



**Correlates of risky sexual behaviour
among HIV negative man having sex with men
at their last sexual encounter (LSE)
Results from the ARGUS 2005 survey, Montréal**

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ARGUS

Part of M-Track

- **Second-generation surveillance system among MSM**
- **Monitor HIV, HCV & STI**
- **Monitor risk behaviors**
- **Public Health Agency of Canada**

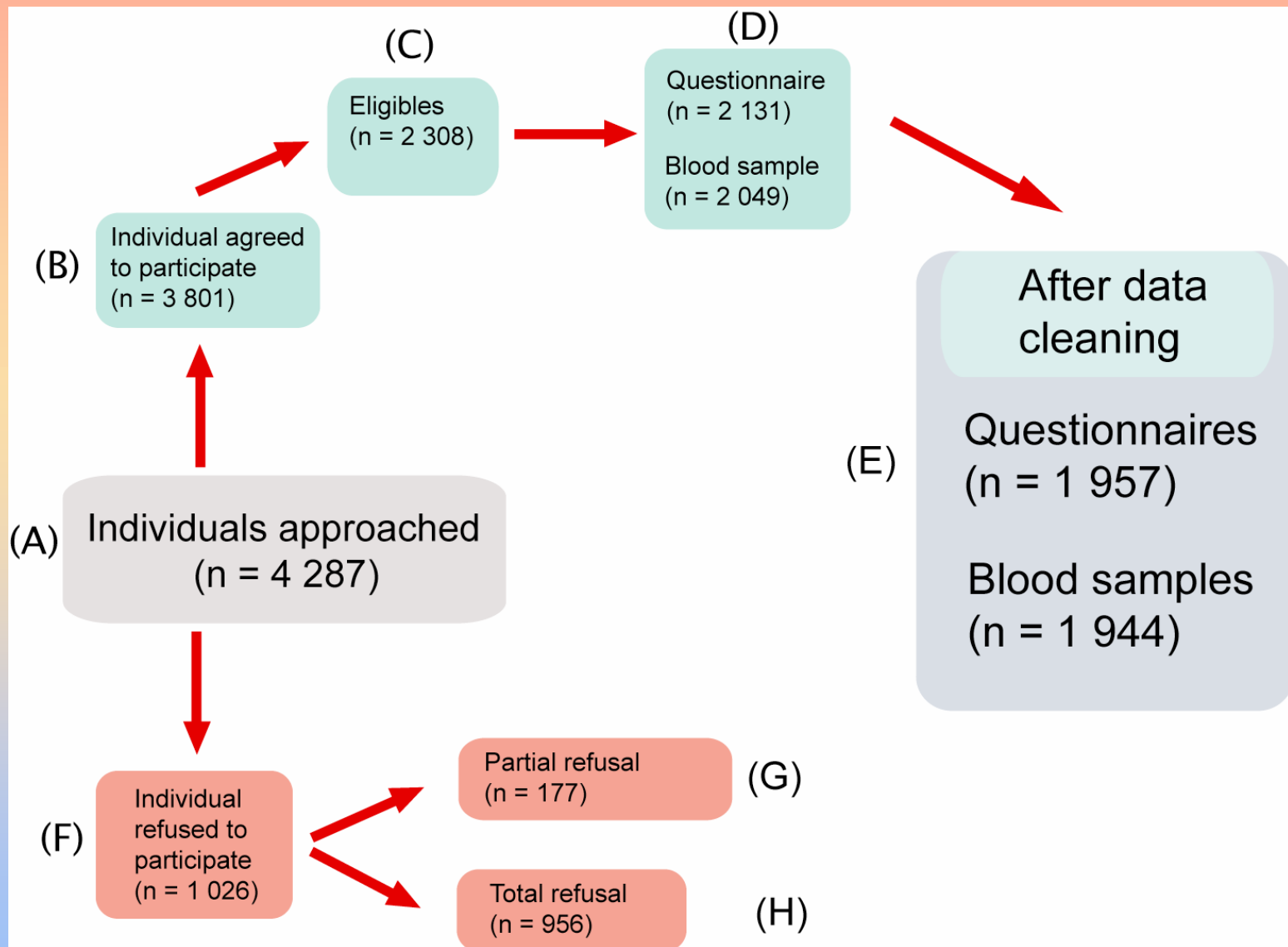
Argus 2005

1st of biennial surveys of Montreal MSM

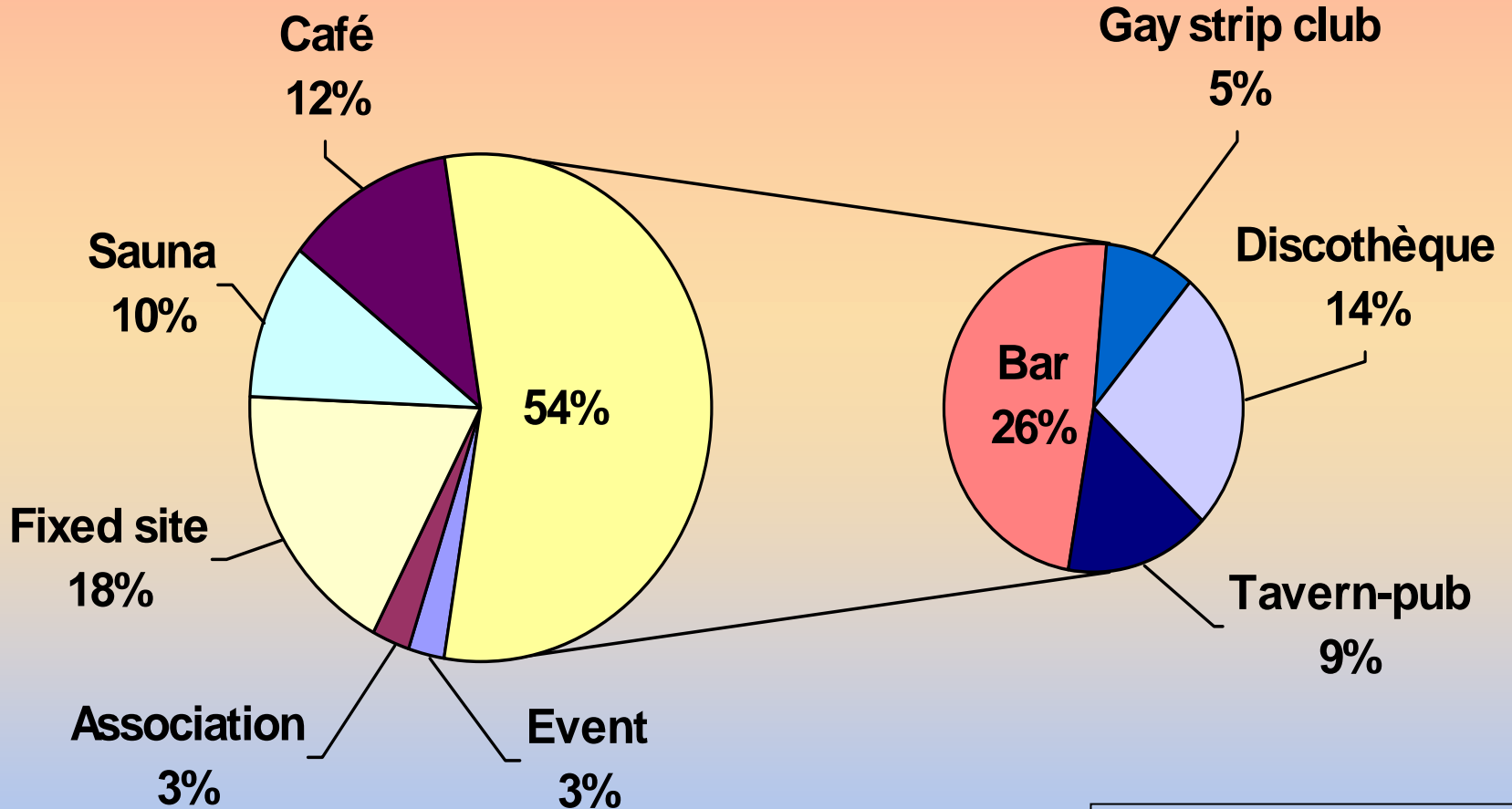
ARGUS Method

- **Cross-sectional design**
- **Population**
 - Men who have sex with men
 - ≥ 18 yrs old
 - Living in Montreal
- **Recruitment**
