The burden of HIV and other STIs among transgender persons in Nairobi

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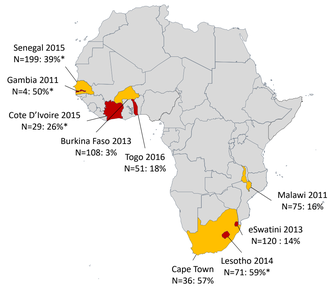
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Background

- Globally, transgender and gender diverse persons experience worse mental, sexual and reproductive health outcomes, higher levels of substance use and sexual risk behaviour, and higher levels of violence and discrimination than cisgender persons.
- Globally, transfeminine persons have 49 times the odds of living with HIV compared to the general population[1]. Findings among transmasculine and non binary persons are inconsistent[2].
- Studies reporting HIV prevalence among transgender and gender diverse populations in sub Saharan African are few, and data limited to transfeminine persons recruited to studies principally sampling men who have sex with men (figure 1).

Figure 1: HIV prevalence among African transfeminine persons, studies to 2019[3,4]



Pooled HIV OR vs GBMSM
Random Effect
1.6 (1.1 – 2.5)

* p<0.05 versus cisgender GBMSM

Method

- GBMSM and transgender persons were recruited via respondent-driven sampling in central Nairobi during 2017. Eligibility criteria were age 18+, either male sex assignment at birth or current male gender identity, Nairobi residence and consensual oral or anal intercourse with a man during the last year.
- Participants conducted a self-completed, computer-assisted survey including sociodemographic characteristics, knowledge of and access to HIV prevention, testing and care resources, self-reported sexual behaviour and STI symptom history. Gender identity was established using a two step approach:
  - 'What sex were you assigned at birth?' (male, female or prefer not to answer)
  - 'How do you currently describe your gender?' (male, female, transgender or none of these).
- Laboratory assessment included HIV (Determine Alere HIV-1/2 Ag/Ab; First Response HIV 1-2 and PCR (Xpert HIV-1 Qual & GeneXpert HIV-1 VL)), syphilis (TPHA/RPR) and rectal swab & urine PCR for chlamydia trachomatis and Neisseria gonorrhoeae (GeneXpert CT/NG).
- Analyses were adjusted for network degree using RDS-II adjustment. Comparisons of STI prevalence, sexual behaviour and knowledge & use of risk reduction approaches were limited to cisgender MSM and transfeminine persons and were explored using multivariate logistic regression with RDS-II weighting.

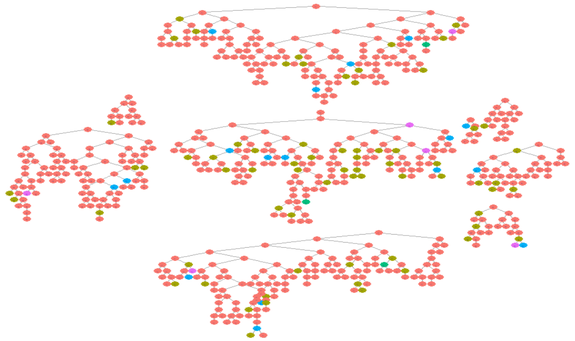
References:

1. Baral at al (2013) Lancet ID 13; **2**. Poteat at al. (2016) JAIDS 72 (S3) ;**3**. Poteat et al (2017) PLoS Med 14(11); **4**. Jobson et al (2018) AIDS care 30 (11)

Results

- We recruited 618 respondents from ten recruitment chains (figure 2). No recruitment homphily or seed dependence was apparent by gender identity. Six persons did not declare their sex assignment at birth and were excluded from analysis.
- Most participants self-identified as cisgender male (cisgender GBMSM). Transfeminine persons (persons assigned male sex at birth but currently identifying as female or transgender) made up the highest proportion of non-cisgender participants (n = 70). A small but significant proportion of participants self-identified as either transmasculine or non-binary.

