THE HEPATITIS C CARE CONTINUUM IN THE DAA ERA AMONG TRANSGENDER WOMEN WITH HIV

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BACKGROUND

- Transgender women (TW) with HIV have greater hepatitis C (HCV) prevalence and decreased retention in HIV care compared to cisgender men and women (CM, CW).[1,2]
- Although HIV risk factors in TW are relatively well described, little is known about risk factors for HCV infection and outcomes in TW with HIV.
- We describe one of the first studies on the HCV care continuum in TW with HIV in the direct-acting antiviral (DAA) era.

METHODS

- We conducted a cross-sectional study of all adult TW with HIV in the CFAR Network of Integrated Clinical Systems (CNICS) cohort (1/2014 - 3/2021)
  - CNICS is a prospective cohort of adult PWH in routine clinical care at eight academic sites[3]
- TW were matched 1:4 with CM and CW on age, CNICS site, and last visit date.
- HCV care continuum outcomes based on latest lab/visit:
  - HCV infection: positive HCV lab (antibody, RNA, or genotype) or received DAA
  - Active HCV viremia: positive HCV RNA or genotype.
  - Received DAA: by prescription and medical record review
  - Sustained virologic response (SVR): HCV RNA undetectable or <25 IU/mL ≥10 weeks after end of treatment to account for variability in lab testing
- We used race/ethnicity-adjusted logistic regression to evaluate HCV care continuum outcomes by gender
  - Adjusted for other clinical factors for HCV infection
  - There was insufficient sample size for SVR regression

RESULTS

- Of 297 TW with HIV in care since 2014, 59 had current/prior HCV infection, 43 (73% of HCV infected) were viremic, 15 (35% of viremic) received DAAs, 9 of 11 with post-DAA labs had SVR, and 5 (2% of all TW) had FIB-4 ≥3.25.
- Compared to CM and CW, TW were more likely to identify as non-white (82% vs 57% CM, 74% CW, p<0.01) but were similar with respect to HIV suppression, FIB-4 ≥3.25, missed visits in last year, and IDU (HIV Risk Factor).
- Compared to CM, TW were more likely to have HCV infection (OR 1.64, p<0.01) and active HCV viremia (OR 1.54, p=0.03) but had similar odds of receiving DAAs in race/ethnicity-adjusted analyses.
- Compared to CW, TW had similar outcomes in all race/ethnicity-adjusted analyses but were more likely to have HCV infection after adjusting for both IDU and race/ethnicity (OR 1.68, p=0.01).

Transgender women with HIV were **more likely infected with HCV** than cisgender men and women and **viremic** than cisgender men, but **once in care, they received DAAs as readily as** cisgender PWH

HCV Care Continuum Outcome	Transgender Women vs Cisgender Men			Transgender Women vs Cisgender Women		
	OR	95% CI	P	OR	95% CI	P
HCV Infection	1.64	1.18, 2.29	<0.01	1.30	0.92, 1.83	0.1
Race/Ethnicity Adjusted	1.70	1.21, 2.38	<0.01	1.44	0.996, 2.08	0.053
IDU (HIV Risk Factor) Adjusted[a]	1.61	1.10, 2.36	0.01	1.68	1.13, 2.50	0.01
Active HCV Viremia	1.45	0.998, 2.10	0.051	1.20	0.81, 1.77	0.4
Race/Ethnicity Adjusted	1.54	1.05, 2.25	0.03	1.30	0.86, 1.97	0.2
Received DAA	1.19	0.65, 2.17	0.6	1.09	0.59, 2.01	0.8
Race/Ethnicity Adjusted	1.27	0.71, 2.28	0.4	1.20	0.59, 2.45	0.6

[a]Adjusted for injection drug use (IDU) (HIV Risk Factor) in addition to race/ethnicity. Adding other clinical factors (nadir and current CD4, FIB-4 ≥3.25, log-transformed HIV RNA, % missed visits in last year) to models adjusted for IDU and race/ethnicity did not substantially change estimates.

CONCLUSIONS

- TW with HIV were more likely infected with HCV than CM and CW, especially after adjusting for IDU, and viremic compared to CM.
- Although DAA initiation across all gender identities was low (35-42% of viremic), once in care, TW received DAAs as readily as cisgender persons with HIV (PWH).
- Given higher HCV risk and low DAA initiation, TW with HIV in particular may benefit from efforts to improve care engagement, close HCV screening, culturally congruent and tailored prevention strategies including for IDU, and scale up of DAA treatment.
- Despite improvements in DAA uptake in more recent years, our observations call for increased efforts at all healthcare levels to prioritize DAAs for TW with HIV and other PWH with HCV to improve elimination and prevent sequelae.

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REFERENCES

1. Poteat T, Hanna DB, Rebeiro PF, et al. Characterizing the human immunodeficiency virus care continuum among transgender women and cisgender women and men in clinical care: A retrospective time-series analysis. *Clinical Infectious Diseases*. 2019;70(6):1131-1138. doi:10.1093/cid/ciz322.
2. Fredericksen RJ. Reisner S. Whitney B. et al. Comparison of Health Outcomes Between Transgender Women and Cisgender Patients in HIV Care: Findings from the CNICS Cohort. Oral presentation at: 37th GLMA Annual Conference on LGBTQ Health; September, 2019; New Orleans, LA.
3. Kitahata MM, Rodriguez B, Haubrich R, et al. Cohort profile: The centers for AIDS research network of integrated clinical systems. *International Journal of Epidemiology*. 2008;37(5):948-955. doi:10.1093/ije/dym231.

Figure. HCV care continuum outcomes among TW with HIV and matched cisgender individuals with HIV in CNICS.

Percentages use total HCV infection as denominator for comparability across gender. Frequencies are in parentheses.

*P=0.01 when compared with TW in models adjusting for race/ethnicity and IDU (HIV Risk Factor)
**P=0.03 when compared with TW in models adjusting for race/ethnicity.
[a]9 of 11 with post-DAA labs
[b]35 of 37 with post-DAA labs
[c]22 of 27 with post-DAA labs

