Hitting up in the Top End: characteristics of needle exchange clients in Darwin

Abstract

Objective: Little is known about injecting drug use (IDU) and blood-borne viral (BBV) infection in rural Australia.
Method: These repeat cross-sectional studies were conducted during a two-week period in July and October-November 1998 at the Darwin needle exchange, with 129 and 121 respondents respectively.
Results: The commonest drug of choice was heroin, but the commonest drug injected was morphine. Self-reported sharing of needles and syringes was uncommon. Self-reported serostatus for HIV was high (8% and 11.4% respectively), but seemingly mostly associated with sexual rather than IDU risk; for hepatitis C (HCV) status, these were 54% and 37%. Among IDUs of Aboriginal or Torres Strait Islander (ATSI) background, who made up 14% of the first round respondents, patterns of IDU and of BBV infection were the same as among non-ATSI respondents.
Conclusions: These surveys reveal patterns of IDU in Darwin that have both similarities and differences with those in the major urban centres in Australia. In the absence of a comprehensive methadone maintenance program, many participate in a more or less informal morphine substitution program. HIV is present among these IDUs, and the risks of further sexual transmission may be high.
Implications: These surveys confirm the presence among injecting drug users in Darwin of HIV, HBV and HCV, and of the risk for further spread of these viruses. Control of blood-borne virus transmission among IDUs requires an even greater commitment to abolishing sharing of needles and syringes, and therefore continued support and enhancement of needle and syringe availability.

(*Aust N Z J Public Health* 1999; 24: 82-5)

Charles Roberts

Coordinator, Health for Injectors in the Northern Territory

Nick Crofts

Director, The Centre for Harm Reduction

Little has been documented about injecting drug use (IDU), associated harms and responses in parts of Australia other than the major urban centres. The research that has been carried out in rural Australia indicates that IDU is a phenomenon in every part of the country, and is associated everywhere with potential for transmission of blood-borne viruses such as HIV and the hepatitis B (HBV) and C viruses (HCV).[1-4] In at least some instances, contexts of IDU, characteristics and behaviours of injecting drug users (IDUs) and prevalences and incidences of blood-borne viruses among IDUs have been found to differ in rural areas from urban areas.[1] It would not seem safe to assume that public health strategies devised in urban settings for the prevention of transmission of these viruses are immediately transferable to rural settings.

In the Northern Territory (NT), the public health response to the threat of blood-borne virus transmission among IDUs began in 1989, with the establishment of a needle exchange in Darwin under the auspices of the Northern Territory AIDS Council. Darwin, population 70,000, is classified by the Australian Bureau of Statistics as a 'large rural centre'.[5,6] Health for Injectors in the Northern Territory (HINT) has been operating as a peer education and support and advocacy organisation since 1991, having operated previously as Territory Users' Forum (TUF) and Darwin IntraVenous Education (DIVE).

To begin to understand the phenomenon of IDU and the needs of IDUs in the NT better, two surveys – one in the dry season and one in the wet – were carried out among clients of the needle exchange program in Darwin in 1998. The surveys focused on the behavioural risks for blood-borne virus infection associated with IDU, and collected self-report of blood-borne virus prevalence. This is a first report from these surveys.

Methods

During a two-week period in July 1998, staff at HINT asked all clients to complete a brief questionnaire. The survey was administered by the HINT co-ordinator on a one-to-one basis, enabling the collection of additional information with regards to current trends in IDU in the Darwin region. The questionnaire covered demographics, risk behaviours for blood-borne virus transmission, and self-report of serostatus for HIV, HBV and HCV; it took about 15 minutes to complete. A further round of the study, using the same methodology, was carried out during a two-week period in October-November 1998, in part to assess whether there is a difference between needle exchange clientele with the season.

Given that there was no means of identifying an individual client who may have participated in both surveys, the results of the two surveys are presented as repeat cross-sectional studies. Selected results only from the second survey are presented.

