Drug and Alcohol Dependence 183 (2018) 96–101

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Full length article

Who goes first? Understanding hepatitis C risk among injecting networks in the prison setting

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ARTICLE INFO

Keywords:
Hepatitis C
People who inject drugs
Prisoners
Risk environment framework

ABSTRACT

Background: Hepatitis C (HCV) is a blood-borne virus that is most commonly transmitted through shared injecting equipment. Due to the criminalisation of injecting drug use, HCV is highly prevalent among those incarcerated. Using a risk environment framework, this qualitative study sought to understand the role of HCV risk within injecting networks in the prison setting.

Methods: Thirty-two adult prisoners (n = 24 men; n = 8 women) with a history of injecting drug use participated in this qualitative sub-study. Participants were recruited across four correctional centres.

Results: Social, economic, and environmental risk factors contributed to injecting practices within prison. Commonly, the person supplying the drugs injected first, with the person who owns the injecting equipment going next. HCV did not regularly factor into determining order of injection within networks (i.e., first, second, third), although it was reported that some prisoners claimed not to have HCV in efforts to "jump the queue".

Conclusion: Social, economic, and environmental risk factors contribute to negotiation of injecting order among people who inject drugs in prison. Risk of HCV exposure rarely influenced the injecting order. Harm reduction strategies should consider the social factors influencing injecting drug use in the prison setting especially to optimise the population benefits of the roll-out of highly effective HCV treatments.

1. Introduction

Hepatitis C (HCV) is a blood-borne virus and is most commonly transmitted through shared injecting equipment (Hajarizadeh et al., 2013; Shepard et al., 2005). Injecting drug use is illegal in most countries, contributing to the high incarceration rates of people who inject drugs (WHO, 2014; Wolfe et al., 2010). Once incarcerated, prison is a high-risk setting for HCV due to increased risk of exposure and greater prevalence (Larney et al., 2013; UNODC, 2014). The prisoner population is significantly more likely to have HCV than the general population (Larney et al., 2013).

The majority of those imprisoned in Australia have a lifetime history of injecting drug use (Reekie et al., 2014). It is well known that people in prison may continue to inject drugs while incarcerated, although injecting occurs less often than within the community (Wright et al., 2015). Despite availability of illicit substances, equipment for drug consumption is limited, resulting in a high frequency of equipment sharing (Kinner et al., 2012; Snow et al., 2014), and is bought or hired at premium market rates (up to five or six times the equivalent of one injection of heroin) (Treloar et al., 2016). Fincol (a quaternary amine disinfectant (JASOL, North Ryde, Australia)), a bleach alternative, is available to those incarcerated in Australia; however, it is not equally available in all states and territories (AIHW, 2015). Despite availability of Fincol, there is limited data to show the product's efficacy in reducing transmission in the real-world (e.g., prison) setting (Doerrbecker et al., 2011; Luciani et al., 2014). Limited access to prevention measures such as bleach, in combination with frequency of equipment sharing, has been shown to be associated with increased risk of HCV transmission within the prison population (Cunningham et al., 2017).

There has been little research to understand how HCV and other blood-borne viruses (BBVs) risks are navigated among injecting networks within the prison setting where prevention strategies are limited. It has been conceptualised that relations between individuals and environments jointly influence drug-related harms (Rhodes, 2009), such as transmission associated risks. Social, economic, environmental, and policy factors combine to construct perceptions of risk and shape the available responses to these perceptions (Rhodes, 2002). Furthermore, injecting drug use is a social process; prevention education for risks associated with injecting drug use should consider the social practices of injecting drug use (Fraser et al., 2014). Understanding the injecting networks of people who inject drugs (a social factor) in the prison setting (an environmental factor) in which equipment must be bought

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https://doi.org/10.1016/j.drugalcdep.2017.10.030
Received 29 August 2017; Received in revised form 6 October 2017; Accepted 29 October 2017
Available online 08 December 2017
0376-8716/

or hired (an economic factor) without distribution of sterile equipment (a policy factor) is essential for better addressing the unique social mechanisms and behaviours associated with HCV transmission risk in this population group.

Social research complements the work of epidemiologists "by understanding the array of factors which influence the ways in which individuals go about 'doing' risk behaviour" (Rhodes, 1997, 209). This paper seeks to understand injecting networks and perceptions of risk among prisoners with a lifetime history of injecting drug use. The findings presented here provide insight into risk behaviour patterns among injecting networks within prisons and inform HCV prevention education.

Participants were recruited from a larger epidemiological study (Surveillance and Treatment of Prisoners living with hepatitis C (SToP-C)) which aims to understand real-world implications of treatment as prevention efforts within the prison setting (The Kirby Institute, 2014). The SToP-C study design includes surveillance of HCV prevalence and incidence across four correctional centres in New South Wales (NSW), Australia followed with implementation of HCV treatment scale-up for prisoners with chronic HCV infection across the four study sites. Monitoring of prevalence and incidence will continue following completion of treatment across the sites to assess effectiveness of HCV treatment as prevention.

