Patterns of STI Among Transgender Women Living With and Without HIV in the US

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BACKGROUND

- Transgender women (TW) bear a disproportionate burden of HIV and other STIs due to intersecting biological, behavioral, and socio-structural risk factors.
- Compared to TW without HIV, TW with HIV may experience unique and exacerbated vulnerabilities (e.g., intersecting gender and HIV-based stigma), potentially placing them at heightened risk for STI acquisition.
- Limited data exist comparing the epidemiology of STIs between TW with HIV and TW without HIV.
- We describe the prevalence and patterns of STIs among TW in 6 eastern and southern US cities by HIV status.

METHODS

- We analyzed baseline (cross-sectional) data collected between March 2018 and August 2020 among adult TW across 6 US cities screened for the LITE study (n=1,018).
- Participants completed a socio-behavioral survey, oral HIV screening, and self-collected urine, anal, and neovaginal specimens for chlamydia and gonorrhea testing, and provided sera for syphilis and herpes simplex virus type 2 (HSV-2) testing.
- We examined the association of HIV status with the prevalence of each viral and bacterial STI and identified correlates of ≥1 bacterial STI stratified by HIV status.
- We estimated adjusted prevalence ratios (aPR) via separate modified Poisson regression models adjusted for age, race and ethnicity, and geographic region.

RESULTS

- Sample characteristics (n=1,018):
  - Median age = 31 years (IQR: 25-42)
  - Evenly distributed across 6 sites (Boston, New York City, Baltimore, Washington DC, Atlanta, Miami)
  - 29% identified as Black (non-Hispanic/Latinx) and 27% as Hispanic/Latinx
  - 48% identified as transwoman, 34% female/woman, and 18% genderqueer/non-binary/other
  - 27% were living with HIV (n=276)

Bacterial STI prevalence was higher in TW living with HIV, and correlates of bacterial STI prevalence differed by HIV status, highlighting a need to elucidate drivers of bacterial STI risk unique to TW with and without HIV.

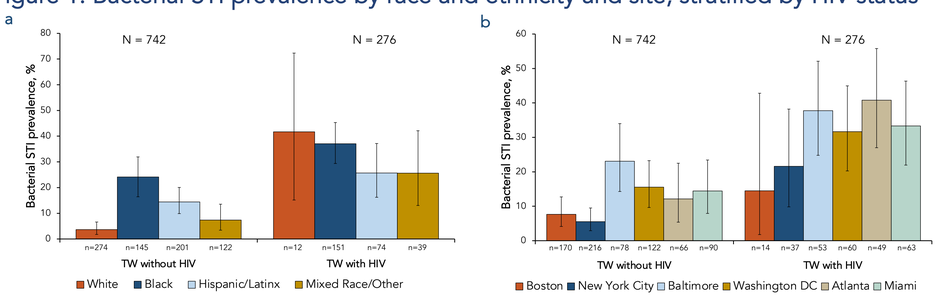
Table 1. Prevalence of viral and bacterial STIs overall and stratified by HIV status

	Overall			TW without HIV			TW with HIV			Prevalence Ratio (PR) (95% CI) †	Adjusted PR (95% CI) †‡
	Tested	Positive		Tested	Positive		Tested	Positive			
	n	n	%	n	n	%	n	n	%		
≥1 Bacterial STI	1,018	173	17%	742	83	11%	276	90	33%	2.92 (2.24 – 3.80)	1.96 (1.43 – 2.70)
Chlamydia	1,018	53	5%	742	32	4%	276	21	8%	1.76 (1.04 – 3.01)	1.77 (0.95 – 3.28)
Rectal	1,013	49	5%	737	31	4%	276	18	7%	-	-
Urogenital	1,014	6	0.6%	739	2	0.3%	275	4	1%	-	-
Vaginal	50	1	2%	41	0	0%	9	1	11%	-	-
Gonorrhea	1,018	24	2%	742	13	2%	276	11	4%	2.27 (1.03 – 5.02)	2.53 (0.86 – 7.38)
Rectal	1,012	24	2%	737	13	2%	275	11	4%	-	-
Urogenital	1,012	2	0.2%	738	0	0%	274	2	0.7%	-	-
Vaginal	48	0	0%	40	0	0%	8	0	0%	-	-
Syphilis	1,009	118	12%	740	44	6%	269	74	28%	4.63 (3.27 – 6.54)	2.70 (1.77 – 4.12)
HSV-2 IgG antibody	937	407	43%	689	204	30%	248	203	82%	2.76 (2.43 – 3.15)	1.53 (1.33 – 1.75)

