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FACTORS ASSOCIATED WITH HIV, HCV, HSV-2 SERO-STATUS AMONG TRANSGENDER WOMEN

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BACKGROUND

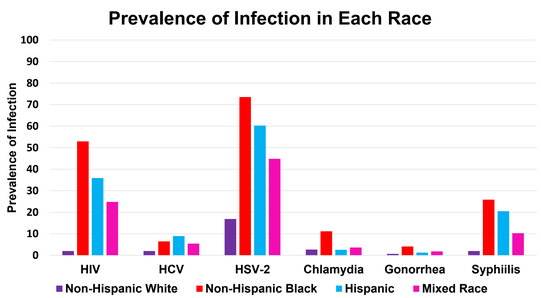
- Transgender Women (TW) bear a disproportional burden of disease in the US.
- The Leading Innovation for Transgender Women's Health and Empowerment (LITE) study recruited subjects from six eastern and southern cities in the US.
- We identified factors associated with the infection of HIV, HSV-2, HCV, but also Syphilis, Gonorrhea, and Chlamydia among Transgender Women at enrollment.

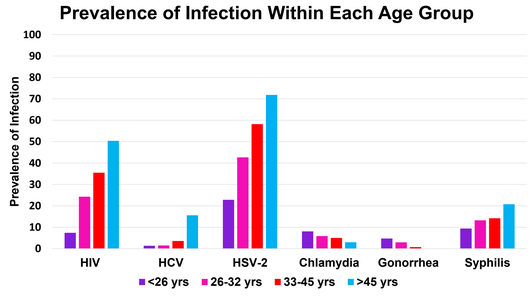
METHODS

- Serum samples were collected from 561 TW residing in Boston, New York, Baltimore, Washington DC, Atlanta, and Miami from March 2018 to March 2019.
- Sociodemographic, behavioral, and socioeconomic factors were assessed with the frequency of infection among 551 TW individuals.
- 10 individuals were dropped from analysis who did not answer question on "Concurrency".
- Information on these factors were obtained and log-binomial models were used to assess the prevalence ratios of factors associated with infection.

RESULTS

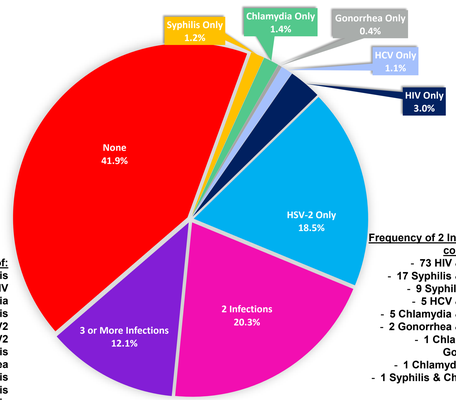
- Compared to Boston, the burden of disease was higher in New York, Baltimore, Washington DC, Atlanta, & Miami.
- Compared to Black TW, White, Hispanic and Mixed Race TW had a lower burden of disease (adjPR 0.28 95%CI 0.27, 0.54; 0.81 95%CI 0.67, 0.98; 0.80 95%CI 0.67, 0.95, respectively).
- Frequency of disease burden increased with age from 30% for those <26 to 77% for those older than 45 years of age.
- Family support was associated with a higher burden of disease (adjPR 1.25, 95%CI 1.04, 1.49).
- Those that scored >2 in HIV Knowledge were 19% more likely in being infected with one or more infections.
- Those who ever experienced unstable housing or were without full–time employment had higher burdens of disease, these associations were attenuated in the full model.





RESULTS

- The prevalence of HIV, HSV-2, & HCV were 29%, 48%, and 5%.
- The prevalence of Chlamydia, Gonorrhea, & Syphilis is 5%, 2%, and 14%.



