High risk injecting behaviour among injectors from Glasgow: cross sectional community wide surveys 1990-1999

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In 1988, the UK Departments of Health gave approval for sterile needles and syringes to be made available to injecting drug users, thus obviating their need to inject with used equipment.¹ Since then, several hundred needle/syringe exchange schemes have been established, the incidence of HIV among injectors has been extremely low,² and exchange attenders have been shown to share needles/syringes less frequently than non-attenders.¹ During the mid-1990s to late 1990s, however, several observations suggested that injecting risk behaviours might be increasing; between 1997 and 1998, reports of acute hepatitis B infections in injectors throughout the UK increased by 50%,² hepatitis C (HCV) infections were prevalent in young injectors³ and data from Scotland's Drug Misuse Database and England and Wales's unlinked anonymous surveys of injectors showed high rates of needle/syringe sharing.² We set out to determine the authenticity of these observations by studying sharing behaviours among injectors in Glasgow, a city with one of the highest prevalences of injecting in Western Europe.

Methods and Results

During 1990-1994 and 1999, voluntary, anonymous, cross sectional surveys of Glasgow's injectors were performed to determine their prevalence of HIV, HCV and associated risk behaviours.³ In the 1990-1994 sweeps of the survey, people were eligible for participation if they had injected drugs in the two

months before interview; in 1999 respondents were eligible if they had ever injected since January 1990. A multi-site, community wide, sampling strategy—with respondents drawn from both "in treatment" and "out of treatment" settings—was adopted to minimise selection bias. The questionnaire administered by trained interviewers was standardised across survey years. An assessment was made of changes in needle/syringe sharing over successive cross sectional surveys, using multifactorial logistic regression analyses. Data were analysed using S-PLUS software.

Questionnaires were obtained from 2966 individual injectors (duplicate interviews within and between years were removed before analysis). The sample size was approximately 500 in each year between 1990 and 1994 (table 1); 444 respondents were recruited in 1999 but 54 people were eliminated from the analysis because they had not injected in the two months before interview and were therefore not comparable with the previous samples. Seventy one per cent of the total sample were male and 77% injected at least twice daily; their mean age was 26 years. In the multifactorial regression analyses, after adjusting for behavioural and demographic characteristics (including time since first injection to allow for the shorter injecting careers of those recruited in 1999), a significant decline was observed between years 1990 and 1992, in the risk of reporting injecting with used needles/syringes (a) at least once, (b) at least weekly, (c) with

Table 1 Characteristics and trends in injecting risk behaviour of 2966 current injecting drug users recruited during a series of cross sectional surveys in Glasgow 1990-1999

