

Past incarceration experience and the risk of hepatitis C infection among people who inject drugs

Gassowski M¹, Nielsen S^{1,2}, Wenz B¹, an der Heiden M¹, Hamouda O¹, Bremer V¹, Ross RS³, Bock CT⁴, Marcus U¹ and Zimmermann R¹

¹Department for Infectious Disease Epidemiology, Division for HIV/AIDS, STI and Blood-borne Infections, Robert Koch Institute, Berlin, Germany

²Charité University Medicine, Berlin, Germany

³Institute of Virology, National Reference Centre for Hepatitis C, University Hospital Essen, University of Duisburg-Essen, Essen, Germany

⁴Department of Infectious Diseases, Division for Viral Gastroenteritis and Hepatitis Pathogens and Enteroviruses, Robert Koch Institute, Berlin, Germany

Background

People who inject drugs (PWID) are at higher risk of incarceration as well as hepatitis C infection (HCV) than the general population in Germany.

The aim of this analysis was to investigate whether past incarceration experience (PIE) and positive HCV serostatus are associated.

Methods

Data collection:

- Respondent driven sampling in eight German cities, 2011-2014
- Persons aged ≥ 16 years with reported IV-drug use in the last 12 months in the study city
- Questionnaire-based face-to-face interview for behavioural data
- Dried blood spots of capillary blood, tested for HCV antibodies and HCV RNA

Definition of incarceration duration and frequency

Short = 3.5 years of less (total duration)

Rare = 3 times or less

Long = more than 3.5 years (total duration)

Frequent = more than 3 times

Data analysis:

- Participants in the state of HCV-seroconversion and with no recent incarceration experience, and participants with incomplete data on PIE were excluded from the analysis
- A multivariable logistic regression model was used to examine the association of HCV serostatus with PIE, correcting for known risk factors for HCV
- In order to investigate whether reported in-prison risk behaviors could explain an association, these were included in the model in a second step

Results

Participants included in the analysis: 1,998

Past incarceration experience:

- None: 20%
- Short and rare: 29%
- Short but frequent: 12%
- Long but rare: 7%
- Long and frequent: 32%

Chart 1: HCV status stratified by past incarceration experience

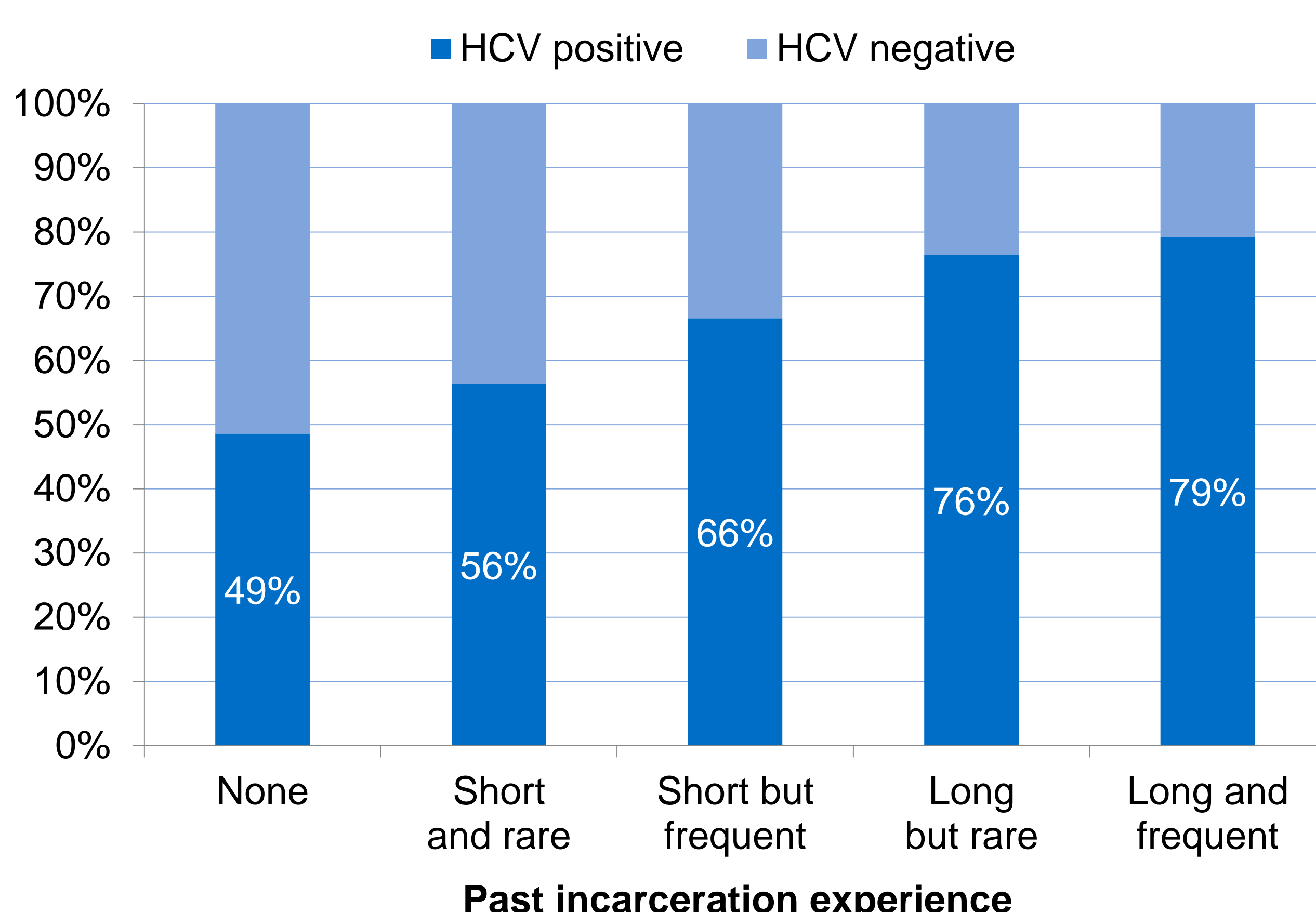


Table 1: Multivariable models of PIE-associated risk of HCV, excluding and including in-prison risk behaviour

		Model excluding in-prison risk behaviour		Model including in-prison risk behaviour	
		Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Past incarceration experience	None	1.0		1.0	
	Short and rare	1.4*	1.0-1.9	1.3	1.0-1.8
	Short but frequent	2.1***	1.4-3.0	1.8**	1.3-2.7
	Long but rare	3.3***	2.0-5.4	2.7***	1.6-4.4
	Long and frequent	3.8***	2.7-5.3	2.8***	1.9-4.1

*p<0.05. ** p<0.01. *** p<0.001

Models were corrected for the following variables:

- Age, gender, region of origin, study site, duration of IV-drug use, number of injections on a typical consumption day, ever tattooed/pierced while incarcerated

Model for in-prison risk behaviours was additionally corrected for:

- Ever injected drugs while incarcerated, ever tattooed/pierced while incarcerated

Conclusions

- PWID with past incarceration experience (PIE) are more likely to be HCV positive
- Duration, as well as frequency of PIE seem to play a role for the risk of HCV
- The PIE-associated risk cannot fully be explained by in-prison risk behaviours
- The period upon release from prison might also be a risk factor for HCV. Further research is needed for clarification

Contact information and disclosure statement:

For more information: gassowskim@rki.de

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