Rate of methadone use among Aboriginal opioid injection drug users

Evan Wood MD PhD, Julio S. Montaner MD, Kathy Li MSc, Lucy Barney RN MSN, Mark W. Tyndall MD ScD, Thomas Kerr PhD

Abstract

Background: Previous studies have shown elevated rates of health-related harms among Aboriginal people who use injection drugs such as heroin. Methadone maintenance therapy is one of the most effective interventions to address the harms of heroin injection. We assessed the rate of methadone use in a cohort of opioid injection drug users in Vancouver and investigated whether methadone use was associated with Aboriginal ethnic background.

Methods: Using data collected as part of the Vancouver Injection Drug Users Study (May 1996–November 2005), we evaluated whether Aboriginal ethnic background was associated with methadone use using generalized estimating equations and Cox regression analysis. We compared methadone use among Aboriginal and non-Aboriginal injection drug users at the time of enrolment and during the follow-up period, and we evaluated the time to first methadone use among people not using methadone at enrolment.

Results: During the study period, 1603 injection drug users (435 Aboriginal, 1168 non-Aboriginal) were recruited. At enrolment, 54 (12.4%) Aboriginal participants used methadone compared with 247 (21.2%) non-Aboriginal participants (odds ratio [OR] 0.53, 95% confidence interval [CI] 0.38–0.73, p < 0.001). Among the 1351 (84.3%) participants who used heroin, Aboriginal people were less likely to use methadone throughout the follow-up period (adjusted OR 0.60, 95% CI 0.45–0.81, p < 0.001). Among people using heroin but who were not taking methadone at enrolment, Aboriginal ethnic background was associated with increased time to first methadone use (adjusted relative hazard 0.60, 95% CI 0.49–0.74, p < 0.001).

Interpretation: Methadone use was lower among Aboriginal than among non-Aboriginal injection drug users. Culturally appropriate interventions with full participation of the affected community are required to address this disparity.

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sex; residence in Vancouver’s Downtown Eastside; unstable residence; borrowing and lending syringes; injection of heroin, cocaine or speedball (mixture of heroin and cocaine); involvement in the sex trade; help required to inject; and binge drug use. Finally, in order to determine the factors associated with first time methadone use among people not using methadone at enrolment, we used Kaplan–Meier methods and Cox proportional hazards regression.

Results

Overall, 1603 people were recruited into the Vancouver Injection Drug Users Study during the study period. Of these, 435 were Aboriginal: 189 (43%) First Nations, 188 (43%) Aboriginal, 57 (13%) Metis and 1 (< 1%) Inuit. At enrolment, 12.4% (54/435) of Aboriginal participants used methadone versus 21.2% (247/1168) of non-Aboriginal participants (odds ratio [OR] 0.53, 95% confidence interval [CI] 0.38–0.73, p < 0.001). Among all participants, 1351 (84.3%) reported ever using heroin alone or in combination with cocaine (speedball) during the follow-up period. We focused on this population because methadone is only available to those who have used opioids.

Regression analysis (by use of generalized estimating equations) showed that Aboriginal participants were less likely to use methadone compared with non-Aboriginal participants (univariate analysis, OR 0.51, 95% CI 0.41–0.63, p < 0.001; multivariate analysis, OR 0.60, 95% CI 0.45–0.81, p < 0.001). Figure 1 shows the time to first methadone use among the 1055 injection drug users who used opioids but did not use methadone at enrolment and who had at least 1 follow-up visit. Aboriginal ethnic background was associated with a lower rate of initiation of methadone therapy over the follow-up period compared with non-Aboriginal ethnic background (log-rank p < 0.001). Indeed, Aboriginal ethnic background was associated with a longer time to first methadone use in both the unadjusted (relative hazard [RH] 0.71, 95% CI 0.59–0.86, p < 0.001) and the multivariate adjusted (RH 0.60, 95% CI 0.49–0.74, p < 0.001) analyses (Table 1). Aboriginal ethnic background remained independently associated with reduced methadone use even if we altered the model-fitting protocol and forced in additional sociodemographic variables, such as education and employment (full details of this analysis are available from the corresponding author).

Interpretation

In the present study, we found that Aboriginal ethnic background was associated with reduced use of methadone at baseline. When we followed heroin users over time and examined the rate of methadone initiation, we found that Aboriginal participants had a slower time to initiation compared with non-Aboriginal participants.

In Canada, the problem of addiction deserves both great attention from policy makers and greater application of evidence-based public health strategies. Since a number of the health-related harms stemming from illicit drug use may be more common among Aboriginal people, this population will require dedicated resources and policy initiatives. However, these initiatives must be evidence-based and developed in full collaboration with the affected community. In addition, further study is required to understand why the rate of methadone use appears to be lower among this population.

Although the Vancouver Injection Drug Users Study is believed to be representative of injection drug users in Vancouver, this type of cohort study is limited by the fact that there are no registries of injection drug users from
which to draw a random sample, and as such our findings may not be generalizable to other settings. In addition, certain behaviours, such as syringe sharing, may be under-reported because they are socially undesirable. It is also possible that methadone use was under- or overreported.\(^{12}\) However, the end points used in our study (primarily methadone maintenance therapy and ethnic background) have not been shown to be affected by under- or over-reporting or by issues of recall bias. In addition, we have used an inclusive definition for Aboriginal people based on how study participants self-identified upon recruitment to the study; however, it is likely that there are unique groups within this definition.

Previous studies have shown elevated rates of HIV infection and other health-related harms among Aboriginal people who use injection drugs.\(^{8-10}\) Our study indicates that, in addition to these concerns, there may be other considerable barriers to evidence-based treatment for heroin addiction and highlights issues related to HIV prevention and access to health care. Interventions that are evidence-based and culturally appropriate and that have the full participation of the affected community (designing, planning, implementation and evaluation) are required to address ongoing health-related harms and disparities in the access to addiction treatment among this population.

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Correspondence to: Dr. Evan Wood, British Columbia Centre for Excellence in HIV/AIDS, Rm. 608, 1081 Burrard St., Vancouver BC V6Z 1Y6; fax 604 806-9044; ewood@cfenet.ubc.ca

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