 - Gay social venues (bars, saunas, cafés etc)
 - Convenience sample, diversity focused
- **Data collection**
 - Anonymous, self-administered questionnaire
 - Dried blood spot : HIV, HCV, syphilis antibodies

ARGUS Participation January – July 2005



ARGUS Participation/recruitment sites



n = 1 957

Context

UAS The primary risk factor for HIV transmission among MSM	
Among HIV-seronegative or of unknown HIV status respondents, at least once in the six previous months, with a partner other than regular HIV-seronegative Argus 2005	UAS 29 %
LSE A tool to examine the contexts in which behaviours are embedded	

Objectives

1. Describe some characteristics of the last sexual encounter of MSM.
2. Identify correlates of engaging in unprotected anal sex (UAS) with a non-couple male partner at the last sexual encounter (LSE).

Analysis



MSM of HIV-seronegative/unknown HIV status

- Had oral or anal sex within the last 6 months**
- LSE with a male partner**
 - no exchange of money**
 - no sex in group**

Assessment of several “individual” variables in addition to variables related to the last sexual encounter.

Bivariate and multivariate analyses using logistic regression.

Objectives

1. To describe some characteristics of the last sexual encounter of MSM :

The Partner

The Set up

The Act

Partner type at LSE

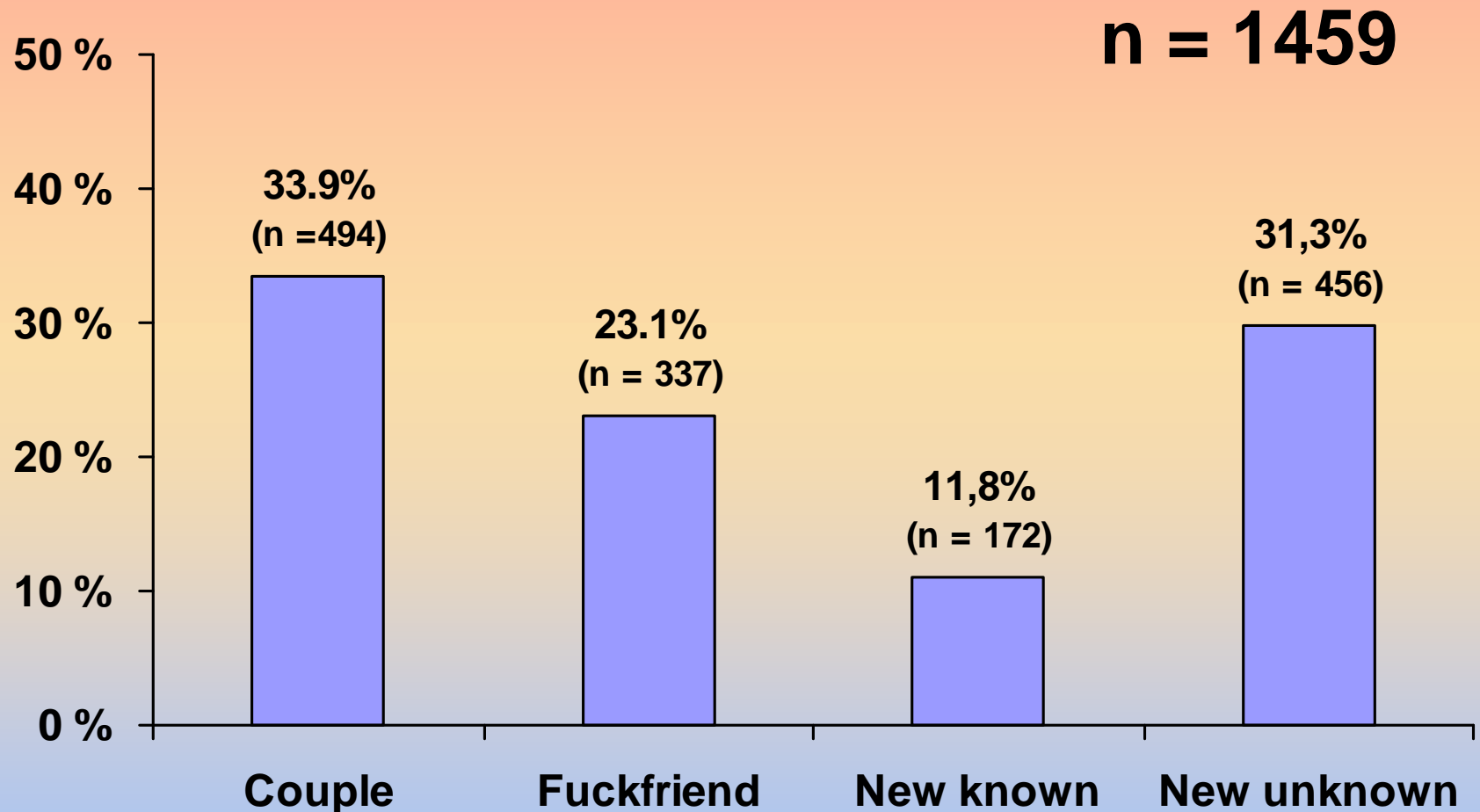
How would you describe your relation with that man ?

