

COCAINE INJECTION PATTERNS OVER TIME AMONG PEOPLE WHO INJECT DRUGS IN MONTREAL, AND THE LINK WITH RISK OF HCV INFECTION

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Background: To date, studies examining the link between cocaine injection and hepatitis C virus (HCV) infection risk among people who inject drugs (PWID) have focused on proximal patterns of injection. Yet, short-term drug use behaviours are often not reflective of longitudinal patterns. The aims of this study were to characterize temporal trajectories of cocaine injection patterns in a sample of PWID and to compare HCV infection risks among groups.

Methods: Data were drawn from HEPSCO, a prospective cohort study of initially HCV-RNA-negative (\pm HCV-Ab) PWID in Montreal (03.2011 - 06.2016). At each three-month follow-up visit, participants provided blood samples for HCV testing and an interviewer-administered questionnaire collected data on sociodemographic characteristics and drug use patterns. Trajectories of cocaine injection frequency were examined over a 48-month period using semi-parametric latent class growth modelling among PWID with a minimum of two follow-up visits. HCV incidence rate in each trajectory group was estimated using the person-time method.

Results: Overall, 380 PWID were included and contributed to 3782 observations during follow-up (mean age at baseline: 40.1; 81.8% male). Four trajectory groups of cocaine injection were identified: sustained high (SH: 30.2%), sustained low (SL: 38.3%), decreasing (D: 22.0%) and variable (V: 9.5%). The HCV incidence rate was highest in the V group (20.1 per 100 person-years (p-y)), and similar in the other three groups (SH: 9.3, SL: 8.0, D: 6.5, per 100 p-y). Relative to the other groups, the V group was characterized by multi-drug use and high probability of recent incarceration.

Conclusion: Stable temporal patterns of cocaine injection, whether high or low, was associated with a similar risk of HCV infection, whereas a variable pattern was linked to a greater risk. Our study identified factors potentially predisposing PWID to follow certain drug use trajectories, which could help strengthen harm-reduction and HCV prevention strategies.

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