Is the high HIV prevalence in Gert Sibande, South Africa driven by a high multiple sexual partnership (MSP) prevalence?

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Gert Sibande District (GSD)

South Africa (SA)

Mpumalanga Province

Gert Sibande

According to the annual HIV prevalence, GSD HIV prevalence ranked from 3rd (40.5% - 2008) to 1st (46.1% - 2011) of 52 Districts in SA

Consistently higher HIV prevalence in GSD than national and provincial HIV averages
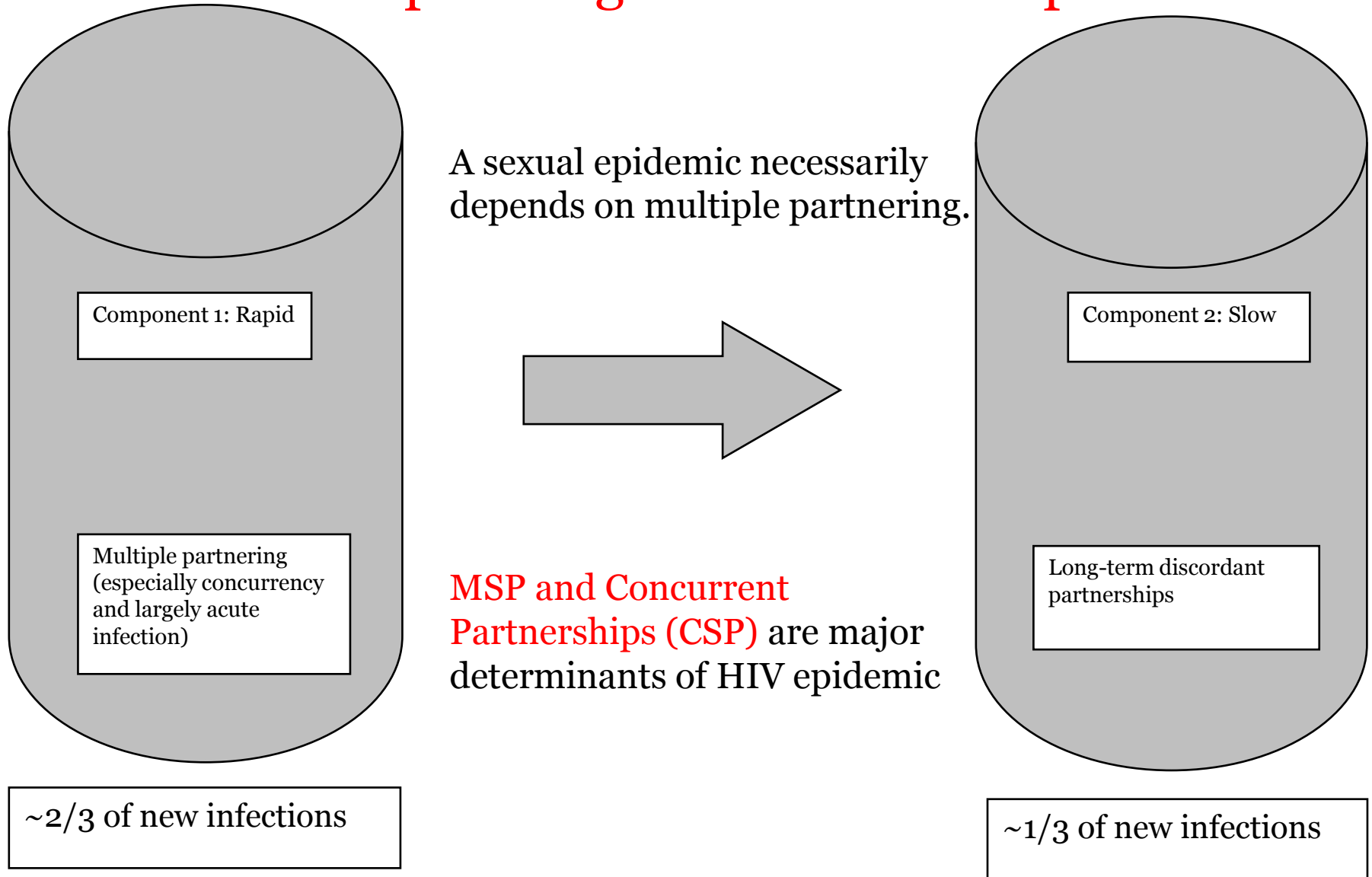
MSP and Concurrent Partnerships (CSP) are major determinants of HIV epidemic

