

Housing Instability Related to HIV-Hepatitis C Coinfection in Ontario: Findings from the Positive Spaces Healthy Places (PSHP) Study



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The Challenge

Hepatitis C virus infection (HCV) is one of the most common coinfections and leading causes of death among people with HIV. HIV/HCV coinfection affects approximately 17,000 Canadians and more than 5,000 Ontario residents who are more likely to have a poorer health-related quality of life (QOL) compared to those infected with HIV alone.

Research evidence suggests that such health-related disparities are due in part to the social determinants of health faced by coinfecting individuals that put them at increased risk of experiencing poor health outcomes.

The purpose of this study is to examine the differences and impact of determinants of health in people coinfecting with HIV and HCV as compared with those infected with HIV-infection alone.

Our Approach

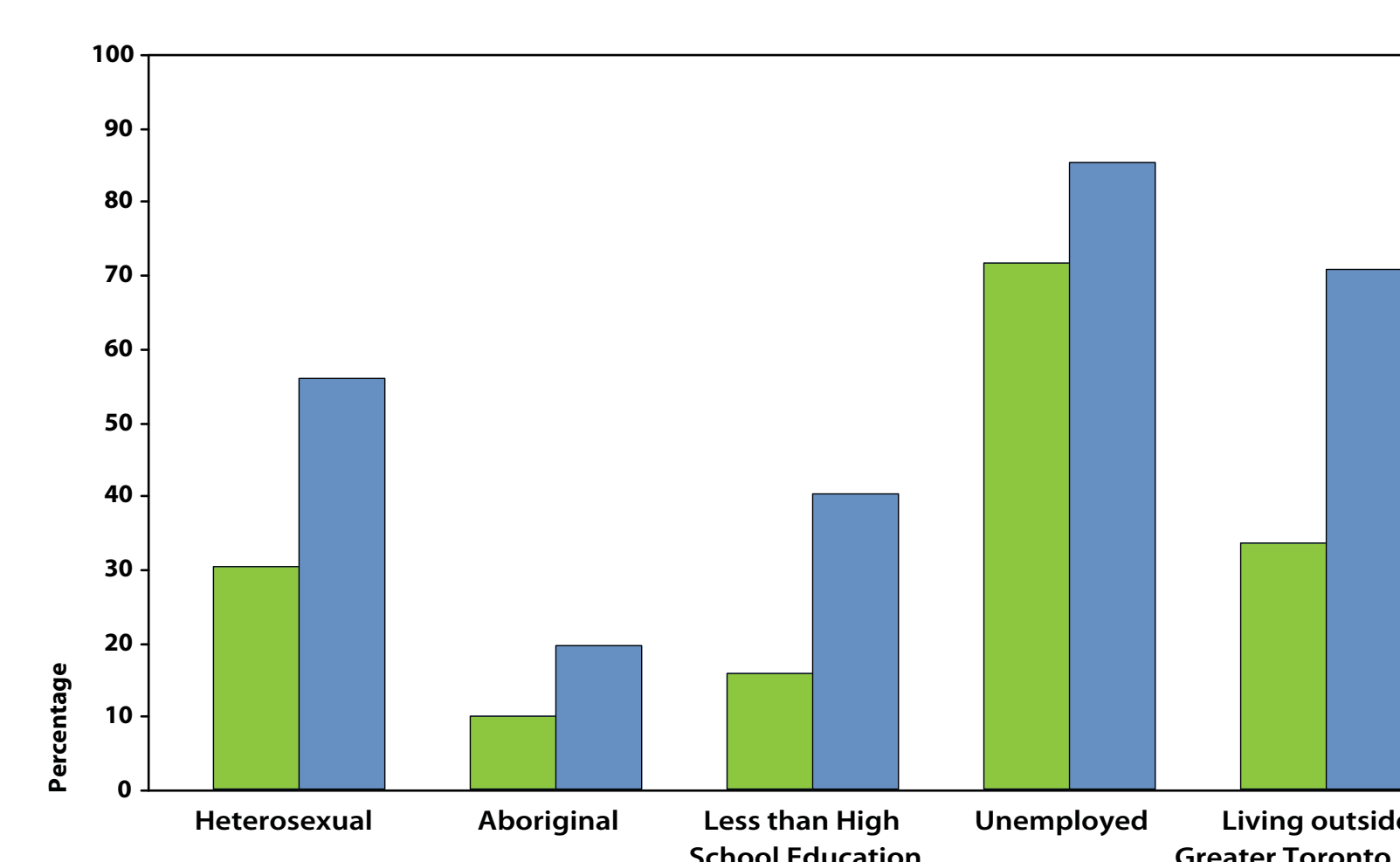
As part of our longitudinal observational study – *Positive Spaces Healthy Places* – to assess the housing needs and impact of housing on health-related quality of life among people with HIV in the province of Ontario, Canada, we:

