing that it's a mixture of drugs and alcohol that's causing the problem
  - o He is an interested party
- Robin Room and Michael Livingston
  - o Alcohol plays the leading role in violence among drugs in Australia both because it is so available and commonly used. Attempts to get alcohol off the hook by pointing elsewhere are not supported by the science
  - o Scientific perspective
- Drugs have a historical context
  - o Early soothing syrup for teething children were made of heroin and thus very effective
- You can be addicted to all sorts of things
  - o Some drugs are more addicting
  - o Some people are more prone to addiction
- Models of addiction
  - o Disease (medical problem)
  - o Public health or legal consideration (behaviour of population needs to be dealt with)
  - o Failure of willpower, weakness of character
  - o Inevitable consequence of physiology (consequence of how body works)
- Society responds to use of licit and illicit drugs (medical and recreational)
  - o Elvis Presley pushed the war on drugs
    - He wrote a letter to Nixon suggesting that he be a spy for the war on drugs
    - He died of an assortment of prescription drugs
  - o The war on drugs greatly increased incarceration rates in USA
    - There is a thought that the war was a strategy for increasing Republican votes
      - People in states in jail lose the right to vote
      - Racist approach
  - o There was no increase in incarceration in Australia as we didn't have the war
    - No political incentive for war
    - Less racism
- The National Drug Strategy campaigns against drug abuse and focuses on:
  - o Demand reduction
  - o Supply reduction
  - o Harm reduction (allows opening of MSICs)
- Politicians use strong language to respond to drug problems (particularly ice)
  - o E.g. Tony Abbott "Ice, obviously, is a growing **national scourge**"
  - o E.g. Daniel Andrews (Victorian Premier) "obviously ice and countering **violent extremism**"
- The National Drug Strategy disregarded this strong language and took a rational approach to combatting ice
- There is a worldwide trend for legalising cannabis for medicine and recreation use

## Lecture 2

What is a drug?

- There is no single, precise definition, as there are different meanings in drug control law, government regulations, medicine, and colloquial usage

The most commonly used drug is caffeine

- The most common caffeine source until the 60s and 70s was tea

The WHO has a list of essential drugs which would be in a basic medical facility

There was a time before anaesthesia

- Surgery was horrific for the surgeon and patient
  - o Large bulky instruments were used as precision wasn't allowed for
- Medical equipment is much more precise nowadays as the patient is still
- Medicine has been greatly shaped now
  - o Voluntary euthanasia laws
  - o Ongoing legalisation of cannabis

Australia was founded on the Rum Rebellion

- William Blight (former governor of NSW) attempted to clean up NSW
  - o Rum was currency and was controlled by the rum corp

Drugs still currently shape society

- Society has changed how we respond to cigarette smoking
  - o It was previously depicted in movies
  - o We are no longer allowed to smoke in the open
    - Unimelb campus is smoke free
- Cannabis is legalised in Victoria for medical use
  - o It is a topic of increasing concern; more new articles on it
- Drugs in sports is becoming common
  - o We have more accused cheaters

The Thalidomide disaster led to therapeutic drug regulations

- This was a morning sickness drug that led to deformities in babies
- Grunenthal had evidence of harm from thalidomide but ignored it

There is an oxycodone disaster in US

- The company marketing oxycodone deliberately shaped the market
  - o They made the drug seem non-addictive
  - o They knowingly supplied large amounts of the drug
  - o They lobbied the US congress to prevent the passage of proper records to be kept
  - o They are convicted in the public eye but have not been called in account in a legal or financial way

## Lecture 3

Ethanol is a small molecule (twice the size of water molecule), water soluble and slightly fat soluble.

- It is mostly polar and gets into a lot of spaces with water, including the brain
- Alcohol are small organic molecules with -OH groups

Alcohol is highly used in most of society

- It is restricted by some cultures and religions
- It may be unavailable to some people

- E.g. Indigenous people in remote areas of Australia

People drink alcohol because it feels nice

- This occurs in the brain
  - The nucleus accumbens fires, releases dopamine and cells respond to this by causing a rush which feels good
  - VTA (ventral tegmental area) damps down the effect
    - It is a killjoy

Drug elimination is mostly done by the liver

- Kidneys are bad at eliminating ethanol because ethanol is so small that once it enters urine it is generally reabsorbed
- Most elimination of ethanol is by the liver

The liver is a specialised organ of metabolism

- It is responsible for the destruction of many toxins ingested with food, including ethanol
- Ethanol is converted to acetaldehyde by alcohol dehydrogenase, which is converted to acetic acid by acetaldehyde dehydrogenase
  - This is released back to the blood (acetaldehyde is toxic and needs to be converted to acetic acid)
  - The first enzyme is the rate limiting one and people produce this differently

Alcohol dehydrogenase is saturated at modest levels of alcohol

- It is released slowly and steadily
  - You may still be drunk after a long time
- The body can get rid of low concentrations of alcohol easily but high concentrations take a long time
  - The enzyme gets saturated
  - The concentration of alcohol decreases steadily
- Women achieve a higher concentration of alcohol
  - Slightly more of the body is made up of fat and ethanol likes to stay in places with water

Aldehyde dehydrogenase is polymorphic and some people metabolise acetaldehyde slowly

- Some people have minimal production of this (generally Asians and causes Asian flush)
  - The aldehyde is reabsorbed, which is toxic to neurons and all sorts of cells in the body

Effects of alcohol

- Vision is blurred
- Speech is slurred
- Sensations and perceptions are less clear
- Inhibitions are reduced
- Blood flow to skin increases, causing more rapid loss of body heat
  - Causes a warming feeling
- Alcohol is absorbed in the stomach and mostly in the small intestine
  - Only a small degree in stomach
  - Small intestine has large surface area and is thin
    - If you eat something before drinking you are drunk less as stomach empties more slowly and alcohol is delivered into intestine more slowly
- too much alcohol induces vomiting
  - vomiting is caused by stomach
    - high concentrations of alcohol and aldehyde irritate the stomach and it goes into reflex purging to reduce serious toxicity
  - this happens in various amounts with various amounts of concentrations
    - effects are context dependent e.g. environment