No study on MSP and CSP carried out in GSD

Two-component generalised HIV epidemics

Component 1: Rapid

Multiple partnering (especially concurrency and largely acute infection)

~2/3 of new infections

A sexual epidemic necessarily depends on multiple partnering.

MSP and Concurrent Partnerships (CSP) are major determinants of HIV epidemic

Component 2: Slow

Long-term discordant partnerships

~1/3 of new infections

Main Objectives

- To estimate the prevalence of multiple and concurrent sexual partnerships (past 12 months)

- To identify the factors associated with MSP among adults (16-55 years) of GSD

Study Design

Secondary data analysis

Cross-sectional, multi-staged cluster sampling method

Probability proportionate to size (PPS); that is, self-weighted sampling

Multivariate logistic regression of a binomial distribution with results reported as adjusted odds ratios (AOR) and 95% confidence intervals (CI).

Gert Sibande District

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7 Municipalities: 30 Enumeration Areas (EAs)/Primary Sampling Unit (PSU)

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25 Households/Secondary Sampling Units (SSU) from each EA

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From 750 households: 750 Respondents (Female=500)

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592 sexually active adults, aged 16 – 55 (Female=392)

Measures and analysis

- Standardized scale of measurement
- Outcome measures
  1) MSP (past 12 months): two or more sexual partners, past 12 months
  2) CSP: occurs when sexual intercourse with one partner occurs between two acts of intercourse with another partner (UNAIDS 2009).
- Exposure variables
  - Socio-demographics (age, education, employment status, socio-economic and marital status)
  - Sexual behavioural (age at first sex, condom use at last sex, transactional sex, sex under influence of alcohol)

Types of Concurrent Partnerships

- ❖**Ongoing** (main partner), (co-wife, mistress, 'small house')

- ❖**Intermittent or occasional** (co-parents, location dependent relationships, 'little girlfriends')

- ❖**One-off** (sex-worker, casual encounter, 'take-aways', 'local bicycles')

