

Evaluation of the HIV Prevalence and HIV-related risk factors of men who have sex with men (MSM) in Malawi

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BACKGROUND

- Malawi has a generalized HIV epidemic with an estimated prevalence of 11.5% among men.
- The dominant risk factors for HIV in Malawi have been heterosexual and vertical transmission.
- Recent studies from Africa have suggested that MSM are also at risk for HIV infection, and that these men may be vulnerable due to the lack of targeted prevention programs, stigma, and human rights violations.



METHODS

Study Sample

Eligible participants will be 18 years old or older, current residents of the selected cities and have a history of ever having had anal intercourse. Inclusion will not be based on sexual orientation/identity, frequency of sexual experience, and previous HIV testing. A total of 200 MSM were recruited from 3 different cities in Malawi

Recruitment Strategy

Study sample was recruited using respondent-driven sampling, where each study participant was asked to refer 10 other MSM to take part in the study.

Survey Instrument

The survey instrument is a quantitative structured instrument with 45 questions which collects no identifiable information from study participants.

Statistical Analysis

Survey instruments were linked anonymously to HIV testing results using participant codes. Univariate and multivariate logistic regression analyses were used to assess independent predictors of HIV and any cross-sectional association between risk factors and HIV status.

HIV Testing

Saliva samples were obtained for anonymous rapid HIV testing among interviewees. Oral fluid HIV testing using the OraSure Oraquick HIV-1 kit has been licensed by the US FDA and has a known sensitivity of 99.1% for oral fluid (compared to 99.7% with serum), and a specificity of 99.6% with oral fluid (compared to 99.9% with serum). This HIV testing was done for study purposes, not for definitive clinical testing: participants were encouraged to seek confirmatory testing and referred to appropriate MSM-friendly venues for this testing.

BASELINE CHARACTERISTICS

Characteristic	Estimate	Absolute #
Age	Mean 25.6	Range 19-49
Rural Origin	30.4% (n=61/201)	61/201
Education	Primary or less	1/199
	Secondary or more	198/199
Currently Employed	Employed	51%
Current Relationship	Boyfriend	109/201
	Girlfriend or Married	47.7%
	Boyfriend and Girlfriend/Married	25.5%
Self-Reported Sexual Orientation	Heterosexual	6.5%
	Gay/Homosexual	40.5%
	Bisexual	53%
	Transgender	0
Aware of sexual orientation	Immediate Family	6%
	Extended Family	13.9%
	Any Health Care Worker	8.96%
	Family or Health Care Worker	20.5%
In last 6 months:	Number of Male Partners	Mean 3.9
	Number of men with >= 5 partners	17.54%
	Number of female partners	1.54
	Concurrent male and female sexual partners in last 6 months	63.44%
	Have injected illegal drugs (IDU)	12.24
	Found male partner on internet	44.22%
Self-reported biggest threat to health	HIV	84.74%
	Sexually Transmitted Infections	5.3%
	Malaria/Tuberculosis	3.2%
	Violence	2.6%

RESULTS

HIV prevalence was 21.4%(43/201), with 95.3% unaware of their HIV status(41/43). MSM were more likely to have received information about preventing HIV transmission with women than men(p<0.05), and were less likely to know that HIV was transmitted through anal intercourse than through vaginal intercourse(p<0.05). Univariate predictors of HIV include ever being arrested(p=0.05), identifying as homosexual compared to heterosexual(p<0.05),not always wearing condoms during anal intercourse(p<0.01), having received money or gifts for casual sex with men(p=0.09), and those who have used the internet to find a male partner(p=0.08). In a multivariate model controlling for education, having had a female partner in the last 6 months, and number of male partners, being older than 25(p=0.06), having used the internet to find a partner(p=0.07), and not always wearing condoms with men(p=0.01) were predictive for being infected with HIV. 39%(78/199) had experienced a human rights abuse related to their sexuality, including violence, blackmail, being denied health or housing, or rape. Univariate predictors of rights abuses included disclosing sexuality to family members(p<0.05) or a health care worker(p=0.01).

HIV-Related Knowledge

Characteristic	Estimate	Precision
Received any information about preventing HIV infection from:	Women	94.5% (189/200)
	Men	56.5% (113/200)
Know that HIV can be transmitted via	Anal Intercourse	92.31% (180/195)
	Vaginal Intercourse	98.5% (197/200)
	Injecting Drug Use	74.35% (142/191)
	All three above	70.27% (130/185)

Condom/Lubricant Use

Characteristic	Estimate	Precision
Always use condoms with:	Men (casual and regular)	25% (31/124)
	Women (casual and regular)	19.49% (23/118)
	Casual Partners (male and female)	12.12 (24/198)
	Regular Partners (male and female)	9.75 (19/195)
Of those who used lubricant during anal intercourse:	Water-based lubricant	34.35 (45/131)
	Petroleum-based lubricant/Body or Fatty Cream	65.65 (86/131)
Proportion who always used condoms and water-based lubricant	2.42% (3/124)	

Human Rights Contexts

Characteristic	Percentage	Absolute #
Denied housing other than not being able to pay	6.5%	13/200
Denied health care based on sexuality	4.02%	8/199
Afraid to seek health services	17.59%	35
Afraid to walk in community	15.5%	31
Blackmailed because of sexuality	18.00%	36
Yes to any of the above	34.34%	68/198
Beat up by government or police official	8.08%	16/198
Ever have been Raped	11.06%	22/199

HIV Prevalence and Risk Factors for Infection

Characteristic	Estimate	Precision
HIV Prevalence	21.4%	95% CI 16.3-27.6
Univariate Model		
Risk Factors for HIV Infection	Ever being arrested	p<0.05
	Not always wearing condoms	p<0.01
	Used the internet to find male partner	p<0.07
	Having received money for anal intercourse	p<0.08
Multivariate Model (education, female partner, number of male partners)		
Risk Factors for HIV Infection	Older than 25	P=0.06
	Having used internet to find partners	P=0.07
	Not always wearing condoms	P=0.01

CONCLUSIONS

- This first study to evaluate HIV risk status of MSM in Malawi demonstrates that MSM are a high-risk group for HIV infection and human rights abuses.
- Further epidemiologic and evaluative research is needed to assess the contribution of MSM to the Malawian HIV epidemic and how best to mitigate this.
- Malawi should initiative and adequately fund evidence-based and targeted HIV prevention programs for MSM.