

Prevalence and correlates of food insufficiency among injection drug users in a urban Canadian setting

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Background

Food insufficiency is believed to be common among injection drug users (IDU) and may be associated with a range of health risks and adverse outcomes. However, little is known about the social and behavioral determinants of food insufficiency in this population.

Objectives

We examined the prevalence and correlates of food insufficiency among IDU participating in the Vancouver Injection Drug Users Study (Canada).

Methods

Participants were eligible for inclusion if they had injected illicit drugs at least once in the past month, lived in the Vancouver Coastal Health region and provided informed consent. Participants who completed a survey between Dec. 2005 and July 2008 were included in analysis. Our dependent variable, food insufficiency, was defined as answering 'yes' to either or both of the questions: "I am hungry, but don't eat because I can't afford enough food" and/or "I am hungry, but will buy drugs instead of food". The prevalence of food insufficiency was examined in relation to socio-demographic and drug-use characteristics. Multivariate logistic regression was used to determine factors independently associated with reporting food insufficiency

Results

A total of 1,030 participants were eligible for analysis. Overall, the median age was 41.6 [IQR 34.8 – 47.6]; 344 (33%) were female; and 300 (29%) Aboriginal. A total of 816 (79%) IDU were found to be food insufficient.

Factors associated with food insufficiency in univariate analyses (Table 1) included: being younger in age (Odds Ratio [OR] = 0.97, 95% Confidence Interval [CI]: 0.95-0.98, $p < 0.001$); being incarcerated in the last six months (2.35, 95%CI: 1.45-3.80, $p < 0.001$); spending over CAD\$50 a day on drugs (OR: 2.77, 95% CI: 2.03-3.80, $p < 0.001$); currently living in unstable housing (OR 2.65, 95% CI: 1.94-3.62, $p < 0.001$); using daily non-injection crack (OR 2.61, 95% CI: 1.85-3.68, $p < 0.001$); using daily injection heroin (OR 3.29, 95% CI: 2.18-4.97, $p < 0.001$); using daily injection cocaine (OR 2.34, 95% CI: 1.19-4.59, $p < 0.011$); and having a crack binge (OR 2.72, 95% CI: 1.91-3.87, $p < 0.001$).

Results from the multivariate analysis are shown in Table 2. Factors independently associated with food insufficiency included: spending > CAD\$50 daily on drugs (adjusted odds ratio [AOR]: 1.69, 95% CI: 1.19-2.40); living in unstable housing (AOR: 1.90, 95% CI: 1.36-2.68); daily heroin injection (AOR: 2.10, 95% CI: 1.35-3.26) and crack bingeing (AOR: 1.99, 95% CI: 1.34-2.96).

Table 1: Factors associated with food insufficiency among injection drug users (n=1,030)

Characteristic	Yes 79 (%) n = 816	No 21 (%) n = 214	Odds Ratio (95% CI)	p - value
Age				
Median (IQR)	41.1 (34.1-47.0)	44.1 (37.8-50.8)	0.97 (0.95-0.98)	<0.001
Gender				
Male	547 (67%)	139 (65%)	0.91 (0.66-1.25)	0.566
Female	269 (33%)	75 (35%)		
Aboriginal identity				
No	578 (71%)	152 (71%)	1.01 (0.72-1.41)	0.956
Yes	238 (29%)	62 (29%)		
Incarceration, last 6 months				
No	650 (80%)	193 (90%)	2.35 (1.45-3.80)	<0.001
Yes	166 (20%)	21 (10%)		
Education status				
High school or greater	433 (53%)	128 (60%)	1.32 (0.97-1.79)	0.078
Other	383 (47%)	86 (40%)		
Welfare income				
<\$580	407 (50%)	97 (46%)	0.82 (0.61-1.11)	0.204
≥\$580	400 (50%)	116 (54%)		
Money spent on drugs, per day				
<\$50	317 (39%)	135 (64%)	2.77 (2.03-3.80)	<0.001
≥\$50	495 (61%)	76 (36%)		
Unstable housing				
No	203 (25%)	100 (47%)	2.65 (1.94-3.62)	<0.001
Yes	613 (75%)	114 (53%)		
Daily non-injection crack, last 6 months				
No	449 (55%)	163 (76%)	2.61 (1.85-3.68)	<0.001
Yes	367 (45%)	51 (24%)		
Daily injection heroin, last 6 months				
No	531 (65%)	184 (86%)	3.29 (2.18-4.97)	<0.001
Yes	285 (35%)	30 (14%)		

Table 2. Logistic regression analysis of factors associated with food insufficiency among injection drug users (n = 1,030)

Variable	Adjusted Odds Ratio (AOR)	95% Confidence Interval (95% CI)
Age (per age increase)	0.98	0.96 - 1.00
Incarceration, last 6 months (yes vs no)	1.28	0.76 - 2.16
Welfare income (≥\$580 vs <\$580)		
Money spent on drugs per day (≥\$50 vs <\$50)	1.69	1.19 - 2.40
Unstable housing (yes vs no)	1.90	1.36 - 2.68
Daily non-injection crack, last 6 months (yes vs no)	1.24	0.82 - 1.86
Daily injection heroin, last 6 months (yes vs no)	2.10	1.35 - 3.26
Daily injection cocaine, last 6 months (yes vs no)	1.62	0.77 - 3.41

Discussion

The prevalence of food insufficiency among IDU was extremely elevated in this high resource, urban setting. Food insufficiency in this population appears to be perpetuated by drug addiction. These findings support the need for targeted addiction treatment and nutritional support strategies for IDU.