Expectation of affection, commitment and support

Duration of partnership

Jan — Dec
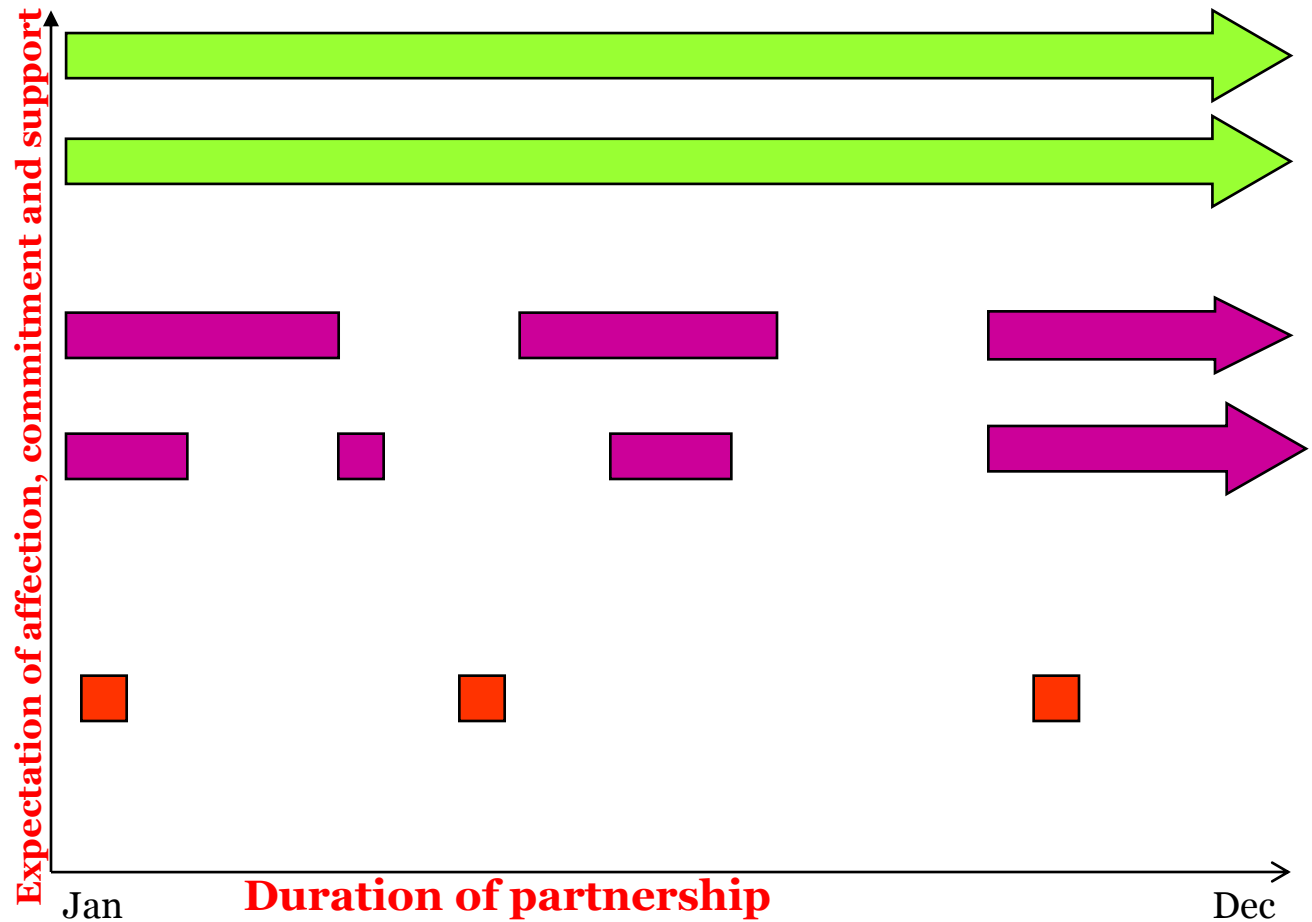
From: S. Leclerc-Madlala (2008) Age-disparate and intergeneration sex in southern Africa: the dynamics of hypervulnerability. AIDS, 22 (supp 4): 1-9.

