COMBINED COVERAGE OF HARM REDUCTION INTERVENTIONS AND RATES OF PRIMARY AND RECURRENT HCV INFECTION IN A COMMUNITY-BASED COHORT OF PEOPLE WHO INJECT DRUGS

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Background:
Needle-syringe programs (NSP) and opioid agonist therapy (OAT) form the basis of harm reduction among PWID. While OAT is consistently associated with reduced risk of HCV acquisition, the impact of NSP remains unclear, and most of the evidence for their combined effect relies on modelling projections. Though important to inform elimination strategies, no studies have examined whether NSP/OAT have similar effects among HCV-naïve and previously-infected PWID.

Aims:
1. Estimate the rate of HCV infection and its association with NSP/OAT coverage among PWID in Montreal;
2. Compare estimates among HCV-naïve and previously-infected PWID.

Methods:
Design: prospective cohort (2010-2017). Eligible participants reported past-6-month injection at enrolment, previous opioid/OAT use, and tested HCV-Ab-negative or Ab+/RNA-negative. NSP/OAT data was collected and HCV testing performed at 3/6-month visits to detect primary or recurrent HCV (Ab+ or RNA+ test among previously negative participants, respectively). OAT coverage was defined by self-reported current dose: high (≥60mg/day); low (<60mg/day); none. High NSP coverage was defined as reporting 100% safe needle-syringe sources in the past 3/6m (vs <100%). Combined coverage was defined as: minimal=low both OAT/NSP; full=high both OAT/NSP; partial=other OAT/NSP combinations. Cox regression models estimated associations between harm reduction coverage and time-to-HCV-infection.

Results:
56 primary and 50 recurrent HCV events were observed over 526 and 657 respective person-years of follow-up: IR_P=10.6/100py; IR_R=7.6/100py. Full coverage of harm reduction was associated with a 70% and 60% reduced risk of HCV acquisition (vs. partial and minimal, respectively). High-dose OAT was associated with a 65% and 75% reduction in HCV infection risk, vs. low-dose-OAT and no OAT, respectively. NSP alone was not significantly associated with HCV incidence. Estimates were similar among HCV-naïve and previously-infected PWID.

Conclusion:
Full coverage of harm reduction interventions, particularly high-dose OAT, should be promulgated alongside treatment-as-prevention approaches to reduce ongoing HCV transmission among both HCV-naïve and previously-infected PWID.

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