Figure 2: Recruitment chains by gender identity of respondent, TRANSFORM Nairobi 2017



Cisgender	Trans-feminine	Trans-masculine	Non-binary
N - 522 86.0% (82.6-88.9)	N = 70 11.4% (8.8-14.7)	N = 3 0.4% (0.1-1.2)	N = 17 2.1% (1.2 – 3.8)

Sociodemographic characteristics

- There were no statistically significant differences in the sociodemographic characteristics of transfeminine and cisgender GBMSM (beyond gender identity).
- Median age of transfeminine participants was 23.5 years vs. 24.0 years for cisgender GBMSM Kruskall-Wallis p= 0.673)
- Transfeminine participants more often reported being unemployed (46.8 vs. 40.6% p=0.861) and having completed only primary education (21.0 vs 18.1%, p=0.792). Transfeminine participants were slightly more likely to report a birthplace outside Kenya (24.7 vs 18.8%, p=0.649)
- There was no significant differences in the self-identified sexual identity of transfeminine and cisgender GBMSM participants

Table 1: Sexually transmitted infections, TRANSFORM Nairobi 2017

	Transfeminine N = 70		Cisgender GBMSM n = 522		Adjusted association‡	
	n/N	% (95% CI)†	n/N	% (95% CI)†	aOR (95% CI)†	p
***HIV** [Determine®, First Response® & Xpert® HIV-Qual]*						
Positive	28/70	41.4 (29.0-55.1)	151/521	24.6 (20.7-29.0)	**2.9 (1.6-5.5)**	**0.001**
of whom:						
Aware of status	19/28	63.1 (40.7-80.9)	114/151	73.4 (64.0-81.1)	0.9 (0.3-2.4)	0.763
On ART	15/28	52.0 (31.6-71.8)	96/151	61.6 (51.8-70.6)	1.0 (0.4-2.7)	0.963
VLS (<200/ml)	13/28	42.9 (24.2-63.9)	84/151	53.8 (44.1-63.2)	0.9 (0.3-2.6)	0.915
***Syphilis** [TPHA/ RPR>3]*						
Positive	1/70	0.8 (0.1-5.8)	4/519	1.2 (0.4-3.2)	0.6 (0.1 – 6.8)	0.716
***Neisseria Gonorrhoea** [Xpert® CTNG]*						
Rectal	15/70	20.7 (11.8-33.7)	57/516	11.8 (8.8-15.5)	**2.3 (1.1-5.1)**	**0.037**
Urine	3/70	3.1 (1.0-9.8)	23/519	4.6 (2.9-7.2)	0.7 (0.2-2.5)	0.550
***Chlamydia Trachomatis** [Xpert® CTNG]*						
Rectal	8/70	7.2 (3.0-16.4)	44/516	8.2 (5.9-11.4)	0.6 (0.2-1.6)	0.320
Urine	5/70	5.4 (1.3-19.9)	33/519	10.9 (6.1-18.9)	0.5 (0.2-1.6)	0.263
***Symptoms suggestive of an STI** (last 12 months)*						
Rectal	23/67	34.3 (22.6-48.3)	99/519	18.1 (14.6-22.3)	**2.8 (1.4-5.3)**	**0.002**
Urethral	13/66	16.9 (9.0-29.6)	98/512	16.7 (13.4-20.7)	1.2 (0.5-2.6)	0.707

†: RDS-II weighted & seeds excluded ‡adjusted for age, education level & country of birth

- Transfeminine participants were significantly more likely to be living with HIV (41.4%) compared to cisgender participants (24.6%, table 1). The care continuum for transfeminine persons living was HIV was weaker than for cisgender GBMSM (not statistically significant)
- Transfeminine participants were significantly more likely to have confirmed rectal gonorrhoea and to report symptoms of a rectal STI in the last year than cisgender participants. No significant difference in prevalent or reported urethral STIs was apparent