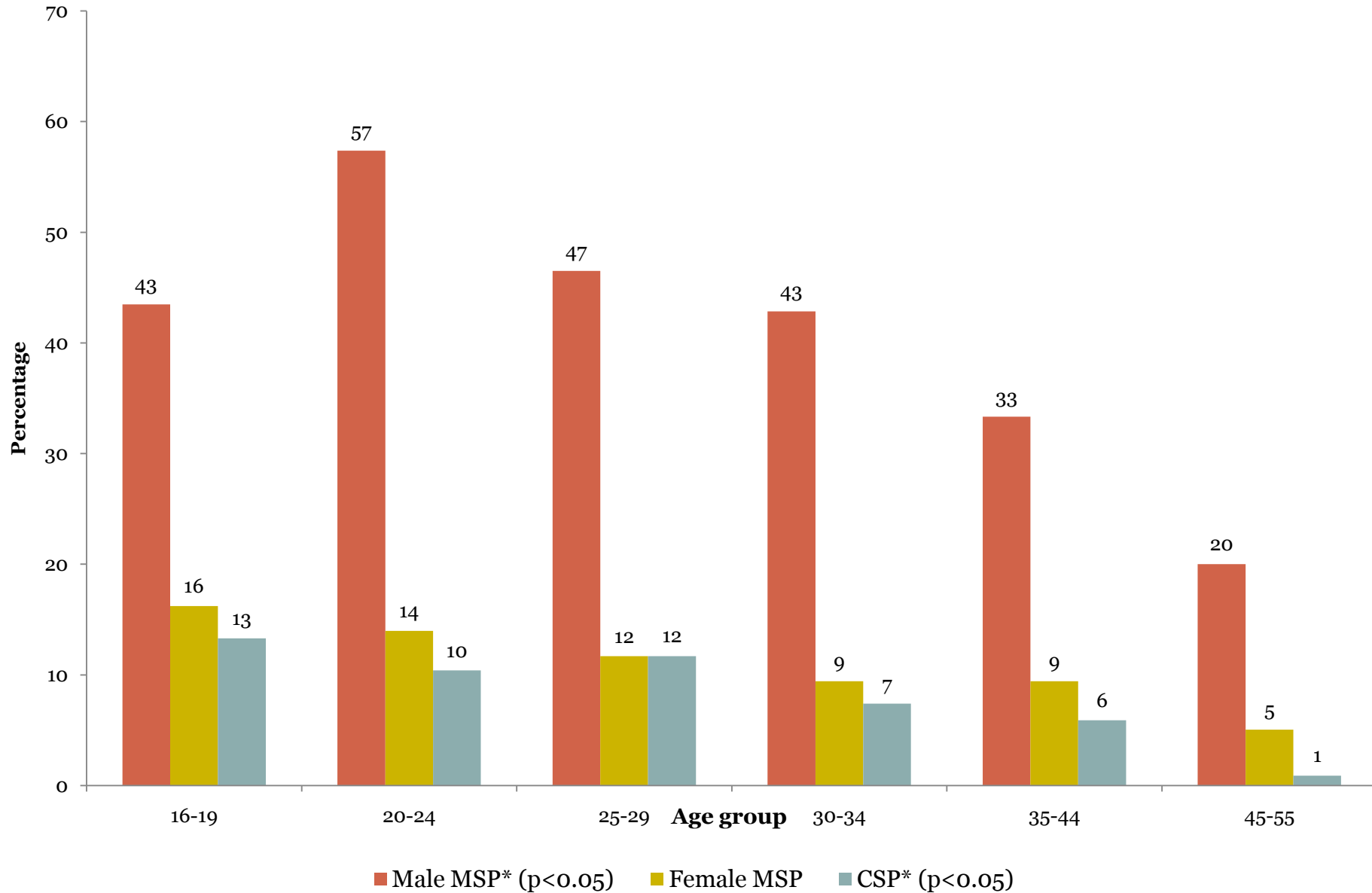# Prevalence of MSP and CSP is higher among males
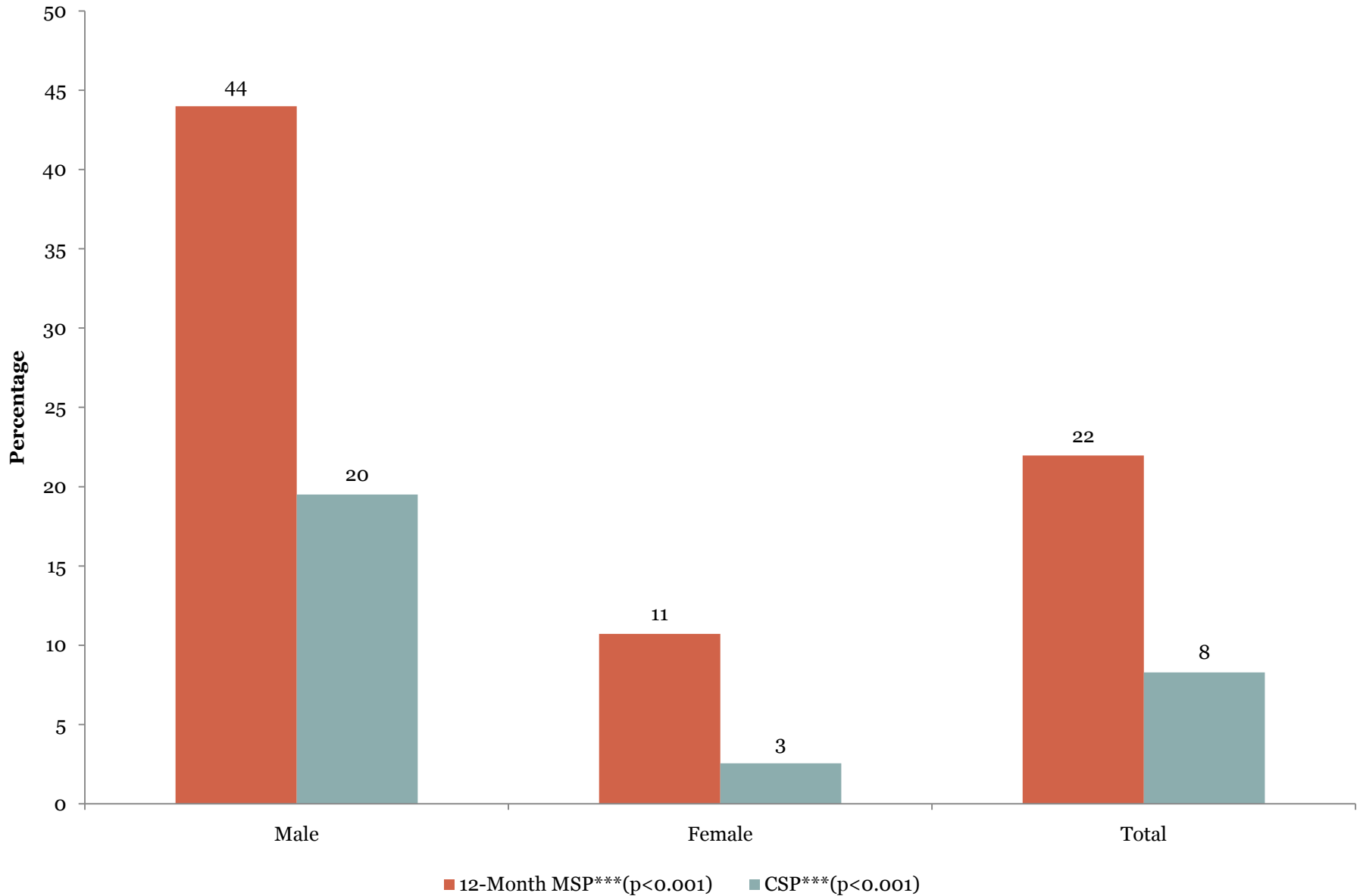
Factors of MSP and CSP

