The myths and realities of hepatitis C for people who inject drugs

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Outline of today’s presentation

• Background information

• Discuss some of the *MYTHS* about hepatitis C

• Key take home messages
  
  – Hepatitis C is a far more dynamic infection than previously recognised and this has important implications for both prevention and vaccine development

  – That people who inject drugs can be successfully treated for hepatitis C

  – Things are changing in the field – in particular in regards to hepatitis C treatment

  – Advocacy is needed to ensure that access to these new medications is not limited by where you live or whether you have injected drugs in the past or in the present
Why it is important to dispel myths
Hepatitis C – a global disease

No data available

World Health Organisation
Hepatitis C and injecting drug use

- 180 million people worldwide exposed to hepatitis C
- Transmission – blood to blood
- Almost 90% of new HCV infections globally attributable to unsafe injecting drug use
Hepatitis C – burden of disease

- Between 55% and 75% of people who get infected with hepatitis C develop a chronic infection.

- Of those with chronic infection
  - 20%-30% may develop cirrhosis
  - 4%-6% - hepatocellular carcinoma

- Considerable burden of disease
  - 50-76% of the world’s liver cancers
  - Two thirds of the world’s liver transplants

- The disease burden and consequent costs will increase over the next 20 to 30 years

Sources: WHO 1999, Hepatitis C Virus Projections Working Group 2006
HCV transmission myths
Hepatitis C transmission and natural history

- Traditional model of infection
  - Around 50% of PWIDs – infected in first two years of commencing injecting
  - Following infection the individual
    - spontaneously cleared their infection (most in first 12 months)
    - developed chronic HCV - only cleared following successful treatment

- Re-infection was thought to be an uncommon event
More recently

- HCV re-infection reported to occur more frequently than naive infection

- Individuals can have multiple re-infection episodes
HCV transmission – highly dynamic process
More recently ...

- Two recent publications suggest primary infection - although not conferring sterilising immunity – more likely to clear subsequent reinfection
  - Osburn paper
    - 31 (27%) of 113 participants cleared their initial infection
    - Ten (83%) of 12 observed re-infections cleared
  - Page et al JID 2009
    - 20 (21.1%) of 95 acutely infected patients cleared their infections
    - All seven IDUs in their cohort who had evidence of re-infection cleared spontaneously.

- Work we have done on the Networks Cohort – we are not seeing this type of protection

- Jury is still out
Why it is important to understand HCV transmission dynamics

Prevention is better than cure

- **Important implications**
  - vaccine development
  - public health education and prevention strategies aimed at current IDUs

- **PWID**
  - need to be aware that just because they have HCV – they may clear it even without treatment
  - Should be encouraged where it is possible to get an RNA test

- **PWID also need to be aware that if they clear HCV – they can get reinfected with HCV**

- **We need to encourage governments to provide HCV RNA tests to IDUs and to educate doctors about the importance of performing this test**
A question – or two...

• We know that people who inject drug are at risk of HCV

• We know the risk of contracting HCV is greatest in the first two years after injecting

• Unlike in the setting of MSM – annual STI/HIV check – no similar recommendation for injectors for HCV

• When people are found to be anti HCV positive – why is a HCV RNA test not “routinely recommended”

• There are ways to improve HCV surveillance – why aren’t they being taken up by departments of health
Things that may be myths

• No evidence that being aware of HCV status alters injecting risk behaviour – but just because there is no evidence it doesn’t mean it is true
  – It can mean that it hasn’t been studied properly
  – This lack of information about the “benefit” of testing shouldn’t be used as an excuse for not recommending regular testing

• That publicly health interventions are not effective in reducing HCV transmission
  – A couple of studies – Netherlands and the UK – suggest the combination of NSPs and OST are effective
  – You can’t say something is not effective if you don’t have coverage
For those already infected with hepatitis C

- Hepatitis C is treatable
- Current treatment that is available – outside clinical trials – is pegylated interferon and ribavirin
Treatment success

- Success of treatment varies depending on
  - The viruses genetic make up – including genotype
  - Whether you can take most of the treatment most of the time (80:80:80)
  - Your genetic make up – IL28B

- Major problem – very low numbers of people are treated world wide

- This is particular the case for the group most affected – people with a history of injecting drugs
Global HCV treatment uptake is low

- The issue of treatment availability – wide spread
- In Australia where we have a good public health system – only 4000/annum treated
- The level of treatment uptake in injectors is even lower

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<th>Cohort</th>
<th>HCV Treatment Uptake/Year</th>
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<tr>
<td>Canada (Vancouver)</td>
<td>1,360</td>
<td>Community-based inner city residents</td>
<td>&lt;1%</td>
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<tr>
<td>United States (Baltimore)</td>
<td>597</td>
<td>Community-based IDUs</td>
<td>&lt;1%</td>
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<td>Australia</td>
<td>2,500</td>
<td>Needle exchange participants</td>
<td>1%</td>
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Myth – IDUs don’t want to be treated

- This is not the case

Maat – Goddess of truth
Barriers to treatment

• **Individual**
  - not aware that treatment exists
  - not aware that current IDUs can access treatment
  - other issues to sort through first – health or other
  - concerned about side effects
  - previous negative dealings with health services

• **Provider**
  - management of drug users, mental health and alcohol issues
  - complicated

• **Structural**
  - clinics located in accessible locations
  - clinics held at accessible times
  - Cost
  - Working – if not access to sick leave
Clinician and health services ongoing reluctance to treat current IDUs may stem out of previous recommendations

