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Incidence of hepatitis C virus and HIV among new injecting drug users in London: prospective cohort study

Ali Judd, Matthew Hickman, Steve Jones, Tamara McDonald, John V Parry, Gerry V Stimson, Andrew J Hall

In England, the low prevalence of HIV among injecting drug users during the 1990s was attributed in part to the introduction of harm reduction interventions in the late 1980s. Also, the prevalence of hepatitis C virus in the late 1990s was thought to be relatively low compared with other countries, at around 40% overall and 15% among those who had been injecting drugs for less than six years. We carried out a prospective cohort study of new injecting drug users in London to estimate the incidence of hepatitis C virus and HIV.

Participants, methods, and results

In 2001, we recruited from community settings mainly in London, but also in Brighton, 428 injecting drug users who were aged below 30 years or had been injecting for six years or fewer. All had injected in the previous four weeks and could provide addresses for follow up. They completed interviewer administered questionnaires and provided oral fluid specimens and optionally dried capillary blood spots for testing for antibodies to hepatitis C virus and HIV using published methods. They were followed up 12 months later. We calculated incidence using standard person time methods.

Most of the participants (91%) were recruited in London. The mean (SD) age was 27.4 (5.3) years, and 29% of the participants were women. Three fifths (61%) of the sample at baseline had been injecting for less than four years, and the median frequency of injecting was 2.5 times a day. Most (71%) mainly injected opiates, although just over half (53%) had injected cocaine or crack in the previous year. Participants reported high levels of injecting risk behaviour, with 24% at baseline reporting injecting in the previous four weeks with needles and syringes used by someone else, and 53% sharing injecting paraphernalia. The baseline prevalence of antibody to hepatitis C virus was 44% and of antibody to HIV was 4% (table). The overall follow up rate was 70%, and we found no difference between those followed up and those lost to follow up for sociodemographic characteristics or injecting risk behaviour. The incidence of antibody to hepatitis C virus was 41.8 cases per 100 person years and of antibody to HIV was 3.4 cases per 100 person years (see table).

Comment

The incidence of hepatitis C virus in England is high and of HIV higher than expected. These findings are corroborated by ongoing surveillance data, and suggest that transmission may have recently increased. Injecting drug users in London have a higher incidence of hepatitis C virus than those in many cities worldwide, and an incidence of HIV comparable to that among men who have sex with men attending clinics for sexually transmitted infection in London.

Possible explanations for the rising incidence include changes in patterns of injecting drug use, with greater injection of crack and injecting risk behaviour in newer injecting drug users than in those injecting in the early to mid-1990s. In addition there may have been increases in the size of the population of injecting drug users over and above any increase in protective interventions. Recent estimates suggest that current

Contributors: AJ designed the study, collected the data, analysed the results, and wrote the paper. LV supervised the study design and edited drafts of the paper. BM and SA helped with data management and statistical analyses. TH helped with interpretation of the results and is director of the EarlyBird Study. TW is guarantor.


Competing interests: None declared.

Ethical approval: Plymouth local research ethics committee of the South and West Devon Health Authority (1999).


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What is already known on this topic

Obesity in British children is increasing—prevalence rose by 150% between 1984 and 1998. Lay definitions of ideal weight and overweight deviate from clinical definitions in adults.

What this study adds

Many parents are unaware, and thus unconcerned, that their children are overweight.

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What is already known on this topic

Injecting drug users are at high risk of acquiring HIV, hepatitis C virus, and other bloodborne infections.

What this study adds

The incidences of hepatitis C virus and HIV among new injecting drug users in London are 41.8 and 3.4 cases per 100 person years, respectively.

Current drug policy is failing to maintain historical levels of protection from bloodborne viruses among this high risk group.

Averting a change to the date of the royal succession

I will be 90 years old in 2005 and have a very clear memory of an episode which took place at my home in Mansfield in 1926 when I was 11. My father, H L Flint, was a general practitioner but was much involved with cardiology. We understood (rightly or wrongly) that he was the first person in the Midlands able to take electrocardiographs. One fair-sized room in our house was his surgery. (Panel patients had a scruffy place in the town.) The electrocardiograph took up nearly the whole length of one wall. The patient sat with both feet and arms in saline baths and was wired up to the machine. Moreover, wires were run through our house and garden, over a high wall, through a neighbour’s garden, and so to the General Hospital, which stood high above us, to enable hospital patients to be wired up there, too.

At that time, the then Prince of Wales kept his hunters at Melton Mowbray (about 35 miles away). His vet was worried about the health of the Prince’s favourite hunter, “Tarzan.” He had heard of my father and asked whether it would be possible to take an ECG of Tarzan. After consideration my father decided to have a try. In due course, the horse arrived with the vet, groom, and an equerry, in a large horsebox. When this was arranged, my mother promptly decided to go and stay with her mother, so we still have the details in a letter I wrote, telling my mother all about it.

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Prevalence and incidence of hepatitis C virus and HIV antibody among new injecting drug users in London, 2001-3

<table>
<thead>
<tr>
<th>Viral antibodies</th>
<th>No positive/total</th>
<th>Prevalence (95% CI)</th>
<th>No of seroconversions/total (mean follow up time)</th>
<th>Incidence rate per 100 person years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis C virus</td>
<td>187/428</td>
<td>43.7 (38.9 to 48.5)</td>
<td>53/151 (327 days)</td>
<td>41.8 (31.9 to 54.7)</td>
</tr>
<tr>
<td>HIV</td>
<td>184/428</td>
<td>4.2 (2.5 to 6.6)</td>
<td>9/273 (360 days)</td>
<td>3.4 (1.8 to 6.6)</td>
</tr>
</tbody>
</table>

Contributors: AJ, MH, SJ, JP, GVS, and AJH designed and conducted the cohort study. TMcD conducted the laboratory testing, overseen by JVP. AJ undertook the statistical analysis; she is guarantor for the paper. All authors contributed to the writing of the paper.

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Competing interests: None declared.

Ethical approval: This study received ethical approval from Hammersmith, Queen Charlotte’s and Chelsea and Acton Hospitals research ethics committee.


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