

Difficulty Accessing Addiction Treatment Predicts Injection Initiation among Street-Involved Youth in a Canadian Setting

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Background

- Preventing the transition into injection drug use among vulnerable youth is critical for reducing serious drug-related harms.
- Addiction treatment is one evidence-based intervention to decrease problematic substance use; however, youth frequently report being unable to access treatment services and the impact of this on drug use trajectories remains largely unexplored.
- This study examines the relationship between being unable to access addiction treatment and injection initiation among street-involved youth.

Methods

- Data were derived from the At-Risk Youth Study (ARYS), a prospective cohort of street-involved youth in Vancouver, Canada, aged 14-26.
- The study period was September 2005 to May 2014.
- The primary outcome of interest was time to injection initiation which was defined as the midpoint between the last report of remaining injection naïve and the first report of having used a needle to chip, fix or muscle drugs.
- The primary explanatory variable of interest was being unable to access addiction treatment defined as responding affirmatively to the question: "In the past 6 months, have you tried to access any treatment program but were unable?"
- An extended Cox model with time-dependent variables was used to identify factors independently associated with time to injection initiation.
- To fit our multivariable Cox model, we used a backwards selection process.

Results

- Overall, 1157 street-involved youth were recruited into the ARYS cohort during the study period
- At enrolment 659 (57%) youth had never injected drugs, among which 462 (70%) completed at least one study follow-up to assess for injection initiation
- Among 462 participants who were injection naïve at baseline, 97 (21%) initiated injection drug use over study follow-up for an incidence density of 8.6 cases per 100 person years [95% Confidence Interval (CI): 7.0–10.6]
- Over study follow-up, 129 (28%) participants reported trying but being unable to access addiction treatment in the previous six months
- The median number of study visits was 4 (IQR= 2-6), the median time between study visits was 6.2 (IQR: 5.7–8.1) months, and the median follow up time per participant was 22.4 (IQR= 11.9–43.2) months.
- In a multivariable Cox regression analysis, being unable to access addiction treatment remained independently associated with a more rapid rate of injection initiation (Adjusted Hazard Ratio =1.99; 95% Confidence Interval: 1.14 – 3.50), after adjusting for potential confounders (see Table 1).

Conclusions

- Inability to access addiction treatment was a common experience among street-involved youth in this setting and associated with a shorter time to injection initiation.
- Given the importance of intervening early in youths' drug use trajectories to prevent injection initiation, our findings indicate that addressing deficiencies in youth addiction treatment should be a top public health priority.
- Numerous barriers to accessing addiction treatment have been identified in the literature and include: limited availability and insufficient use of evidence-based medication-assisted treatments for youth; long wait times; lack of adequately trained providers; age restrictions; limited hours of operation; discrimination; and stigma.
- Our findings indicate that facilitating engagement with addiction treatment by increasing the availability of evidence-based treatments and reducing barriers to access treatment offer important opportunities to engage with vulnerable youth and potentially prevent them from transitioning to injection drug use.

Acknowledgements

The authors thank the ARYS study participants for their contribution to the research, as well as current and past researchers and staff. We would specifically like to thank Cody Callon, Jennifer Matthews, Deborah Graham, Peter Vann, Steve Kain, Tricia Collingham, Kristie Starr and Carmen Rock for their research and administrative assistance. The study was supported by the US National Institutes of Health (U01DA038886). KD is supported by a MSFHR/St. Paul's Hospital-Providence Health Care Career Scholar Award and a Canadian Institutes of Health Research New Investigator Award. This research was undertaken, in part, thanks to funding from the Canada Research Chairs program through a Tier 1 Canada Research Chair in Inner City Medicine, which supports EW. JM is supported with grants paid to his institution by the British Columbia Ministry of Health and by the US National Institutes of Health (R01DA036307). We have no conflicts of interest to declare.

Table 1: Baseline characteristics and Cox regression analysis for factors associated with injection initiation among street-involved youth (n = 462).						
Characteristic	Baseline Characteristics		Bivariable and Multivariable Cox Regression Analysis			
	Injection Initiation Yes (n=97) n (%)	No (n=365) n (%)	Unadjusted HR ^a (95% CI) ^b	p-value	Adjusted HR (95% CI)	p-value
Unable to access addiction treatment ^{d,e}						
Yes	15 (15.5)	33 (9.0)	2.19 (1.27 – 3.78)	0.005	1.99 (1.14 – 3.50)	0.016
No	80 (82.5)	324 (88.8)				
Years since initiated hard drug use (per year older)						
Median	5.4	5.4	1.00 (0.94 – 1.07)	0.893		
IQR	(3.7 – 7.8)	(3.1 – 7.9)				
Caucasian Ethnicity						
Yes	68 (70.1)	219 (60.0)	1.50 (0.97 – 2.31)	0.069	1.50 (0.96 – 2.34)	0.076
No	29 (29.9)	146 (40.0)				
Female Gender						
Yes	28 (28.9)	114 (31.2)	0.96 (0.62 – 1.50)	0.872		
No	69 (71.1)	251 (68.8)				
Heroin Use ^{c,d,e}						
Yes	24 (24.7)	52 (14.2)	2.12 (1.34 – 3.36)	0.001		
No	70 (72.2)	307 (84.1)				
Cocaine Use ^{c,d,e}						
Yes	43 (44.3)	186 (51.0)	1.17 (0.77 – 1.78)	0.449		
No	52 (53.6)	176 (48.2)				
Crack Smoking ^{d,e}						
Yes	68 (70.1)	190 (52.1)	1.71 (1.11 – 2.63)	0.015	1.52 (0.97 – 2.37)	0.068
No	27 (27.8)	171 (46.8)				
Crystal Meth Use ^{c,d,e}						
Yes	51 (52.6)	122 (33.4)	2.31 (1.53 – 3.47)	<0.001	2.06 (1.36 – 3.11)	<0.001
No	43 (44.3)	238 (65.2)				

^aHR: hazard ratio; ^b CI: confidence interval; ^c denotes non-injection use; ^d denotes activities in the six months prior to follow-up interview; ^e refers to the activities lagged to the previous available study follow-up

Note: Not all cells add up to 462 as participants may choose not to answer sensitive questions

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