- Followed 605 adults with HIV from across Ontario over the period of one year, starting with a baseline study and ending with a one-year follow up survey.
- Engaged Peer Research Assistants to conduct face-to-face interviews using a semi-structured quantitative questionnaire that contained several standard instruments/measures including:
 - The Center for Epidemiological Studies Depression Scale (CES-D) to assess the level of depression;
 - The Alcohol Use Disorder Identification Test (AUDIT-10) to measure harmful alcohol use;
 - The Drug Abuse Screening Test (DAST-20) to gauge harmful substance use;
 - The Medical Outcomes Study HIV Health Survey (MOS-HIV) to assess health-related quality of life.
- Asked 510 participants who completed the one year follow up survey whether they had been diagnosed with HCV infection and if they were still infected. In our study, 20% of participants were coinfecting with HIV and HCV.
- Used univariate and multivariate logistic regression analyses to identify independent predictors and factors associated with HIV/HCV coinfection.
- Compared the health outcomes and key health determinants of those living with HIV/HCV coinfection (N=95) with those who were living with HIV infection alone (N=387).

Table 1: Characteristics of Participants (N=510)

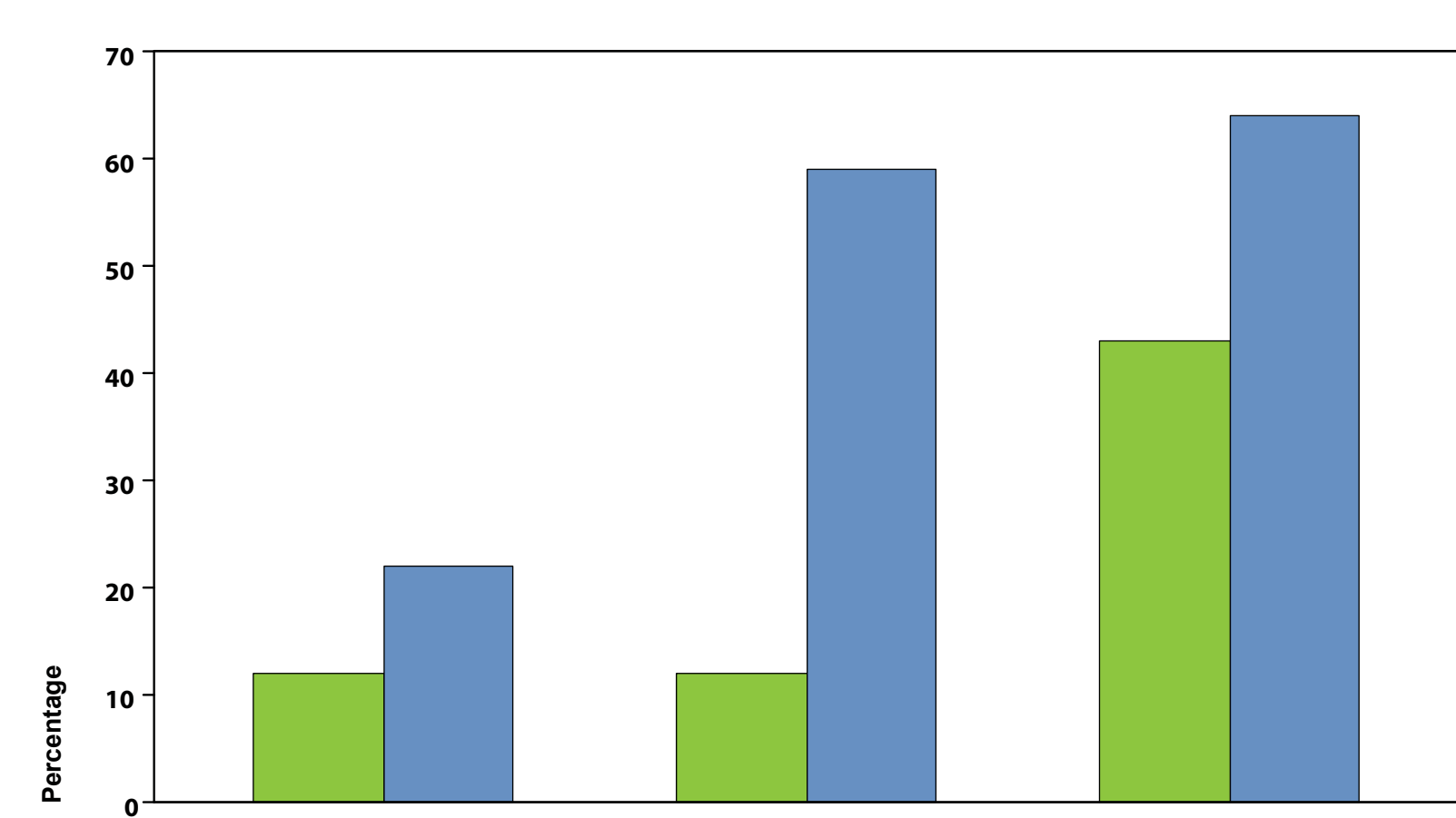
Sociodemographics Characteristics	Mean N	SD (%)
Age (in years)	43.4	(8.5)
Gender (male)	385	76
Sexual orientation (gay, lesbian, bisexual)	320	64
Aboriginal Status	61	12
Ethnicity (Caucasian)	378	85
Education (> high school degree)	402	79
Employment (working for pay)	125	25
Monthly Personal Income	1,531	985
Housing-related Characteristics		
Lived outside of Greater Toronto Area (GTA)	214	42
Unstable housing	30	6
Moved in the last 12 months	109	21
History of homelessness	204	40
Experienced housing-related discrimination	49	10
History of incarceration	126	25
HIV Disease Markers		
Recent CD4 count (> 500 cells/ml)	189	37
AIDS-defining conditions (diagnosed)	279	55
Hepatitis C infection (diagnosed)	123	24
Time since diagnosis (in years)	12.5	6.4
Mental Health and Addiction		
Depression (CSED >=16)	242	47
Harmful Alcohol Use (AUDIT-10 >=8)	26	15
Harmful Substance Use (DAST-20 >=6)	115	23