- *Man with whom you are in a couple*
- *Man with whom you already had sex a few times (fuckfriend)*
- *Man with whom you had sex for the first time who you already knew*
- *Man with whom you had sex for the first time who you didn't already know (one-night stand)*

NO exchange for money
NO group sex

Partner type at LSE

among HIV (-) unknown



Dimension of LSE by partner type.

I – Relation to partner

(among HIV negative / unknown)

		Couple %	Fuckfriend %	New known %	New unknown %
Age difference	**	(-0,7 y)	(- 5,2 y)	(- 3,6 y)	(- 4,0 y)
Length of relation < 1 week	**	12,2	11,3	45,3	73,0
> 1 year		52,4	30,1	10,1	-
Sexually attractive Very or extremely	**	79.7	58.0	54.7	47,5
Interest in emotional relationship Strong very strong	**	83,2	32,7	27,1	9,5

* p < 0,05; ** p < 0,001

Dimension of LSE by partner type.

I – Relation to partner

(among HIV negative / unknown)

Partner HIV serostatus

	Couple	Fuckfriend	New known	New unknown	Any
HIV (-) / unknown respondents					
HIV (+) partner *	7.3	6.8	6.0	2.5	5.5
HIV unknown partner **	15.1	35.6	44.3	79.1	43.3
Combined	22.4	42.4	60.3	81.6	48.8

* p < 0,05; ** p < 0,001

Dimension of LSE by partner type.

II - Setup

(among HIV negative / unknown)

Emotional state

A lot – very much	Couple %	Fuckfriend %	New known %	New unknown %
Feeling stressed, preoccupied, tense	10.6	12.8	11.3	14.8
Feeling unsatisfied, unhappy with life **	15.2	24.4	28.5	30.4
Feeling depressed, down, had the blues *	2.6	5.5	6.9	8.6
Dealing with an emotional crisis *	4.1	7.2	12.3	8.2

* $p < 0,01$; ** $p < 0,001$

Dimension of LSE by partner type.