† Prevalence ratios of each STI outcome were estimated by HIV status using Poisson regression models with robust variance estimation. The reference group was people without HIV.

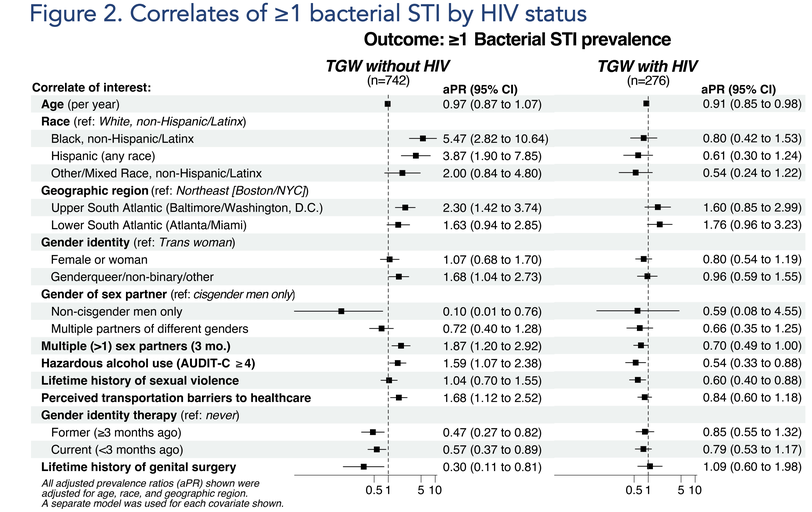
‡ For each variable shown, a separate multivariable regression model was used that included adjustment for age, race and ethnicity, and geographic region.

Figure 1. Bacterial STI prevalence by race and ethnicity and site, stratified by HIV status



- TW with HIV had a higher prevalence of ≥1 bacterial STI (11% vs. 33%); aPR=1.96 (95% CI: 1.43-2.70) (Table 1).
- Among TW without HIV, bacterial STI prevalence was highest among Black and Hispanic/Latinx TW (Fig. 1a).
- TW residing in Boston and New York City had the lowest bacterial STI prevalence, regardless of HIV status (Fig. 1b).

Figure 2. Correlates of ≥1 bacterial STI by HIV status



- Correlates of ≥1 bacterial STI among TW without HIV: Upper South Atlantic region (+), Black or Hispanic (+), genderqueer/non-binary (+), >1 sex partner (+), non-cisgender male sex partner(s) only (-), hazardous alcohol use (+), safety concerns in transit to healthcare (+), receipt of medical gender affirmation (e.g., psychotherapy, genital surgery) (-) (Fig. 2)
- Correlates of ≥1 bacterial STI among TW with HIV: age (-), hazardous alcohol use (-), history of sexual violence (-) (Fig. 2)

CONCLUSIONS

- Bacterial STI prevalence and correlates differed substantially between TW with and without HIV, highlighting differential risks and needs of these populations.
- Despite high bacterial STI prevalence among TW with HIV, individual-level correlates of ≥1 bacterial STI were limited, suggesting macro-level factors may play a larger role in conferring bacterial STI risk among this population.
- Elucidating the drivers of bacterial STIs unique to TW with and without HIV may facilitate more targeted prevention and treatment strategies optimally suited for each, reducing sexual health-related inequities among TW.

ADDITIONAL KEY INFORMATION

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