HEPATITIS C REINFECTION AMONG HOMELESS AND UNSTABLY HOUSED INDIVIDUALS IN BOSTON

Beiser MB[1], Shaw LC[1], Muse K[1], Shores S[1], Wilson G[1], Baggett TP[1-3]

[1]Institute for Research, Quality, and Policy in Homeless Health Care. Boston Health Care for the Homeless Program, Boston, MA, United States.
[2]Division of General Internal Medicine, Massachusetts General Hospital, Boston, MA, United States
[3]Harvard Medical School, Boston, MA, United States

Background:
Meta-analysis of hepatitis C (HCV) reinfection among people who inject drugs has described low rates overall. It appears that individuals who are homeless or unstably housed and inject drugs may experience higher rates of reinfection, but data remains limited on this vulnerable subpopulation.

Methods:
The reinfection outcome was assessed for a real-world cohort of individuals who achieved sustained virologic response (SVR) after HCV treatment at Boston Health Care for the Homeless Program (BHCHP) between January 2014 and March 2020. Rate of reinfection was calculated according to the method described by Martinello et al. Bivariate and multivariable analyses were conducted to determine factors associated with reinfection.

Results:
We identified 74 episodes of reinfection during the study period among the 592 individuals who achieved SVR. Five of those reinfections were identified after a second course of treatment after first reinfection. The overall rate of reinfection was 11.5 reinfections/100 person-years over 643.5 person-years of follow-up. 73 of these reinfections occurred among individuals who identified injection drug use as their risk factor to acquire HCV. The rate of reinfection in those 73 individuals was 13.4/100 person-year in 544.3 person-years of follow-up.
In bivariate analysis, factors associated with reinfection were age less than 45, Hispanic ethnicity, Spanish as the patient's preferred language, self-reported use of any substances within the past 6 months prior to linkage to the HCV team, and injection drug use as the self-identified risk factor for HCV acquisition.
In multivariable analysis recent substance use was the only variable significantly associated with reinfection (OR 5.51, 95% CI 1.98-15.35).

Conclusion:
Among this large real-world cohort of homeless and unstably housed individuals who inject drugs, reinfection after HCV treatment was more common than reported in global meta-analysis. Creative, proactive approaches are needed to mitigate reinfection risk for this population.

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