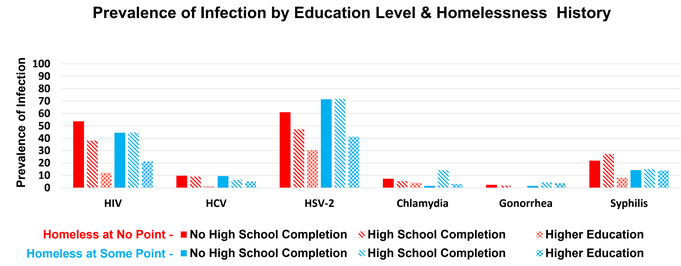
Frequency of 3+ Infections consist of:
- 32 HSV2 & HIV & Syphilis
- 11 HCV & HSV2 & HIV
- 5 HSV2 & HIV & Chlamydia
- 3 HCV & HSV2 & Syphilis
- 3 Syphilis & Chlamydia & HIV & HSV2
- 2 Chlamydia & HIV & HCV & HSV2
- 2 HIV & Chlamydia & Syphilis
- 2 HSV2 & HIV & Gonorrhea
- 1 HSV2 & Chlamydia & Syphilis
- 1 HSV2 & Gonorrhea & Syphilis
- 1 HIV & HCV & Syphilis
- 1 HCV & HSV2 & Gonorrhea
- Five individuals with four different infections

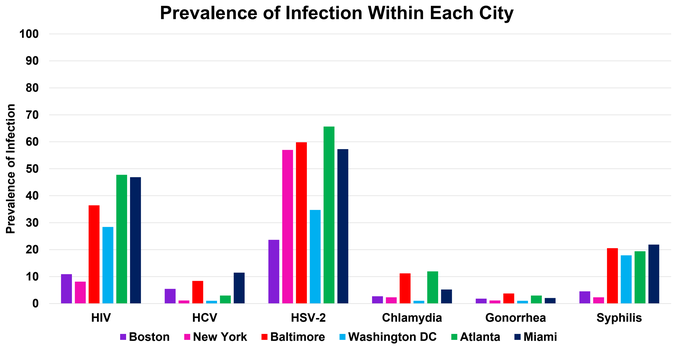
Frequency of 2 Infections consist of:
- 73 HIV & HSV-2
- 17 Syphilis & HSV-2
- 9 Syphilis & HIV
- 5 HCV & HSV-2
- 5 Chlamydia & HSV-2
- 2 Gonorrhea & HSV-2
- 1 Chlamydia & Gonorrhea
- 1 Chlamydia & HIV
- 1 Syphilis & Chlamydia