2. Methods

The SToP-C clinical trial is being implemented in four correctional centres in NSW, including three men's prisons and one women's prison. Participants in this qualitative study were recruited equally across each of the participating sites, with eight prisoners participating in interviews at each correctional centre (total = 32 participants).

Participants were recruited by the SToP-C study nurses during clinic visits and included prisoners testing HCV RNA+ (meaning they were currently infected with HCV) and those testing HCV RNA-. Verbal consent was obtained by the study nurse who then provided prisoner identification numbers to the interviewer. This ensured prisoners' anonymity was maintained prior to their consent to participate in this qualitative study. The interviewer provided the list of prisoner identification numbers to a correctional officer allocated to the SToP-C study upon arrival at each correctional centre. The SToP-C officer escorted potential participants to the interviewer at which point the interviewer introduced herself and explained the study. Participants were able to decline at any stage. Signed consent was obtained from all participants prior to commencing interviews. Interviews were conducted within a private room in the health clinic at three sites, and in a private room within an educational wing at the fourth site (the study officer was not in the room during interviews). Participants were paid $10 into their inmate account as remuneration for their time.

Interviews were semi-structured and in-depth, asking participants to reflect on knowledge and practice of prevention strategies available within their current correctional centre, knowledge and experience of HCV treatment (both broadly and contextually, i.e., within the prison setting), and perceptions of re-infection (including risk, prevention (and personal strategies for), and concerns). Demographic information included age, gender, time served on current sentence, history of injecting drug use, current drug use within prison, history of HCV (including diagnosis/es, previous treatment/s, spontaneous clearance, and results of most recent HCV test), and whether accessing prescribed opioid substitution therapy in prison. The interviewer (LL) is a post-doctoral social scientist with experience conducting interviews with people in prison, particularly regarding HCV education, care, and treatment. The interviewer is employed at a university independent to both correctional services and correctional health; this was communicated to all participants prior to commencement of interviews.

Participation in the qualitative component of the study was voluntary; deciding not to participate in an interview had no bearing on their involvement in the clinical arm of the study. All participants had been screened for HCV in the previous six months. Purposive sampling was conducted to ensure near equal representation of those currently living with chronic HCV infection and those who were not currently living with HCV.

Interviews were audio-recorded, transcribed, and de-identified. Two authors (LL and JR) engaged in reflective discussion at the end of each day of data collection to discuss emerging themes. Codes were identified from the interview schedule, with sub-nodes emerging throughout the data collection process. Inductive coding was completed to identify themes (Saldaña, 2013). Preliminary coding was completed and discussed among the authors to identify gaps and repetition. The final coding framework was reviewed and agreed upon by all authors.

A second round of coding was undertaken using the risk environment framework (Rhodes, 2002) to identify risks associated with injecting networks within the prison setting. Results are presented to align with the environmental, social, and economic factors associated with drug harms in a risk environment framework (Rhodes, 2009). The policy factors associated with injecting networks and associated risks are beyond the scope of this qualitative analysis and will be not explored in depth. Participants' gender, recent HCV test result, and security classification are provided. Men's prisons included two maximum security prisons and one minimum security prison; the women's prison included both medium and minimum security classifications, as such, women's security classifications are not presented.

Ethics approvals were obtained from all relevant research ethics committees: Justice Health and Forensic Mental Health Network (G621/13); Corrective Services NSW (qualitative sub-study approval on 5 April 2016); and Aboriginal Health and Medical Research Council of NSW (1253/17).

3. Results

Thirty-two people in prison participated in this study, eight of whom were women. Sixteen participants tested HCV RNA+, 14 tested HCV RNA-, and two participants were awaiting results at the time of interview. The average age of participants was 40, an age slightly higher (by six years) than the mean age of prisoners in custody in NSW at 30 June 2016 (ABS, 2016). Eleven participants reported previously completing interferon-based therapy with cure; one participant had previously commenced interferon-based treatment but had to cease therapy prior to completion due to adverse side-effects. Male participants had served a median of 5.5 years of their current sentence; women had served a median of 3.5 years. Data was only collected on length of time served on current sentence; no information was collected regarding history of incarceration or recidivism. As half of the participants were recruited from maximum security correctional centres, the median of time served may be disproportionally higher than the state average. Nearly half (n = 14; 44%) of participants reported receiving opioid substitution therapy while incarcerated. All participants reported a lifetime history of injecting drug use (meaning they had used drugs intravenously at least once in their lifetime); 33% of men and 38% of women reported current injecting drug use in prison. Among those who reported current injecting drug use in prison, the most frequently used drugs were: methamphetamines, cocaine, and various opioid substitution therapies (e.g., Subutex).

Environmental, economic, and social factors were described as contributing to and/or determining injecting order and relationships among people who inject drugs in prison. Awareness of or concerns about HCV risk and exposure rarely influenced the injecting hierarchy, although some inmates reported having observed others within prison-based injecting networks falsely claiming to not have HCV in order to "jump the queue".