Treating Hepatitis C in the Homeless at the Greater Los Angeles Veterans Affairs

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Introduction

Among the 250,000 homeless Veterans (HVs) that receive care in the Veterans Health Administration (VA), 13.4% have chronic hepatitis C virus (HCV) infection(1). As of 2015, only 22.9% of HVs receive antiviral therapy, considerably lower than the 31% of their non-homeless counterparts that undergo HCV treatment(1). Previous groups have shown the success of integrated care models for Veterans with HCV and mental health disorders(2) and the success of utilizing direct acting antivirals (DAA) for marginalized populations(3), but the literature describing successful treatment of HCV with DAA in HVs is limited. To increase access to HCV treatment among HVs, we developed an HCV treatment model to

engage HVs into HCV treatment. We then assessed preliminary efficacy of our treatment model for successful HCV treatment defined as undetectable HCV viral load (VL) at 12 weeks (SVR12).

Methods

The pilot program was initiated in November 2016. VA primary care physicians (PCPs) in the inter-professional Homeless Patient Aligned Care Team (HPACT) clinic, a patient-centered medical home, attended 2 didactic sessions on HCV treatment. HVs were eligible for referral if they were able to make weekly appointments and had detectable HCV RNA. HVs were excluded if they had a less than 12-month life expectancy, HIV infection, HBV infection, hepatocellular carcinoma, prior organ transplant, or were receiving cancer therapy. The referral period was from January to October 2017. Following PCP referral, an infectious disease specialist reviewed each case via in-person or remote clinical review sessions, and the decision to proceed or defer HCV treatment was made. A pharmacist in HPACT was trained to administer HCV therapy.

In April 2018 we conducted chart reviews of HVs who were discussed for treatment during the referral period. The following was abstracted: age, sex, race, ethnicity, co-morbidities, adherence, HCV characteristics and treatment response. Homelessness was defined by enrollment into HPACT, requiring all Veterans to be recently homeless. At the time of treatment, Veterans were homeless or in transitional housing. This study was approved by the West Los Angeles VA Institutional Review Board.

Results

PCPs identified 24 HCV-infected HVs. The mean age of Veterans was 58.5; all Veterans were male and 46% were non-Hispanic Black. All were currently or recently homeless, 92% had a history of polysubstance use and 88% had a psychiatric diagnosis (Table 1).

Of the 24 Veterans referred, 13 were selected for HCV treatment. All 13 Veterans completed HCV therapy and achieved SVR12 (Table 1). Reasons for deferral were: lack of consistent engagement in medical care [7], HCV work-up pending [2], and death [2]. Of the HVs deferred for treatment, 3 crossed over to HCV treatment as they improved their engagement with care or completed work-up. There were no statistically significant differences between the characteristics of HVs selected or deferred for treatment (data not presented). Overall, 66.7% of Veterans referred for HCV treatment received treatment.

Discussion

We identified and successfully treated a cohort of HVs with HCV, including Veterans with recent or active polysubstance use, by integrating HCV training and care in a clinic that served the homeless. Two thirds of HVs referred for treatment received treatment with 100% [13/13] achieving SVR12. Factors that contributed to the success of the program included a clinic dedicated to the needs of a homeless population, a pharmacist who managed HCV therapy, an integrated medical education program with trainees interested in HCV care, and the support of clinic leadership. Limitations of our pilot study include small sample size but this was designed to be a proof of concept program. This pilot program demonstrates that marginalized populations can be treated, particularly when treatment is administered by providers with whom they have strong, therapeutic relationships. Embedding HCV treatment into clinics that serve marginalized populations may be an effective and impactful model. Future efforts should assess patient and provider acceptability of this approach and assess similar strategies for long-term follow-up of patients with advanced fibrosis.

References

1. Noska AJ, Belperio PS, Loomis TP, O'Toole TP, Backus LI. Engagement in the Hepatitis C Care Cascade Among Homeless Veterans, 2015. Public Health Rep. Wash. DC 1974. 2017;132:136–139.

2. Ho SB, Bräu N, Cheung R, Liu L, Sanchez C, Sklar M, et al. Integrated Care Increases Treatment and Improves Outcomes of Patients With Chronic Hepatitis C Virus Infection and Psychiatric Illness or Substance Abuse. Clin. Gastroenterol. Hepatol. 2015;13:2005-2014.e1–3.

3. Barocas JA, Beiser M, León C, Gaeta JM, O'Connell JJ, Linas BP. Experience and Outcomes of Hepatitis C Treatment in a Cohort of Homeless and Marginally Housed Adults. JAMA Intern. Med. 2017;177:880–882.

Table 1: Study patient characteristics (N=24)

	Referred for HCV Treatment (N=24) Mean (SD) or N (%)
Demographics	
Age	58.5 (8.6)
Sex, Male	24 (100)
Race/Ethnicity	
Non-Hispanic White	13 (54.2)
Non-Hispanic Black	11(45.8)
Homeless	
Yes	21 (100)
Co-Morbidity	
Polysubstance Abuse	22 (91.7)
Psychiatric Diagnosis	21 (87.5)
Adherence History	
PCP Visit No-show, past 6 months	
0	16 (66.7)

1	8 (33.3)
2+	0 (0)
HCV Characteristics	
HCV genotype	
1a	15 (62.5)
1b	3 (12.5)
2a/c	1 (4.2)
2b	5 (20.8)
HCV Viral Load, Pre-Treatment	5,922,158 (6,556,204)
	Selected for HCV Treatment (N=13) **Mean (SD) or N (%)**
Cirrhosis Evaluation	
Cirrhosis evaluated by imaging	4 (30.8)
Fibrosis-4 Score	1.95 (1.07)
AST to Platelet Ratio Index	0.68 (0.44)
HCV Treatment	
Elbasvir/ Grazoprevir	1 (7.7)
Glecaprevir/Pibrentasvir	2 (15.4)
Ledipasvir/Sofosbuvir	7 (53.8)
Sofosbuvir/Velpatasvir	3 (23.1)
SVR12	13 (100)