Variable	ALL n=551 (%)	At Least 1 STI, n=319(%)	All Unadj. PR (95% CI)	All Adj. PR (95% CI)
Study Site				
Boston	108(20)	27(29/108)	1	1
New York	84(15)	58(49/84)	2.17(1.52,3.11)	1.83(1.30,2.58)
Baltimore	104(19)	69(72/104)	2.58(1.84,3.61)	1.58(1.15,2.14)
Washington DC	94(17)	40(38/94)	1.51(1.01,2.34)	1.12(0.80,1.57)
Atlanta	66(12)	76(50/66)	2.82(2.01,3.96)	1.56(1.13,2.14)
Miami	95(17)	67(64/95)	2.51(1.78,3.53)	1.35(0.97,1.88)
Race & Ethnicity				
Non-Hispanic Black	166(30)	82(136/166)	1	1
Non-Hispanic White	145(26)	20(29/145)	4.10(2.93,5.72)	0.28(0.27,0.54)
Hispanic	78(14)	71(55/78)	3.53(2.47,5.03)	0.81(0.67,0.98)
Mixed Race	162(29)	51(82/162)	2.53(1.77,3.63)	0.80(0.67,0.95)
Age				
<26	148(27)	34(50/148)	1	1
26-32 yrs	134(24)	49(66/134)	1.46(1.10,1.94)	1.30(1.01,1.67)
33-45 yrs	136(25)	60(82/136)	1.79(1.37,2.32)	1.29(1.02,1.65)
>45 yrs	133(24)	78(104/133)	2.31(1.82,2.95)	1.77(1.41,2.24)
Education				
No HS Completion	102(19)	75(77/102)	1	1
HS Completion	144(26)	71(102/144)	0.94(0.81,1.09)	1.03(0.88,1.20
Higher Education	305(55)	40(123/305)	0.53(0.45,0.64)	0.79(0.79,1.17)
Currently Employed				
No	305(55)	64(195/305)	1	1
Yes, full time	139(25)	40(55/139)	0.62(0.50,0.77)	0.94(0.77,1.13)
Yes, part time	107(19)	49(52/107)	0.76(0.61,0.94)	0.96(0.79,1.17)
Ever Homeless				
No	265(48)	45(118/265)	1	1
Yes	286(52)	64(184/286)	1.44(1.23,1.70)	1.21(1.05,1.39)
Family Support				
Disagree	123(22)	46(56/123)	1	1
Neutral	108(20)	48(52/108)	1.06(0.80,1.39)	1.16(0.92,1.47)
Agree	320(58)	61(194/320)	1.33(1.08,1.65)	1.25(1.04,1.49)
Adverse Childhood Experience				
Score of 0	60(11)	70(50/71)	1	1
Score of 1-3	226(42)	55(124/226)	0.78(0.64,0.94)	0.97(0.81,1.17)
Score of >= 4	254(47)	50(128/254)	0.72(0.59,0.87)	0.82(0.67,1.00)

Variable	ALL n=551 (%)	At Least 1 STI, n=319(%)	All Unadj. PR (95% CI)	All Adj. PR (95% CI)
The Nonaffirmation of Gender Identity Subscale of the Gender Minority Stress an Resilience				
Score <=10	313(57)	62(195/313)	1	1
Score >10	238(43)	45(107/238)	0.72(0.61,0.85)	0.95(0.82,1.09)
Depression Index				
Score < 13	390(72)	60(240/398)	1	1
Score >= 13	153(28)	41(62/153)	0.67(0.55,0.83)	0.88(0.73,1.06)
Illegal Drug Use				
Score < 3	204(55)	54(110/204)	1	
Score >= 3	166(49)	55(92/166)	0.95(0.81,1.13)	
Alcohol Use				
Score < 4	382(71)	58(228/395)	1	1
Score > = 4	156(29)	47(74/156)	0.82(0.68,0.99)	1.03(0.87,1.23)
Condom Use				
Score <= 9	82(15)	51(42/82)	1	
Score > 9	469(85)	55(260/469)	1.08(0.86,1.36)	
Horrible Partner Index				
Score <= 5	503(91)	54(270/503)	1	1
Score >5	48(9)	67(32/48)	1.24(1.00,1.54)	1.12(1.03,1.42)
HIV Knowledge				
Scored <=2	119(22)	48(57/119)	1	1
Scored >2	432(78)	57(245/432)	1.18(0.96,1.45)	1.19(1.00,1.41)
Pride in Identified Gender				
Scored <=8	131(24)	50(66/131)	1	
Scored >8	420(76)	56(236/420)	1.12(0.92,1.35)	
Feeling A Part of the Community				
Scored <=5	181(33)	56(101/181)	1	
Scored >5	370(67)	54(201/370)	0.97(0.83,1.14)	
Number of Sex Partners in the Last 3 Months				
One or Less	170(31)	49(83/170)	1	1
Two or More	381(69)	57(219/381)	1.18(0.99,1.40)	1.15(0.99,1.33)

RESULTS





CONCLUSIONS

- A high burden of disease was found among TW
- Difference in disease were found geographically, by race and ethnicity, support variables, behavioral variables and by age
- Condom use, Illegal Drug use, Feeling A Part of the Community, and Having Pride in Identified Gender were not associated with a higher burden of disease
- Findings highlight the need for further evaluation of TW vulnerabilities and connection to infection.

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