Table 2: Sexual behaviour, TRANSFORM Nairobi 2017

	Transfeminine		Cisgender GBMSM		Adjusted association‡	
	n/N	% (95% CI)†	n/N	% (95% CI)†	aOR (95% CI)†	p
***Sexual behaviour with male partners** (last 3 months)*						
Receptive AI	54/70	76.5 (63.2-86.0)	252/522	45.5 (40.6 – 50.5)	**4.1 (1.9-8.5)**	**<0.001**
Insertive AI	31/70	42.8 (30.3-56.3)	333/522	63.8 (58.9 – 68.5)	**0.5 (0.3-0.8)**	**0.008**
***Condomless anal intercourse with male partners** (last 3 months)*						
Any	43/70	62.1 (48.4-74.0)	208/522	38.6 (33.8 – 43.5)	**2.5 (1.4-4.5)**	**0.003**
Receptive AI	34/70	48.1 (35.0-61.5)	133/522	24.4 (20.4 – 28.9)	**2.8 (1.5-5.3)**	**0.001**
Insertive AI	18/70	26.7 (16.5-40.2)	146/522	26.5 (22.4 – 31.1)	1.0 (0.5-2.0)	0.975
***Female sexual partners** (last 3 months)*						
One or more	11/70	19.6 (10.8-32.9)	161/522	30.6 (26.2 – 35.4)	0.7 (0.3-1.5)	0.337
***Transactional sex with male partners** (last 3 months)*						
Once or more	42/69	57.5 (43.7-70.2)	240/518	41.7 (36.9 – 46.7)	**1.9 (1.0-3.6)**	**0.041**

†: RDS-II weighted & seeds excluded ‡adjusted for knowledge of HIV status, age, education level & country of birth

- Compared to cisgender GBMSM, transfeminine persons were more likely to report receptive anal sex roles and less likely to report insertive anal sex roles with male partners in the previous three months. Transfeminine persons were more likely to report condomless anal intercourse during the same period.
- Transfeminine persons were also more likely to report receiving cash, gifts or favours in exchange for sex with male partners over the past three months.
- Significant behavioural associations persisted when restricted to HIV negative participants

Table 3: Knowledge and access to sexual risk reduction and testing, TRANSFORM Nairobi 2017

	Transfeminine		Cisgender GBMSM		Adjusted association‡	
	n/N	% (95% CI)†	n/N	% (95% CI)†	aOR (95% CI)†	p
HIV testing						
HIV tested (ever)	60/70	81.7 (68.3-90.2)	34/522	93.2 (90.2-95.3)	**0.3 (0.2-0.8)**	**0.009**
***Pre-exposure prophylaxis**††*						
Correct knowledge	17/47	43.6 (28.2-60.3)	202/393	46.7 (41.1-52.4)	0.9 (0.4-1.9)	0.800
Prior or currently use	2/47	3.7 (0.9-13.8)	37/400	7.0 (4.7-10.3)	0.6 (0.1-2.5)	0.473
***Post-exposure prophylaxis**††*						
Correct knowledge	16/47	38.8 (24.0-56.1)	201/396	48.9 (43.2-54.6)	0.7 (0.3-1.5)	0.337
Prior use	3/48	4.8 (1.0-19.6)	31/395	6.4 (4.1-9.8)	0.8 (0.2-4.2)	0.809
Access to safer sex materials when required						
No difficulty accessing condoms	28/64	44.7 (31.4-58.9)	302/510	58.2 (53.1-63.1)	0.6 (0.3-1.0)	0.067
No difficulty accessing lube	23/66	32.3 (21.0-46.2)	243/509	47.9 (42.8-52.9)	**0.5 (0.3-1.0)**	**0.045**

†: RDS-II weighted & seeds excluded ‡adjusted for knowledge of HIV status, age, education level & country of birth
††:limited to HIV negative or HIV unaware participants

- Compared to cisgender GBMSM, transfeminine persons were less likely to report HIV testing prior to the study.
- Transfeminine persons more likely to report difficulties accessing condoms (not statistically significant) and water-based lubrication when required.
- Awareness and experience of pre- and post-exposure prophylaxis, both of which are available from public health facilities in Kenya, tended to be lower among transfeminine persons.

Conclusions

Sexual and gender identity continue to be conflated in research and service provision:

Gender identity should routinely be measured among key populations in order to assess sexual and wider health needs and to tailor responses accordingly

Behavioural, service process and sexual health outcomes measures should be stratified by gender identity to reduce misclassification

Sexual health needs of transgender and gender diverse persons in Nairobi are high and require a specific and user-acceptable service response:

Assess the acceptability and adaptability of current sexual health promotion & service models to meet needs of transfeminine, transmasculine and gender diverse persons

Address the specific professional and cultural competency of all providers likely to encounter transfeminine persons accessing key population services

Future research and service models should describe and address syndemic issues

Assess demand and supply of gender affirmative support and therapies

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