

Incidence rate of hepatitis C virus infection in the prison setting: The SToP-C study

Authors:

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Background: People in prison are at greater risk of HCV infection given high prevalence of injecting drug use and limited access to harm reduction services. This study evaluated HCV incidence and associated injecting drug use characteristics in prisons.

Methods: The SToP-C study enrolled people incarcerated in four NSW prisons. At enrolment, participants were tested for anti-HCV and HCV RNA (if anti-HCV positive). Participants at-risk of HCV primary infection (anti-HCV negative) or re-infection (anti-HCV positive, HCV RNA negative) were eligible for this analysis. Participants were tested for HCV every 3-6 months (October-2014 to November-2019).

Results: Among 3,691 participants, 1,643 were at-risk of HCV, had at least one follow-up visit, and were included in analyses (82% male; median age: 33 years; 30% reported injecting drugs during current imprisonment). During 1,818 person-years follow-up, HCV incidence was 6.1/100 person-years (95%CI: 5.1-7.4), with higher incidence of re-infection (9.3/100 person-years; 95%CI: 7.2-12.2) than primary infection (4.6/100 person-years; 95%CI: 3.6-6.0). HCV incidence was highest among participants who injected drugs during current imprisonment (15.1/100 person-years, 95%CI: 12.1-18.8). Among participants injecting drugs in the past month (n=321), a decreased risk of HCV was associated with receiving high-dosage opioid agonist therapy (OAT, i.e., methadone: ≥ 60 mg/day; buprenorphine: ≥ 16 mg/day) [versus no OAT, adjusted hazard ratio (aHR): 0.11, 95%CI: 0.02-0.80], and older age (per year, aHR: 0.95, 95%CI: 0.91-0.99). Compared with participants not using any shared needles/syringes, risk of HCV was significantly higher among those who shared needles/syringes without consistent use of disinfectant to clean equipment (aHR: 4.60, 95%CI: 1.35-15.66), while the risk was higher but not statistically significant among those who shared needles/syringes and consistently used disinfectant (aHR: 2.15, 95%CI: 0.81-5.74).

Conclusion: HCV transmission risk is high in prison, particularly among those reporting ongoing injecting drugs. HCV prevention strategies should ensure access to high-dosage OAT, and sterile injecting equipment.

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