

Little to no overlap of sexual networks of transgender women and MSM in Lima, Peru



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BACKGROUND

HIV IN PERU

- Peru does not have a generalized HIV epidemic, but there are micro-epidemics among subpopulations
- Transgender women (TW) have the highest prevalence at approximately 30%, compared to 12-18% in men who have sex with men (MSM) and <1% in the general population
- Injection drug use is low, so HIV is primarily spread through sexual transmission

TRANSMISSION TO TW

- TW report high prevalence of behavior associated with HIV risk, but it is unclear who is transmitting HIV into the population
- Other risk groups transmit within their network (e.g. MSM, injection drug users) but TW primarily report cisgender male sexual partners who they identify as bi- or heterosexual

Objective:

To characterize the sexual networks and sexual partners of TW and assess potential overlap with MSM sexual networks

METHODS

STUDY DESIGN

- TW and their sexual partners recruited using a modified respondent-driven sampling study (RDS) design:
 - RDS: sampling mechanism for "hidden" populations in which population sampling cannot be conducted, often due to stigma or discrimination
 - Sampling begins with "seeds" (known participants), who recruit eligible contacts within their network
 - Forward recruitment continues by each participant until target sample size reached
- To protect anonymity, data collected using online survey combined with WhatsApp-based recruitment
- Data collected on sexual identity, demographic characteristics, sexual partnerships, risk behavior, and drug and alcohol use.

DATA ANALYSIS

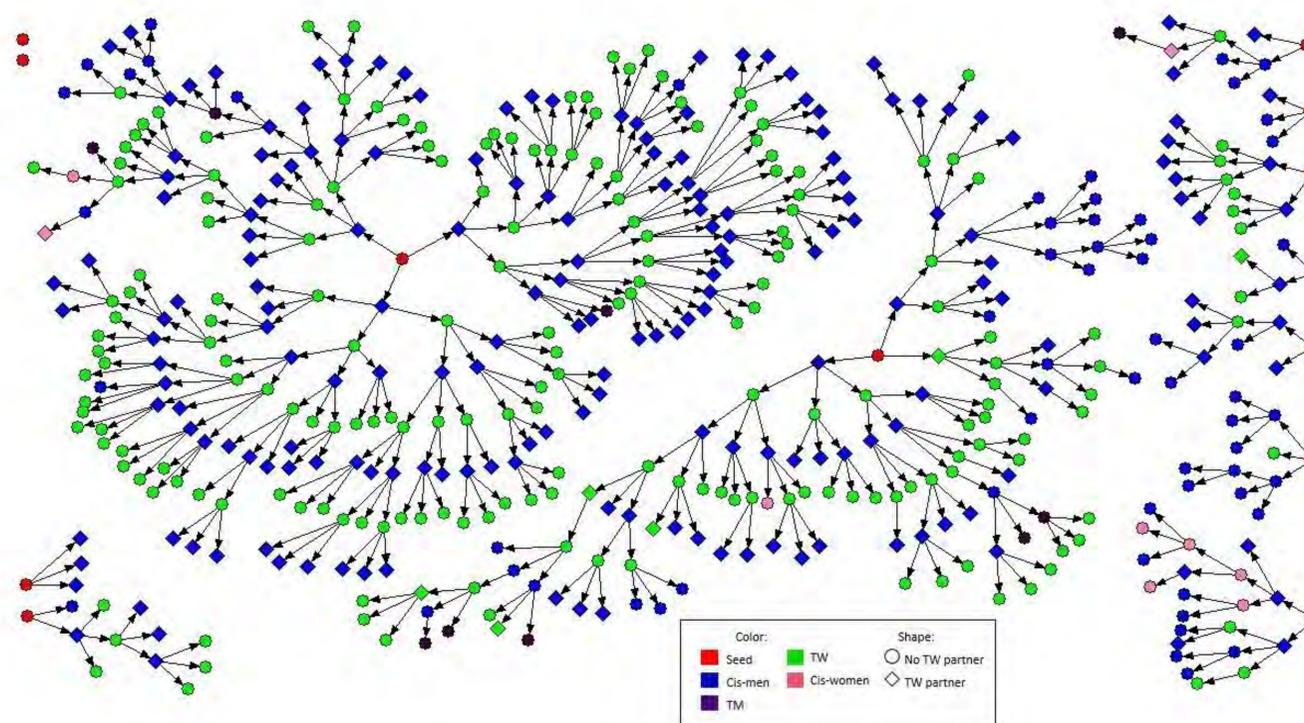
- We examined descriptive statistics for TW, partners of TW, and MSM
- To identify difference between partners of TW who are and are not part of MSM sexual networks, we examined predictors of having a male partner among partners of TW
 - Calculated odds ratios with Fisher's exact test to examine predictors of having a male partner

RESULTS

POPULATION CHARACTERISTICS

- Recruitment conducted February – July 2018 in Lima
- 470 eligible respondents completed the survey, including:
 - 203 partners of TW (reported ≥1 TW partner in the past 3 months)
 - 196 TW (TW who did not report a TW partner)
 - 43 MSM (cisgender men with male partners and no TW partners)
- 13 seeds were selected; 8 reached ≥3 waves of recruitment
- Recruitment reached a maximum of 10 waves