Statistical techniques used in the analysis included chi-square and Fisher exact

Submitted: June 1999
Revision requested: August 1999
Accepted: November 1999

Correspondence to:
Mr Charles Roberts, HINT, Northern Territory AIDS Council, GPO Box 2826, Darwin NT 0801.
Fax: (08) 8941 2590; e-mail: goodhint@octa4.net.au

statistics to compare categorical variables, and exact methods for calculation of 95% confidence intervals.

Results

During the first survey period, 238 clients were seen by the needle exchange, of whom 129 (54.2%) completed the questionnaire. Response rates were similar between males (101/189, 53%) and females (28/49, 57%), although slightly higher for clients aged over 35 years than for younger clients (52/86, 60.5% cf. 77/152, 50.7%; 95% CI for difference –3.2%, 22.8%). During the second survey, 121 of 242 clients seen by the exchange completed the survey, a response rate of 50.0%. In this round, response rates among females were substantially higher than among males (33/43, 76.7% cf. 88/199, 44.2%; 95% CI for difference 18.1%, 46.9%; $p<0.001$); response rate was much higher among younger clients (71.2% of those aged less than 25 years cf. 43.2% of those 25 years and older).

In the first round, 78.3% of respondents were male, of whom 16.8% identified as homosexual or bisexual; 28.6% of female respondents similarly self-identified. Mean age at interview for males was 30.9 years (standard deviation [SD] 7.8 years) and for females was 30.6 (10.3) years.

Most respondents (76.7%) were residents of Darwin, in the sense that they had lived there for the preceding six months and intended remaining for the next six months. In the dry season, 8.5% reported neither – i.e. were transient. Just over half (51.2%) reported living in rented accommodation, with another 10.9% reporting owning their own property; 19.4% were in some form of supported accommodation, and 18.6% were homeless.

Mean duration of injecting was 11.1 (7.9) years. Those who had been injecting for more than 10 years made up almost half all respondents (48.0%), with those who had been injecting for less than four years a substantial minority (15.5%).

Nine different drugs were reported as being the drug used on the last occasion of injecting (Table 1), of which morphine was the most frequent response (75%) and amphetamines the second most frequent (14.1%). This was in sharp contrast to responses when participants were asked which was their drug of choice, when of 11 drugs mentioned (including those who replied 'any drug available') 57.4% nominated heroin and 20.9% amphetamines.

Of 96 respondents who reported morphine as the last drug used, 38 (39.6%) reported having obtained the morphine on prescription from a doctor, 40 (41.7%) acquired it on the street, and the remainder from both sources. Of the four who reported methadone as their last drug, three reported acquiring it from a doctor.

Approximately two-thirds of respondents reported injecting drugs at least daily, with substantial proportions in both rounds reporting injecting more than three times per day (22.5%). Most of the remainder reported injecting at least weekly, with small proportions reporting not having injected in the preceding month (4.7%). These proportions did not differ between sexes. Those reporting opiates as the last injected drug were more likely to be injecting at least daily than those reporting amphetamines (81% cf.22% respectively, 95% CI for difference 44.6%, 80.2%; $p<0.001$).

The surveys found very low rates of sharing of injecting equipment. Almost 80% reported using a new needle and syringe on each occasion of injecting in the preceding month. However, 97%, reported never having used a needle or syringe they knew had previously been used by someone else, and a similar proportion (94.6%) that they had never passed a syringe they had used to someone else for use. The disparity is because some respondents

Table 1: Reported last drug injected and preferred drug among IDU clients of Darwin needle exchange, July and October 1998.