Males	Females
• Young people	• Never married
• Socio-economic status	• Transactional sex
• Never married	• Condom use at last sex
• Age at first sex (<16)	• Sex under the influence of alcohol
• Condom use at last sex	
• Sex under the influence of alcohol	

Prevalence of MSP and CSP is highest among young people

Bar chart showing Percentage (y-axis, 0–70) by Age group (x-axis): 16-19, 20-24, 25-29, 30-34, 35-44, 45-55.

Age group	Male MSP* (p<0.05)	Female MSP	CSP* (p<0.05)
16-19	43	16	13
20-24	57	14	10
25-29	47	12	12
30-34	43	9	7
35-44	33	9	6
45-55	20	5	1

Multivariate Models (MSP only)

- Three multivariate sex-differentiated models were built.

- Variables significant at p<0.05 were retained in the final models which contained:

  - Two socio-demographic and three sexual behavioural factors in males

  - One socio-demographic and three sexual behavioural factors in females

Multivariate Models 1

Socio-demographic (Males: N=200)

VARIABLES	MULTIVARIATE AOR (95% CI)
Age group	
16 – 19	3.8 (1.2 – 12.2)*
20 – 24	5.2 (2.0 - 13.5)***
25 – 29	3.5 (1.2 – 10.2)*
30 – 34	3.2 (1.3 – 7.2)*
35 – 44	2.4 (0.6 – 2.7)
45 – 55	Ref
Socio-economic status	
High	Ref
Intermediate	2.6 (1.5 – 4.6)***
Low	1.3 (0.6 – 2.7)

