

# Identifying predictive factors for condom use in MSM and TGW in sub-Saharan Africa: Results from HPTN 075

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# Introduction

- Consistent, correct condom = decrease in HIV and STI's
- What influences risk-taking behaviour
- Not much known about risk in MSM and TGW in sub-Saharan Africa
- The IMB skills model
  - Information
  - Motivation
  - Behavioral skills

# HPTN 075

- The feasibility of recruiting and retaining MSM and TGW into an HIV prevention study in sub-Saharan Africa.
- 401 participants followed over a one-year period with five study visits.
- Behavioural assessments done at each visit.
- **Study aim:** To identify predictors of condomless insertive and receptive anal sex among the HPTN 075 participants.

# Methods

## Study sample

- 294 MSM and TGW (out of 401)
- 18 – 44 years old, male at birth
- Anal sex with a man

## Procedure

- Information take from behavioural assessments
- Independent/ predictor variables – Enrollment visit
- Outcome measures – Visit 3



# Methods

**Outcome measures** (reported sex with up to 3 partners)

- Insertive anal sex vs receptive anal sex
- Always condoms vs any condomless anal sex
- STI and HIV corrected

# Methods

## Predictor variables

Model concept	Variable	Example	Response format
Information	HIV knowledge STI knowledge	“HIV can be transmitted through anal sex” “Chlamydia affects only women”	True or False
Motivation	Attitudes towards condoms	“Condoms can be pleasurable”	Level of agreement
Behavioral skill	Social support Coping self-efficacy	“In general, I feel that I can count on members of the gay community if I need help or advice” “Take your mind off unpleasant thoughts”	Likelihood scale
External	Hazardous drinking (AUDIT-C)	“How often do you have six or more drinks on one occasion?”	Frequency

# Methods

## Statistical analysis

- Two parallel sets of analyses for insertive anal sex and in receptive anal sex, respectively
- Univariate logistics regression
- Covariates with a conservative p-value  $\leq 0.1$  at the univariate level were included in a multivariate analysis

# Results

## Participant characteristics

- 120 reported only insertive anal sex
- 120 reported only receptive anal sex
- 54 reported having engaged in both
- 62.6% who had insertive anal sex reported condoms always
  - 7 new STIs and 1 seroconversion
- 66.1% who had receptive anal sex reported condoms always
  - 3 new STIs and 3 seroconversion



# Logistic Regression of condomless insertive anal sex with male partner in past 3 months at Visit 3

Variable	Insertive unprotected sex		Univariate			Multivariate		
	Always condoms	Any condomless sex	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
Number of Sex Partners in the last 3 Months	1.46 (0.84)	1.86 (1.00)	1.65	1.14, 2.40	0.009	1.85	1.26, 2.73	0.002
Who wanted to use condoms								
At least 1 participant/both	104/161 (64.6%)	57/161 (35.4%)	REF			REF		
Only partners wanted	5/13 (38.5%)	8/13 (61.5%)	2.92	0.91, 9.34	0.071	5.42	1.56, 18.90	0.008
Self-esteem	3.32 (0.56)	3.10 (0.70)	0.55	0.33, 0.93	0.024	0.48	0.28, 0.84	0.010

# Logistic Regression of condomless receptive anal sex with male partner in past 3 months at Visit 3

Variable	Receptive unprotected sex		Univariate			Multivariate		
	Always condoms	Any condomless sex	Odds Ratio	95% CI	p-value	Odds Ratio	95% CI	p-value
Study site								
Kisumu, Kenya	35/40 (87.5%)	5/40 (12.5%)	REF			REF		
Blantyre, Malawi	23/32 (71.9%)	9/32 (28.1%)	2.74	0.81, 9.21	0.104	3.71	1.05, 13.14	0.042
Cape Town, South Africa	23/38 (60.5%)	15/38 (39.5%)	4.56	1.46, 14.28	0.009	4.53	1.34, 15.33	0.015
Soweto, South Africa	34/64 (53.1%)	30/64 (46.9%)	6.17	2.14, 17.78	<0.001	5.43	1.76, 16.80	0.003
Number of Sex Partners in the Last 3 Months	1.40 (0.68)	1.86 (0.96)	2.05	1.34, 3.14	<0.001	2.21	1.37, 3.54	0.001

# Discussion

- Concepts of the IMB model were used to identify predictors of condom use in MSM and TGW participating in the HPTN 075 study.
- Most participants reported consistently using condoms all the time.
- Having had more than one sexual partner predicted condomless anal sex.
- Condomless receptive anal sex varied by country
- Condomless insertive anal sex was predicted by only the partner insisting on using condoms.
- A longitudinal study with data from different time points.
- This study factored in new STIs and HIV to correct for self-report.
- Limitations:
  - Only responses for up to three partners were assessed.
  - Difficult to distinguish whether an act of protected anal sex was influenced by different variables at different times for different circumstances.

# Conclusion

In the HPTN 075 group studied, condomless anal sex was significantly predicted by the number of sexual partners, self-esteem, motivation for condom use, and country. Actual predictions varied based on insertive versus receptive anal sex.

# Thank you!

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