Drug Market Variations and Drug Use Practices among People Who Inject Drugs (PWID) in the Province of Québec, Canada

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METHODS: The SurvUDI network

- SurvUDI is a second-generation surveillance program of HIV and HCV infections and risk behaviors among PWID in eastern central Canada.
- Ongoing network implemented in 1996.
- Based on a convenience sample of hard-to-reach PWIDs.
- Covers 8 health districts located in the province of Québec. Two urban areas (Montreal and Quebec City) and six semi-urban/rural regions.

Eligibility criteria:
- being aged 14 and older
- injecting at least once within the past six months,
- speaking French or English, and
- being able to provide informed consent.

Each visit includes:
- the achievement of participant’s informed consent,
- an interviewer-administered questionnaire addressing socio-demographic characteristics, sexual and drug use behaviors,
- the collection of an oral fluid sample for HIV and HCV antibody testing,
- a stipend (CAN$5.00 to $10.00).

Participants are encouraged to complete interviews at 6-month intervals.

Recruitment:
- PWIDs are recruited mainly in harm reduction programs.
- Other settings: drop-in and detention centers, detoxification clinics, rehabilitation programs.

RESULTS

Table 1: Descriptive analyses

<table>
<thead>
<tr>
<th>Variables</th>
<th>Analysis 1</th>
<th>Analysis 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits</td>
<td>9,382</td>
<td>2,801</td>
</tr>
<tr>
<td>Number of PWID</td>
<td>5,152</td>
<td>1,036</td>
</tr>
<tr>
<td>Male gender</td>
<td>76.4%</td>
<td>77.8%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>36.0 (14.0-73.0)</td>
<td>37.0 (16.0-70.0)</td>
</tr>
<tr>
<td>Recruitment region</td>
<td>Montreal</td>
<td>58.1%</td>
</tr>
<tr>
<td></td>
<td>Quebec city</td>
<td>20.2%</td>
</tr>
<tr>
<td></td>
<td>Semi-urban</td>
<td>21.7%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- Changes in the drug market that have occurred since 2003 are reflected in PWID’s practices. The high frequency of injection observed among PO injectors is of particular concern.
- Drug market variations are a challenge for health authorities responsible for harm reduction programs.
- Results not generalizable to all PWID.
- Recall and social desirability biases likely.

Acknowledgements

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- All participants.
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- The Canadian Public Health Agency.

Disclosure of interest

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- None of the authors has commercial relationships that might pose a conflict of interest in connection with this work.

Analyses

- Descriptive analyses (at first visit): Variables: age, gender and region of recruitment.

Analysis 1: Annual trends analyses on drugs and frequent injection

- Sample: All PWIDs recruited in SurvUDI from 2001 to 2015 and injecting in the month prior to interview.
- Analyses:
  - Generalized estimating equations (GEE) methods.
  - Log-binomial regression to estimate prevalence ratios (PR) and 95% Confidence Intervals (95%CI).

Variables:

- Dependent variables: cocaine/crack injection, heroin injection, PO injection and crack smoking. These variables referred to the six months prior to interview. Frequent injection was defined as injecting ≥ 120 times (upper quartile) in the month prior to interview. One model was built for each dependent variable.
- Independent variable: year of observation treated as a continuous variable.

Analyses

- Association between frequent injection and main drug injected

Table 2: Association between frequent injection and main drug injected

<table>
<thead>
<tr>
<th>Main drug injected</th>
<th>N</th>
<th>PR crude</th>
<th>PR adjusted*</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine/crack (ref)</td>
<td>1,451</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td>262</td>
<td>1.53</td>
<td>1.45</td>
<td>1.12-1.87</td>
</tr>
<tr>
<td>PO</td>
<td>1,075</td>
<td>2.64</td>
<td>2.42</td>
<td>2.06-2.86</td>
</tr>
<tr>
<td>Others drugs</td>
<td>63</td>
<td>1.32</td>
<td>1.22</td>
<td>0.75-1.99</td>
</tr>
</tbody>
</table>

- Compared to PWID who injected mainly cocaine/crack, proportion of PWID reporting frequent injection was higher among those who injected mainly heroin and those injecting mainly POs, adjusting for age, gender, homelessness, income and smoking crack.

- Adjusted for age, gender, homelessness, income and smoking crack.

- *Adjusted for age, gender, homelessness, income and smoking crack.

- PO injection significantly increased, with PR per year of 1.022 (95%CI: 1.040-1.028).

- Heroin injection significantly declined, with PR per year of 0.977 (95%CI: 0.970-0.986).

- Crack smoking significantly slightly increased, with PR per year of 1.015 (95% CI: 1.004-1.026).

- Frequent injection significantly slightly increased, with PR per year of 1.015 (95% CI: 1.004-1.026).

Other settings: drop-in and detention centers, detoxification clinics, rehabilitation programs.