Socio-demographic (Females: N=392)

VARIABLES	MULTIVARIATE AOR (95% CI)
Marital status	
Ever married	Ref
Never married	8.5 (1.1 –64.0)*

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001 AOR: Adjusted odds ratios, adjusting for other variables in the model

Multivariate Models 2

Sexual behavioural (Males: N=200)

VARIABLES	MULTIVARIATE AOR (95% CI)
Age at first sex	
<16	10.7 (2.4 – 33.8)***
16 – 19	11.8 (3.4 – 40.3)***
20+	Ref
Recent Transactional sex	
No	Ref
Yes	4.9 (1.3 – 18.2)*
Sex while drunk	
Non drinkers	Ref
No	1.3 (0.6 – 2.8)
Yes	4.6 (2.1 – 10.0) ***

Sexual behavioural (Females: N=392)

VARIABLES	MULTIVARIATE AOR (95% CI)
Condom use at last sex	
No	Ref
Yes	2.1 (1.1– 3.9)*
Recent Transactional sex	
No	Ref
Yes	3.2 (1.0 – 9.5)*
Sex while drunk	
Non drinkers	Ref
No	1.3 (0.6 -3.0)
Yes	4.8 (2.3 – 9.8)***

*p≤ 0.05   **p≤ 0.01   ***p≤ 0.001   AOR: Adjusted odds ratios, adjusting for other variables in the model

Full Multivariate Model (Adjusted for socio-demographic and sexual behavioural)

Males: N=200

VARIABLES	MULTIVARIATE AOR (95% CI)
Age group	
20 − 24	3.0 (1.0 -9.3)*
45 − 55	Ref
Socio-economic status	
High	Ref
Intermediate	3.1 (1.7 − 5.6)***
Age at first sex	
<16	9.0 (2.7 − 30.1)***
16 − 19	9.7 (2.3 − 41.4)**
20+	Ref
Recent Transactional sex	
No	Ref
Yes	4.5 (1.3 − 15.2)*
Sex while drunk	
Non drinkers	Ref
Yes	4.5 (1.9 − 9.7) ***

Females: N=392

VARIABLES	MULTIVARIATE AOR (95% CI)
Marital status	
Ever married	Ref
Never married	10.9 (1.3 −90.3)*
Condom use at last sex	
No	Ref
Yes	2.4 (1.1− 5.6)*
Recent Transactional sex	
No	Ref
Yes	12.0 (3.9 − 37.1)***
Sex while drunk	
Non drinkers	Ref
No	2.1 (1.0 -4.2)*
Yes	9.3 (4.4 − 19.6)***

$*p ≤ 0.05$ $**p ≤ 0.01$ $***p ≤ 0.001$ AOR: Adjusted odds ratios, adjusting for other variables in the model

What does this research tell us?

- There is a high prevalence of MSP and CSP among adults of Gert Sibande District compared to levels reported in the SABSSM surveys in South Africa

- Similar high levels of MSP and CSP were associated with high HIV prevalence in various studies

- Age, socio-economic factors among males and having never been married among females remained as significant underlying correlates of MSP after adjusting for proximate sexual behavioural factors

- Age at first sex in males, condom use at last sex among females as well as sex under the influence of alcohol and transactional sex in both males and females remained as significant independent sexual behavioural factors of MSP

How does the findings influence policies and interventions?

- More work is needed in Gert Sibande to address MSP and CSP.

- Emphasis on the need for a multi-sectoral approach to address both the structural and contextual risk factors.

- Sexually active adults, young people and the unmarried, should be strategically targeted.

- Interventions targeting places where alcohol is served must be built into HIV prevention programmes to address the HIV risk related to alcohol use.

Conclusions and reflections

- ## MSP is high in Gert Sibande District
  - High MSP might explain the high HIV prevalence in GSD.
  - Well tailored interventions are needed in Gert Sibande to address enabling factors
  - Understanding of the factors at work in GSD might be a good point in helping to address the epidemic in similarly affected areas

THANK YOU

Q & A