	1990 (n=503)	1991 (n=535)	1992 (n=515)	1993 (n=505)	1994 (n=518)	1999 (n=390)
Demographic characteristics						
Age (y) (9 non-responses) mean/median (SD)	24.4/23.5 (4.6)	25.6/25.1 (4.6)	26.1/25.2 (4.4)	26.5/25.9 (4.7)	27.8/27.2 (5.0)	26.1/25.4 (4.7)
Men % (n/N)	71% (356/503)	76% (407/535)	75% (385/515)	70% (354/505)	69% (355/518)	63% (247/390)
Time since onset of injecting (19 non-responses) mean/median (SD)	6.4/6.0 (3.6)	7.2/6.9 (3.9)	7.7/7.9 (4.2)	7.9/7.9 (4.6)	8.7/8.8 (4.8)	3.8/3.3§ (2.8)
Frequency of injecting drugs in previous six months (13 non-responses)						
<2 times daily	23% (113/499)	22% (114/530)	17% (86/515)	23% (115/504)	29% (150/515)	29% (113/390)
2-3 times daily	43% (215/499)	45% (240/530)	37% (193/515)	42% (210/504)	43% (219/515)	41% (158/390)
>3 times daily	34% (171/499)	33% (176/530)	46% (236/515)	35% (179/504)	28% (146/515)	30% (119/390)
Injecting risk behaviour in the previous six months†						
(a) Injected with used needle/syringe at least once						
Prevalence of risk factor (10 non-responses)	43% (215/502)	29% (155/532)	27% (138/512)	33% (164/504)	32% (166/517)	36% (141/389)
Adjusted OR (95% CI)	1.92 (1.47, 2.53)*	1.09 (0.83, 1.44)	1.00 (baseline)	1.39 (1.05, 1.83)*	1.54 (1.16, 2.04)*	1.60 (1.17, 2.21)*
(b) Injected with used needle/syringe at least weekly						
Prevalence of risk factor (10 non-responses)	17% (84/502)	9% (47/532)	6% (30/512)	8% (42/504)	8% (40/517)	12% (46/389)
Adjusted OR (95% CI)	2.90 (1.86, 4.53)*	1.54 (0.95, 2.50)	1.00 (baseline)	1.51 (0.93, 2.46)	1.55 (0.94, 2.56)	2.36 (1.38, 4.02)*
(c) Injected with used needle/syringe from more than one person						
Prevalence of risk factor (22 non-responses)	25% (126/498)	14% (76/530)	12% (59/511)	15% (74/502)	16% (80/517)	19% (74/386)
Adjusted OR (95% CI)	2.50 (1.77, 3.54)*	1.27 (0.88, 1.85)	1.00 (baseline)	1.43 (0.99, 2.08)	1.77 (1.22, 2.57)*	1.76 (1.16, 2.66)*
(d) Injected with used needle/syringe from a casual acquaintance‡						
Prevalence of risk factor (14 non-responses)	12% (62/501)	7% (39/529)	4% (22/512)	8% (39/504)	9% (44/517)	10% (39/389)
Adjusted OR (95% CI)	3.36 (2.01, 5.62)*	1.77 (1.03, 3.07)*	1.00 (baseline)	1.99 (1.16, 3.43)*	2.44 (1.43, 4.19)*	4.04 (2.21, 7.38)*

†Odds ratios were adjusted for other factors reported at time of interview: (a) time since onset of injecting drug use; (b) gender; (c) age; (d) recruitment setting (that is, treatment centre, needle exchange or street setting); and (e) frequency of injecting drugs. ‡Casual acquaintance includes drug dealer, someone in a shooting gallery or street, a fellow prisoner or a stranger. §The eligibility criteria was set differently for the survey conducted in 1999 compared with previous years, in that participants had to have started injecting since 1990. *Statistically significant at the 5% level.

more than one person and (d) with a casual acquaintance, in the previous six months (table 1). There was also a significantly increased risk of reporting behaviours (a–d) between 1992 and 1999 (table 1).

Discussion

Throughout the 1990s the Greater Glasgow Health Board developed the city's needle/syringe exchange services for its estimated 6000–8500 injectors⁴; the numbers of needles/syringes distributed to injectors increased from 136 900 in 1990 to 238 500 in 1992, 238 926 in 1994, 383 870 in 1998 and 787 524 in 1999. Despite this increase in the provision of injecting equipment, particularly in the late 1990s, needle/syringe sharing—as measured by several parameters and adjusting for behavioural and demographic characteristics, including time since first injection—increased significantly between 1991 and 1999. These observations confirm other less robust indicators of increased sharing activity and are cause for considerable concern. Conditions for the frequent transmission of HCV and HBV, and a resurgence of HIV, among injectors are extremely favourable. The reasons why such risks are being taken by a generation of injectors that are different from that of the mid-1980s, need to be elucidated and tackled accordingly. The

provision of sterile injecting equipment is essential in preventing the spread of blood-borne infections; however, unless injectors also fully appreciate the dangers of needles/syringe sharing, their preventive effectiveness will be severely attenuated. The Italian experience of the early 1980s⁵—when epidemic spread of HIV, HCV and HBV affected tens of thousands of injectors who had no difficulties in accessing sterile needles and syringes—is a salutary warning.

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Conflicts of interest: none.

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