Our Findings



HIV/HCV Coinfection is Associated with Place of Residence, Education Level and Unemployment

- A significantly ($P<0.05$) higher proportion of those coinfecting with HIV and HCV were:
- Heterosexual (OR=3.0);
 - Aboriginal (OR=2.3);
 - Not high school graduates (OR=3.3);
 - Unemployed (OR= 2.5); and
 - Living outside of the Greater Toronto Area (OR=5.0).



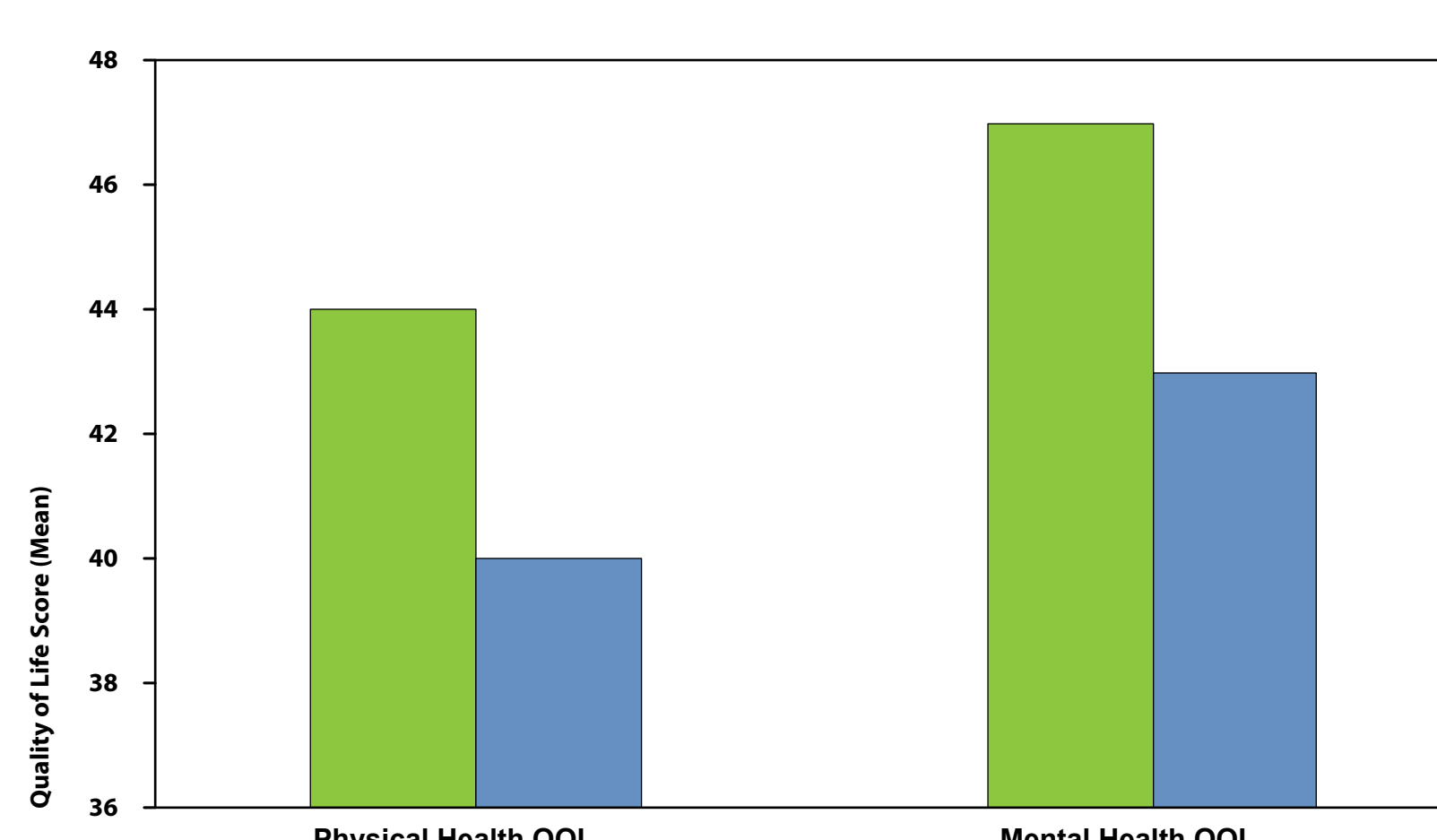
HIV/HCV Coinfection is Associated with Addiction and Mental Health Issues

