

HIV risks associated with suicide attempts among a prospective cohort of street-involved youth

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Background

- Street-involved youth experience elevated rates of HIV risk, infection and mortality.
- Previous research has found that among adult female sex workers, intimate partner violence, histories of childhood maltreatment and mental health issues are highly prevalent and exacerbate HIV risks.^{1,2}
- However, less is known about whether street-involved youth experience similar HIV risks and if these risks are associated with attempted suicide.
- The current analysis sought to longitudinally evaluate if markers of HIV-related risk were associated with recent suicide attempts among street-involved youth in Vancouver, Canada

Methods

- Street-involved [defined as experiencing homelessness, being unstably housed (e.g., living in a shelter), or accessing street-based services for youth in the last six months] youth between the ages of 14 and 26 years were recruited into the At-Risk Youth Study (ARYS).
- An interviewer-administered questionnaire elicited a range of data on demographics, drug use patterns, income generating activities, and other HIV risk behaviours.
- Youth who answered, “in the last six months, have you attempted suicide?” between September 2005 and May 2014 were included in this analysis.
- Trained study nurses administer this question to differentiate between intentional suicide attempts from accidental overdoses.
- Multivariable generalized estimating equation analyses (GEE) with time-updated measures were employed to examine risk factors associated with recent reports of attempted suicide.

Results

- In total, 1050 youth were recruited into the ARYS cohort contributing to 4026 study observations with 172 observations (4.3%) involving a report of attempted suicide.
- 327 (31%) identified as female, 245 (23%) identified as Indigenous, 172 (16%) identified as lesbian/gay/bisexual/two-spirited.
- Median number of study visits: 3 (IQR: 1-5) – 69% returned for at least one follow-up visit.
- 80 (8%) of youth reported recently attempting suicide at baseline, an additional 139 (13%) reported a recent suicide attempt over the study period.
- In multivariable analysis, engagement in sex work (adjusted odds ratio [AOR]=2.15; 95% confidence interval [CI]: 1.40-3.29), experiencing intimate partner violence (AOR=2.31; 95% CI: 1.36-3.93), having a history of childhood maltreatment (AOR=1.71; 95% CI: 1.03-2.86), and exhibiting depressive symptomology (AOR=2.87; 95% CI: 1.80-4.57) were all independently associated with recent suicide attempts.

Table 2: Bivariable and multivariable GEE analyses of factors associated with recent suicide attempts^a among street involved youth (n=1050).

Characteristic	Unadjusted Odds Ratio		Adjusted Odds Ratio	
	OR (95% CI)	p-value	AOR (95% CI)	p-value
Age (Per year older)	1.01 (0.95 - 1.08)	0.804		
Female gender	1.40 (0.98 - 1.99)	0.061		
Indigenous ancestry	0.92 (0.62 - 1.36)	0.670		
LGBT ^b	1.97 (1.37 - 2.84)	<0.001	1.42 (0.94 - 2.16)	0.098
High school incompleteness	1.20 (0.78 - 1.85)	0.414		
Homeless ^a	1.64 (1.24 - 2.17)	<0.001	1.31 (0.97 - 1.76)	0.077
Depression (≥22) ^{ac}	3.76 (2.38 - 5.93)	<0.001	2.87 (1.80 - 4.57)	<0.001
Sex work ^a	2.76 (1.88 - 4.05)	<0.001	2.15 (1.40 - 3.29)	<0.001
Injection drug use ^a	1.56 (1.13 - 2.15)	0.007		
Daily alcohol use ^a	1.15 (0.75 - 1.76)	0.512		
Intimate partner violence ^a	2.95 (1.84 - 4.74)	<0.001	2.31 (1.36 - 3.93)	0.002
Childhood maltreatment	2.22 (1.40 - 3.54)	<0.001	1.71 (1.03 - 2.86)	0.040

^a Denotes activity in the last six months; ^b lesbian, gay, bisexual, two spirited; ^c depression variable measured by Center for Epidemiological Studies Depression (CES-D) scale

Discussion

- Our study findings indicate that suicidal ideation and attempts are common among street-involved youth, with approximately 1 in 20 reporting that they attempted to commit suicide based on longitudinal data from nearly nine years.
- Further, a number of known HIV risk factors, including engaging in sex work and experiencing intimate partner violence, were associated with recent suicide attempts among street-involved youth.
- Epidemiological evidence examining the relationship between these HIV risk factors and suicide among this population is lacking, which is particularly concerning given that street-involved youth experience elevated rates of IPV³ and sex work,⁴ and the related public health impacts of HIV transmission.
- Findings point to opportunities to integrate HIV prevention and testing initiatives with mental health services that are both, accessible and responsive to youth.
- Trauma-informed interventions, grounded in an empathetic understanding of individuals' traumatic experiences, should be the guiding framework of street-based youth services.⁵
- Future research should explore the gendered vulnerabilities of HIV risks on street-involved youths' mental health.

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