NETWORK DIAGRAM OF RECRUITMENT



| Population characteristics of TW, partners of TW, and MSM | | | | |
|---|------------------------|-------------|------------|---------|
| | Partners of TW (n=203) | TW (n=196) | MSM (n=43) | P-value |
| | n (%) | n (%) | n (%) | |
| Any post-secondary education | 70 (36.1) | 34 (18.1) | 27 (62.8) | <0.01 |
| Age (mean, SD) | 32.1 (9.2) | 30.0 (7.9) | 25.9 (8.7) | <0.01 |
| Full or part-time employment | 115 (61.8) | 83 (46.9) | 21 (50.0) | 0.01 |
| Gender | | | | <0.01 |
| Transgender woman | 5 (2.5) | 196 (100.0) | 0 (0.0) | |
| Cisgender man | 196 (96.6) | 0 (0.0) | 43 (100.0) | |
| Cisgender woman | 2 (1.0) | 0 (0.0) | 0 (0.0) | |
| Attraction | | | | <0.01 |
| Transwomen | 169 (83.3) | 4 (2.0) | 1 (2.3) | |
| Ciswomen | 138 (68.0) | 1 (0.5) | 10 (23.3) | |
| Cismen | 18 (8.9) | 192 (98.0) | 41 (95.3) | |
| Sexual Role | | | | <0.01 |
| Insertive | 171 (88.1) | 5 (2.6) | 15 (34.9) | |
| Receptive | 5 (2.6) | 160 (83.8) | 12 (27.9) | |
| Versatile | 18 (9.3) | 26 (13.6) | 16 (37.2) | |
| Don't know HIV status¹ | 93 (53.8) | 68 (42.0) | 8 (21.6) | <0.01 |
| HIV positive (self-report) | 6 (3.0) | 9 (4.6) | 5 (11.6) | 0.045 |
| Condomless insertive anal sex (3 mos)² | 120 (59.1) | 58 (29.6) | 17 (32.6) | <0.01 |
| Condomless receptive anal sex (3 mos)² | 15 (7.4) | 126 (64.3) | 14 (39.5) | <0.01 |
| Ever 'sold' sex³ | 107 (55.7) | 172 (90.5) | 20 (47.6) | <0.01 |
| Ever 'bought' sex³ | 153 (77.7) | 108 (57.1) | 6 (15.0) | <0.01 |
| Ever injected drugs or medications | 7 (3.4) | 3 (1.5) | 3 (7.0) | 0.14 |
| Binge drinking in past 6 months | 94 (46.3) | 92 (46.9) | 17 (39.5) | 0.67 |

¹Of those that responded about knowledge of HIV status; n=70 participants data missing or preferred not to answer; ²Of those that reported that sexual activity; ³Exchanged money, goods, or services for sex

PARTNER CHARACTERISTICS

- 7% of partners of TW reported a cisgender male partner in the last 3 months
- Condomless anal intercourse was reported by 60% of partners of TW in the past 3 months
- Of those that reported HIV status, 54% of partners of TW reported not knowing their status
- Among partners of TW, those who also had male partners were more likely to know their HIV status and 'sell' sex, less likely to 'buy' sex

Correlates of having a cisgender male partner among partners of TW

| | TW & male partners (n=14) | Only TW partners (n=189) | OR | P-value ¹ |
|--|---------------------------|--------------------------|------|----------------------|
| | n (%) | n (%) | | |
| Identify as homosexual | 4 (28.6) | 8 (4.2) | 9.1 | 0.01 |
| Don't know HIV status² | 3 (21.4) | 90 (56.6) | 0.21 | 0.02 |
| 'Bought' sex³ (last 3 mos) | 1 (7.1) | 106 (56.1) | 0.06 | <0.01 |
| 'Sold' sex³ (last 3 mos) | 7 (50.0) | 7 (3.7) | 17.0 | <0.01 |
| Ever sold sex to a man | 10 (71.4) | 11 (5.8) | 40.5 | <0.01 |
| Ever bought sex from a man | 7 (50.0) | 4 (2.1) | 46.3 | <0.01 |
| Condomless receptive sex (last 3 mos)⁴ | 9 (81.8) | 6 (40.0) | 6.8 | 0.05 |

¹Fisher exact p-values; ²Of those that responded about knowledge of HIV status; n=30 participants data missing or preferred not to answer; ³Exchanged money, goods, or services for sex; ⁴Of those that reported receptive sex

Summary: Partners of TW have little overlap with MSM networks. Partners engage in high risk behavior, and those with cisgender male partners are more likely to know their HIV status.

DISCUSSION

CONCLUSIONS

- Partners of TW are a unique population separate from MSM social and sexual networks
- Few partners of TW reported male partners; these partners are more likely to identify as homosexual, know their HIV status, engage in unprotected receptive anal sex, and 'sell' sex for money, goods, or services

STRENGTHS AND LIMITATIONS

- Our use of non-population sampling may have resulted in a study population that doesn't adequately represent the general population of partners of TW
- Online 'anonymous' data collection was used to protect confidentiality, limiting ability to conduct longitudinal analyses or HIV testing

IMPLICATIONS AND NEXT STEPS

- Partners of TW may not be benefiting from the HIV prevention interventions heavily targeted to gay men and TW
- HIV prevention interventions specifically targeting partners of TW for HIV testing, education, and PrEP are needed

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