- A significantly ($P<0.05$) higher proportion of HIV/HCV coinfecting participants reported:
- Harmful use of alcohol (OR=2.0) and illicit drugs (OR=1.9); and
 - Experiencing significant levels of depression (OR=2.3).



HIV/HCV Coinfection is Associated with Homelessness and Incarceration

- Individuals with HIV/HCV coinfection were significantly ($P<0.05$) more likely to have:
- Experienced homelessness at least once (OR=4.7);
 - Had a history of incarceration (OR=25.7); and
 - Experienced discrimination while trying to get housing-related services (OR =1.9).



HIV/HCV Coinfection is Significantly ($P<0.05$) Associated with Poor Physical and Health Related Quality of Life

HCV/HIV coinfecting individuals had significantly lower physical and mental health-related quality of life than those only infected with HIV

Legend:
■ Infected with HIV alone
■ Coinfected with HIV and HCV
 OR = Odds Ratio AOR = Adjusted Odds Ratio CI = Confidence Interval

Harmful Substance Use and Place of Residence Predict HIV/HCV Coinfection

After controlling for other factors, factors that were found to be strong predictors of HIV/HCV coinfection included:

- Sexual orientation (heterosexual) [AOR=2.3, 95% CI (1.30-4.17)]
- Level of education (less than high school education level) [AOR=2.3, 95% CI (1.24-4.22)]
- Harmful substance use [AOR=8.2, 95% CI (3.65-12.76)]; and
- Place of residence (living outside of the Greater Toronto Area) [AOR=3.4, 95% CI (1.84-6.17)]

Implications for Policy and Practice

In our study, participants coinfecting with HIV and HCV had significantly poorer mental and physical health related quality of life compared to those infected with HIV alone. In terms of accessing and maintaining stable housing, the findings of our study indicate that:

- People coinfecting with HIV and HCV face more significant challenges in finding and keeping stable housing compared to people only infected with HIV.
- There is a critical need for targeted interventions aimed at improving housing support services and addressing mental health and addiction issues to improve overall health outcomes among people with HIV/HCV coinfection, particularly for those at greatest risk including people who have a history of depression, homelessness, incarceration, and harmful alcohol/substance abuse.
- Improving living conditions would improve both the health and well-being of people with HIV/HCV coinfection in Canada.

Limitations

- Data may have been subject to recall and socially desirable response biases because all data was self-reported and collected through face-to-face interviews.
- Our participants were recruited through local AIDS service organizations and may not be representative of all persons with HIV in Ontario.

Funding Agencies



Partners