1997 NIH Consensus Development Conference Statement:

“treatment of patients who are drinking significant amounts of alcohol or who are actively using illicit drugs should be delayed until these habits are discontinued for at least 6 months”

2002 NIH Consensus Statement:
- Management of HCV is enhanced by linking to drug-treatment programs
- Methadone is not a contraindication to HCV treatment
- HCV treatment of active IDUs should be considered on a case-by-case basis
- Active injecting drug users in and of itself should not exclude such patients from antiviral therapy
Myth – people who inject drugs have worse treatment outcomes compared to non-injectors

- Not true

- Literature review - Searches conducted using PubMed and Web of Science in 2007-2008
- Keywords: injecting drug use, injection drug use, intravenous drug use, illicit drug use, substance abuse, hepatitis C treatment, interferon
- Limited to English language papers

- Lit reviews always seem a little nerdish
God of Nerds and Geeks

Mark Zuckerberg – creator of Facebook
Treatment of PWID with HCV

Median SVR for PWID

- Regardless of treatment regimen - 40.6%
- Peg interferon/ribavirin - 54.3% (range, 18.1%-94.1%), compared with 54%-63% for the comparable large treatment trials for HCV

- Median completion overall: 70.7%
- Only 1 of 5 evaluable studies demonstrated a difference in treatment completion rates in IDUs vs. non-IDUs
Myth – people who drink alcohol cannot be successfully treated for hepatitis C

- Subset of PWID – moderate to heavy alcohol use
- Research has differentiated between PWID with past (>12 months ago), recent (<12 months ago), and current heavy alcohol use (during treatment).
- Alcohol use during hepatitis C therapy *may well* have negative impact on treatment outcomes but it is likely to be an issue of compliance
- Regular drinking in the year prior to treatment - less likely to complete full course of treatment
- History of alcohol abuse - less likely to be enrolled in treatment, but if enrolled, no evidence of effect on SVR rates

Myth – cannot be treated for hepatitis C if you have a history of depression

- Depression common side-effect of interferon
- It is common reason for early cessation of treatment
- No reduction in SVR rate amongst those with interferon related depression who complete treatment
- PWID are more likely to have a history of mental illness than other patients
- Patients with a treated stable psychiatric disorder receiving psychiatric management in tandem with their antiviral treatment
  - achieved similar results to other patients,
  - including similar levels of depression during treatment
  - regardless of medication at baseline

Key sources: Schafer, Scheurlen et al. 2007; McHutchison, Gordon et al. 1998, Shaefer, Schmidt et al. 2003; Shaefer, Hinzpeter et al. 2007; Alvarez-Uria, Day et al. 2008
Myth – prolonged period abstinence or concurrently enrol in a drug treatment program necessary for effective treatment

- Enforcing periods of abstinence and/or concurrent enrolment is common practice in clinical trials
- However, few studies assess whether these conditions increase the likelihood that a patient will attain a SVR after treatment
- Few trials (2 to date) have attempted to evaluate the effect of enforcing a period of pre-treatment abstinence
- Neither found any statistically significant result
- Mounting evidence that early treatment on hepatitis C increases the likelihood of SVR attainment - need to re-assess the need for enforcing pre-treatment abstinence

Key source: Hellard, Sacks-Davis, Gold 2009
Illicit drug use during treatment

- No evidence that occasional injecting during treatment has an effect on chances of treatment success

- Regular injecting drug use (daily or every second day):
  - One study found that this made people less likely to complete the regimen
  - No difference has been observed in SVR rates
  - Numbers are small

- In a recent study active users were less likely to attain SVR than former users. However ‘active’ was not defined

- Low observed reinfection rates after treatment (0-2.5/100 person-years cf 31-47/100 person-years after spontaneous clearance)

Key sources: Hellard, Sacks-Davis, Gold 2009; Alvarez-Uria, Day et al 2008
New treatments

- Things likely to change in the next five years in regards to new treatment for hepatitis C

- “Small molecule” drugs - polymerase and protease
## Hepatitis C treatment

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<th>Preclinical</th>
<th>Phase I</th>
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New treatments for hepatitis C – things to consider

• PWID – often excluded from clinical trials

• Ironic that the group at greatest risk, and who will ultimately be the predominant users of these treatments aren’t involved from the beginning in the clinical trials that will bring them on to the market

• We need to constantly make this point to governments, drug companies and the community more broadly

• It is simply not acceptable
In summary

• HCV is a dynamic infection
  – Reinfection is common
  – Need to increase testing – including HCV RNA in IDUs so they are aware of their status

• That current injecting drug users can be successfully treated for hepatitis C
  – Depression or other mental health issue – can be managed
  – Don’t have to be on drug treatment
  – People who drink alcohol whilst on treatment can be treated successfully
  – Social stability likely to be important
Conclusion

• There are a lot of myths or misinformation around hepatitis C

• This is used in ways that can lead to hepatitis C or the people affected by hepatitis C getting a poor funding deal

• Important that everyone across the sector works together to increase funding for everyone across the sector

• We need better evidence but it isn’t just evidence

• We need ongoing advocacy so the evidence is presented in a clear and digestible way and takes into account the political and social realities of a given country or region
Acknowledgments

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  - In particular – Campbell Aitken, Peter Higgs, Rachel Sacks Davis, Judy Gold

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