The natural history of opiate dependence; findings from long-term follow-up studies

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• Value of long-term follow-up studies
• Methodological problems
• Review of studies
• What they seem to tell us
Value?

• Invaluable insight into the natural history of a condition, particularly a chronic relapsing condition e.g. asthma, psychotic illness

• Give insight into the long term benefits of treatment

• Give insight into the long-term potential harms of treatment
Methodological issues

• Types of longitudinal study
  – Prospective (cohort)
  – Retrospective

• Problems of longitudinal studies
  – Internal validity (methodological)
  – External validity (interpretational)
Internal validity

• Problems with prospective studies
  – Selection
  – Comparison
  – Ensure adequate follow–up to measure outcome (how deal with drop outs?)

• Problem with retrospective studies
  – Not designed for the study purpose
  – Incomplete data
  – Recall bias
  – Interpretational bias
Measuring key factors

• Measuring when drug use and drug dependence begin is not without problems
• Measuring abstinence is not without problems, for example different researchers tackle abstinence differently:
  – “objective” measure based on urine testing (Hser 2001)
  – “social” measure of the consequences of drug use; stable or unstable based on assessment of drug use and social consequences (Haastrkup 1988)
  – self reported abstinence (Simpson 1982)
• Even assessing if a subject has died can cause difficulty to the researcher (Quaglio 2001):
  – May be difficult to ascertain if a subject has died or “moved elsewhere”
  – Cause of death is notoriously inaccurate
External validity

- **Time**: studies carried out at different times with different cultures and environment. Likely to affect nature and consequences of drug use
- **Place**: different geographical places with different cultures and environments, likely to affect nature and consequence of drug use
- **Person**: different age, gender, ethnic and social groups of people, even within the same geographical place at the same time, likely to influence nature and consequence of drug use
Effect of treatment

– Treatment tends to be inconsistent and broken making it difficult to analyse over time periods
– Uncertainty about what constitutes “treatment”
– When does treatment bring about its positive and negative consequences? Assumption that treatment brings its benefit during the period someone is received it, but some research suggests that people drug use and health measures change prior to treatment, when they are expecting to commence treatment. And effects on drug use and health continue after completion of treatment (including adverse effects from poisoning and positive effects of continued abstinence)
– See mortality related to pharmacotherapies for opioid dependence; a comparative analysis of coronial records. Gibson 2007
Range of studies

• In world literature many longitudinal studies both prospective and retrospective

• Notable ones:
  – National studies
    • DARP (USA) intake 1969-72, average 6 year follow up of 6402 cohort
    • TOPS (USA) intake 1979-81, 5 year follow up of 4270 cohort
    • DATOS (USA) intake 1991-93; 5 year follow-up 2966
    • NTORS (UK) intake 1995; 5 year follow-up 650
But my favorites

• George Vaillant (2003) A 60 year follow-up of alcoholic men (n = 268 + 456)
• Hyser (2001) A 33 year follow-up of narcotic addicts (n = 581).
• Nehkant (Raj) (2005) Heroin dependence in an English town: a 33 year follow up (n=86)
• Marie Whitty (2007) Opiate dependence and pregnancy: 20 year follow-up study. (n=55)
Outcomes

- Deaths; survival curve over time
- Abstinence; abstinence rates over time

Other outcomes assessed in studies:
- Causes of death
- Hospital admissions
- Still in methadone programme
- Criminal offending
- Housing
Survival curve from different studies by duration of follow-up
Abstinent rates at in different studies by length of follow-up

Abstinent (%) 26% 50% + 70%
Conclusions

1. Drug use is associated over the long term with high risk of death. Comparable with very high risk of cardiovascular mortality found in diabetes, hypertension etc (>20% in 10 years)

2. Deaths are largely from preventable causes

3. For many opiate dependence is a very long-term problem

4. This with the high risk of relapse and death after stopping treatment, raises questions about the wisdom of the current emphasis on “recovery”.
References


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