Incarceration is likely to increase HIV and HCV transmission among people who inject drugs, new study finds

30 October 2018

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Injecting drug use, through the sharing of needles, syringes and other injecting equipment, is a primary route of transmission for both HIV and hepatitis C virus (HCV), blood-borne infections that cause considerable morbidity and mortality worldwide. New research led by the University of Bristol has found among people who inject drugs, that recent incarceration was associated with an 81 per cent and 62 per cent increase in HIV and HCV acquisition risk, respectively.

The study, published in *The Lancet Infectious Diseases*, is the first systematic review and meta-analysis to assess whether incarceration history, either recent incarceration or past incarceration, raises the risk of HIV or HCV infection among people who inject drugs (PWID).

Through a systematic search of MEDLINE, Embase and PsycINFO databases and contacting authors of incidence studies not presenting on outcomes of interest, the research team identified 41 studies (21 of which were unpublished) with available data on these outcomes to be included in meta-analyses.

The researchers found strong evidence that recent incarceration is associated with an 81 per cent and 62 per cent increase in the risk of HIV and HCV acquisition, respectively. These findings were robust to sensitivity analyses, including the exclusion of studies at high risk of bias.

Jack Stone, Senior Research Associate in Health Infectious Disease Mathematical Modelling in the Bristol Medical School: Population Health Sciences, said: "This is the first global systematic review of quantitative studies on the effect of incarceration history on HIV and HCV transmission among people who inject drugs. Our findings provide strong evidence that recent incarceration increases HIV and HCV transmission risk.

"We found evidence of this effect in settings where HCV transmission is known to be very low during periods of incarceration, suggesting increases in transmission risk occur following release from prison. This work is essential for understanding how the incarceration of PWID, and consequently, international drug policy, can contribute to increasing the burden of HIV and HCV among PWID. Hopefully this work will help guide future evidence-based drug policies and interventions to reduce this risk."

It is well known that PWID experience high rates of incarceration (an estimated 58 per cent have ever been incarcerated globally), with a history of incarceration frequently being associated with higher HIV and HCV infection. The period immediately following release from prison represents a high risk for relapse to illicit drug use and poses an increased risk for multiple adverse

outcomes, including drug-related deaths but also increased injecting risk behaviours, homelessness and reduced access to interventions.

Incarceration is likely to be a significant driver of HIV and HCV transmission among PWID in many settings because of the high rates of incarceration that PWID experience, as supported by previous mathematical modelling studies performed by this research team.

The study has important implications for policy and public health, including:

- international drug policy whose overwhelming focus on the criminalization of people who use drugs has led to high rates of incarceration among PWID;
- the need for improved prison-based harm reduction which is absent in most countries and often inadequate in those in which it is provided; and
- the need for improved linkage upon release to harm reduction as well as other services to address many of the multiple social vulnerabilities experienced by PWID that are amplified following incarceration (including for example homelessness).

The research team's findings also add to the growing body of evidence for the harms associated with international drug policy and support calls for the decriminalisation of illicit drug use.

The team suggest further research is needed to better explain the factors associated with incarceration that increase HIV and HCV acquisition risk, to help the development of interventions to reduce these risks. It also unknown, whether the effects of incarceration differ by type of detention (jail or prison etc.) or length of incarceration.

More information: Jack Stone et al. Incarceration history and risk of HIV and hepatitis C virus acquisition among people who inject drugs: a systematic review and meta-analysis, *The Lancet Infectious Diseases* (2018). DOI: 10.1016/S1473-3099(18)30469-9

Provided by University of Bristol