



A vicious cycle: food insecurity and substance use are bi-directionally related in marginally-housed HIV-infected adults in San Francisco, CA

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Introduction

- Food insecurity: limited or uncertain availability of nutritionally adequate, safe foods or the inability to acquire acceptable food in socially acceptable ways¹
- Affects half of HIV-infected patients in the U.S²
- Food security and substance use are associated in cross-sectional studies, but the direction of the association is unclear³
- Hypothesis: Food insecurity will be bidirectionally associated with substance use in a sample of marginally-housed HIV-infected adults³
- Sample: 331 HIV-infected, marginally-housed individuals followed quarterly over a median of 4 visits and 28 months in the Research on Access to Care in the Homeless (REACH) cohort.

Project Aims

Examine relationship between food insecurity and substance use in a longitudinal cohort of marginally-housed HIV-infected adults

Methods

- Primary outcomes:* 1. Household Food Insecurity Access Scale
- 2. Substance use based on self-reported use in the previous 90 days at each visit
- Covariates:* Demographics, socioeconomic controls, clinical controls
- Analysis:* Lagged dynamic transition models for the two outcomes of interest controlled for confounders identified in the literature
- As a secondary analysis, created models for individual illicit substances, alcohol.

Results and Outcomes

- Mean age was 42.9 (SD 7.8)
- 70.4 % were male
- 62.5% % of participants were non-white
- 33.6% reported any illicit substance use in the preceding 90 days
- 7.5 % reported problem drinking in this same time period.
- 56.7 % reported recent food insecurity at baseline.

Table 1.
Association of changes in individual drug use with food insecurity, N=310 for each model

Ref: persistent abstinence from illicit substance	Food insecure AOR (p-value)
Persistent heroin use	2.90 (0.06)
Started heroin use	3.10 (0.04)
Stopped heroin use	0.72 (0.51)

Ref: persistent abstinence from illicit substance	Food insecure AOR (p-value)
Persistent meth/speed use	2.10 (0.02)
Started meth/speed use	4.01 (<0.001)
Stopped meth/speed use	2.10 (0.05)

Ref: persistent abstinence from illicit substance	Food insecure AOR (p-value)
Persistent crack/cocaine use ²	1.75 (0.04)
Started crack/cocaine use	1.90 (0.04)
Stopped crack/cocaine use	1.70 (0.09)

Ref: persistent abstinence from illicit substance	Food insecure AOR (p-value)
Persistent problem drinking ³	1.33 (0.48)
Started problem drinking	1.34 (0.48)
Stopped problem drinking	0.95 (0.90)

Table 2.
Associations of transitions into food insecurity with current individual substance use, N=310 for each model

Referent: persistent food security	Crack/cocaine AOR (p-value)	Meth/Speed AOR (p-value)	Heroin AOR (p-value)	Problem drinking AOR (p-value)
Became food insecure ^{2,3}	2.10 (0.06)	3.66 (<0.001)	2.88 (0.03)	1.96 (0.22)
Persistent food insecure	1.94 (0.07)	3.32 (<0.01)	2.40 (0.03)	1.77 (0.24)
Became food secure	1.60 (0.24)	1.85 (0.14)	0.98 (0.97)	1.18 (0.74)

Discussion

- Becoming food insecure is associated with increased illicit substance use
- Initiating illicit substance use is associated with development of food insecurity
- Therefore, bidirectional relationship between food insecurity and substance use
- Both illicit substance use and food insecurity are associated with worse HIV outcomes

Implications

Public health interventions that address substance use and food insecurity simultaneously may have the best chance of breaking this cycle, and may improve HIV outcomes.

Literature Cited

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Acknowledgements

We appreciate the assistance of the Global Food Initiative for assisting with research funding and education. Research also funded by NIH R01MH095683.