	Round 1: July (n=129)				Round 2: Oct-Nov (n=121)			
	Last drug injected		Drug of choice		Last drug injected		Drug of choice	
	n	%	n	%	n	%	n	%
Morphine	96	75.0	11	8.5	88	74.0	8	6.6
Heroin	3	2.3	74	57.4	7	5.9	76	62.8
Methadone	4	3.1	1	0.8	1	0.8	1	0.8
Amphetamines	18	14.1	27	20.9	23	19.3	20	16.5
Dexamphetamine	1	0.8						
Ritalin	1	0.8						
Cocaine	–	–	2	1.6	–	–	3	2.5
Marijuana	–	–	5	3.9	–	–	8	6.6
Hash	–	–	1	0.8				
Steroid	3	2.3	3	2.3	2	1.6	2	1.7
Temazepam	–	–	1	0.8				
Valium	1	0.8	1	0.8				
Alcohol	1	0.8	1	0.8				
Any	3	2.3	2	1.7				
Total	128	100	129	100	119	100	121	100

regularly reused a needle and syringe that they but no-one else had previously used before.

The great majority of respondents (93.8%) reported always disposing of used needles and syringes in safe and legal manners, the commonest being return to the needle exchange (46.5%) and disposal in a plastic bottle into the rubbish (38.9%). However, 6.2% reported disposal by wrapping in paper into the rubbish.

Overall, participation rates in HIV testing were high, with 89% reporting having been tested; 6.1% reported having tested positive for HIV. All were male; self-reported prevalence among males was therefore 8.0% (7/88). Most (6/7) of those who reported HIV seropositivity also identified as homosexual. Participation rates in testing for HCV were also high, although slightly lower than for HIV (87%); self-reported prevalence for HCV was 53.6%. Self-reported HCV seropositivity rose with age in both rounds, from 16.7% among those aged less than 25 years to 70.8% among those aged 35 years or more. Ninety-eight respondents (76%) had been tested for HBV, with 20 (20.4%) reporting positivity.

Eighteen (14.0%) respondents self-identified as Aboriginal or Torres Strait Islander (ATSI). For all three blood-borne viruses asked about, the proportions of ATSI respondents reporting having been tested and receiving a positive result did not differ from those among non-ATSI respondents. For HIV, 89% reported having been tested, and 6.3% reported a positive result; for HBV, these proportions were 89% and 25% respectively; and for HCV, 94.4% and 70.6% respectively. ATSI respondents were similar to non-ATSI respondents in drug of choice, 50% nominating heroin and 22% amphetamines; and in last drug used, with 83% reporting morphine; nor was there any difference in frequency of injecting or methods of disposal of used needles and syringes.

Second round

In the second round, 72.7% of respondents were male, with 20.5% self-identifying as homosexual or bisexual; for females, this proportion was 27.3%. In the first survey, conducted during the dry season, 8.5% reported neither – i.e. were transient – but in the second survey, conducted during the wet season, the proportion who were transient was 0.8%, much lower than this proportion during the dry season (95% CI for difference 2.6%, 12.8%; p=0.01). In this round, 8.3% of respondents reported having tested HIV seropositive, or 11.4% (9/79) of males. As in the first round, most (5/7) reported their sexual orientation as homosexual (two did not report sexual orientation). Self-reported seroprevalence for HCV was 36.8% in the second round, but rose with age as in the first round, from 10.5% among those aged less than 25 years to 75% among those aged 35 years or more.

Discussion

This is the first report of injecting drug use and associated behavioural risks for blood-borne viruses in the Northern Territory.

A striking finding is the almost universal participation of respondents in safe injecting behaviours. Given the method of recruitment, through clients of the needle exchange, this is perhaps to be expected, but it illustrates the key role the needle exchange is playing in prevention of transmission of blood-borne viruses in this population.

These findings confirm that HIV is present among injecting drug users in Darwin, but they also indicate that the majority was probably sexually transmitted among homosexual and bisexual men who also inject drugs, rather than by needle sharing, as has been shown in other parts of Australia.[7] The rate of self-reported seroprevalence of exposure to HCV is similar to those found in the national needle exchange monitoring program, which in 1997 were 50% overall.[8]

The response rate in these surveys of around 50% is quite good for this population; in the same national needle exchange surveys, response rates are around 60%.[8] When it is considered that a majority of the clients of the exchange are there simply to get new needles and syringes, and that many have a pressing need to use them rapidly, the response rate seems even better. The temptation to generalise too widely from these results must be resisted, because of the self-selection involved by the use of needle exchange in the first place, and by participation in the surveys in the second. This highlights the need for further research to characterise the populations and their risks for blood-borne viruses.

There is a large disparity for a majority of these respondents between their stated drug of choice (for 57% of the sample in the first round, heroin) and the last drug injected (for 75%, morphine). This, and the source of the morphine that is the commonest drug injected by these clients (57% from doctors), suggest that heroin supplies through the street are unreliable in Darwin. Therefore, in the absence of an accessible methadone maintenance program, many people who are dependent on heroin are being maintained by their doctors on prescription morphine. The irony is that the active metabolite of heroin, when injected, is morphine.

A significant proportion of the respondents surveyed self-identified as Aboriginal or Torres Strait Islander – 14% compared with 8.2% of the population of Darwin (95% CI for difference – 0.2%, 11.7%).[9] There was no evidence from this survey that they were at any greater risk for blood-borne viruses from their injecting behaviour than are non-ATSI clients, nor was self-reported prevalence of blood-borne viruses any different. Given the very high rates of sexually transmissible diseases among some groups of ATSIs in the Northern Territory[10] and the potential therefore for a sexually transmitted epidemic of HIV, continued efforts to prevent HIV transmission by sharing of needles and syringes among ATSI IDUs must remain a high priority.

These surveys, the first of their kind in the Northern Territory, are confirmation of the presence among injecting drug users in Darwin of HIV, as well as HBV and HCV, and of the risk for further spread of these viruses. The frequency of injecting behaviours that may allow their transmission is gratifyingly low, but it can be inferred that this is as a result of the availability of a needle exchange and associated educational strategies. Control of HCV transmission among IDUs will require even greater commitment to abolishing sharing of needles and syringes, and

therefore continued support and enhancement of needle and syringe availability.

These data tell us nothing about IDUs not in contact with the needle exchange program in Darwin or elsewhere in the Northern Territory. They do tell us that injecting drug use exists in these locales, associated with blood-borne viruses and risks for further transmission. Prevention of these infections must remain a high public health priority.

Acknowledgments

The authors gratefully acknowledge the assistance of Campbell Aitken in preparation of this report. Nick Crofts is supported by the Research Fund of the Macfarlane Burnet Centre.

References

1. Aitken CK, Brough R, Crofts N. Injecting drug use and blood-borne viruses: a comparison of rural and urban Victoria. *Drug Alcohol Rev* 1999;18: 47-52.
2. Spooner C, Bishop J, Parr J, et al. *Study of HIV risk amongst injecting drug users in a rural setting: Cairns*. Cairns: Alcohol and Drug Program, Queensland Health, 1996.
3. Gore C. *The 1993 Rural Injectors Project.* Sydney: NSW Users and AIDS Association, 1993.
4. Gore C, Mahs S. *The 1994 ROW and Metro Project*. Sydney: NSW Users and AIDS Association, 1994.
5. Australian Bureau of Statistics. *Census of population and housing: selected social and housing characteristics for statistical local areas, Northern Territory*, *1996*. Canberra: ABS. Catalogue No.: 2015.7.
6. Department of Primary Industries and Energy. *Rural, remote and metropolitan areas classification*: *1991 Census Edition*. Canberra: AGPS, 1994.
7. Crofts N, Marcus L, Meade J, et al. Determinants of HIV risk among men who have homosexual sex and inject drugs. *AIDS Care 1995*; 7: 647-55.
8. MacDonald M, Wodak AD, Ali R, et al. HIV prevalence and risk behaviour in needle exchange attenders: A national study. *Med J Aust* 1997; 166: 237-40.
9. Australian Bureau of Statistics. 1996 Census. www.statistics.gov.au.
10. Bowden FJ, Bastian I, Johnston F. A community-based approach to the control of sexually transmitted diseases in the Northern Territory. *Aust N Z J Public Health* 1997; 21: 519-23.