II - Setup

(among HIV negative / unknown)

	Couple %	Fuckfriend %	New known %	New unknown %
Emotional disturbance Index (0 to 16) **	(2.7)	(3.5)	(4.2)	(4.2)
Sex in a commercial or public space **	3,2	14,4	16,9	48,6
Alcohol ** (while or 2 hrs before sex)	39,4	48,4	55,8	48,6
Drugs ** (while or 2 hrs before sex)	14,6	29,6	27,3	25,5

* p < 0,01; ** p < 0,001

Dimension of LSE by partner type

II - Setup

(among HIV negative / unknown)

Type of drug	%
Any drug	22.9
Marijuana	11.9
Cocaine	5.9
Ecstasy	3.0
Amphetamines	2.1
“Poppers”	1.7
GHB	1.5
“Crystal”	0.4
Heroin	0.1

Dimension of LSE by partner type

III - Sexual activities

(among HIV negative / unknown)

		Couple	Fuckfriend	New known	New unknown
		%	%	%	%
Oral sex	Receptive	87.7	86.6	86.0	87.3
	Active	86.6	83.6	83.1	79.7
Rimming *		41,6	46,4	33,7	36,2
Fisting *		6,8	12,3	11,0	8,3
Anal sex **		59,3	51,8	39,4	42,8
Position *	Top	38.9	35.8	29.5	47.7
	Bottom	29.6	35.8	41.0	34.7
	Top & bottom	31.5	28.3	29.5	17.6
UAS among anal **		57,4	30,5	34.5	28.0
UAS among all **		33.5	14.0	14.3	10.0

* p < 0,05; ** p < 0,001

Protected anal sex at LSE

(among HIV negative / unknown)

	All partner type %
Protected anal sex at LSE	58.6
Among those who used a condom	
Full or partial insertion of penis before putting condom	21.6
Condom came off during sex	6.7
Condom rip during sex	3.5
Used lubricated condom	94.8
Regular thickness condom	73.5
Used lubricated condom and extra lubricant	31.5

Objectives

2. To identify correlates of engaging in UAS with a non-couple male partner at LSE

R Model 1. All respondents

R Model 2. Respondents who had sex with a non-couple partner

UAS at LSE

(among HIV negative / unknown)

	All Respondents %	Respondents who had sex with a non couple partner %
Unprotected anal sex with a non couple partner	8.2	12.2

Variables associated with UAS

Individual based

Socio Demographic

- Marital status couple with M or W
- Couple relationship with M

Social Network

- Half and more friends are gay

Sexuality

- Quite to very satisfied with sex life
- Has given \$/drugs/etc for sex *
- Has received \$/drugs/etc for sex *
- Number of male partners
- Group sex *

Drugs or alcohol use

- Alcohol \geq 4 times a week
- Cocaine (sniffed or injected) *
- Steroids injection *

* *at least once
In the last 6 months*

Beliefs

- An HIV+ taking ARV less likely to transmit HIV
- Tired of always monitoring my sexual behaviour
- Fed up of being told to use condom

Health

- STI lifetime

Event based

Partner

- Sexual attractiveness of LSE partner
- Interest to develop/maintain an emotional relationship with LSE partner.

Setup

- Drug use at LSE
- \geq 5 alcoholic beverages at LSE
- Emotional disturbance at LSE

Sex

- (Rimming)
- (Fisting)

Multivariate model of factors associated with UAS at LSE with a non couple partner (n = 1308)

All HIV negative/unknown men	OR adj	CI 95%
Age (continuous) CONSTANT		
Number of sexual partners past 6 months		
2 to 9	1.87	(1.02 – 3.42)
≥ 10	2.44	(1.28 – 4.62)
Had given (\$, drugs) for sex past 6 months	2.18	(1.28 – 3.72)
Believing HIV+ man taking ARV is less likely to transmit HIV	2.23	(1.19 – 4.18)
Tired of monitoring sexual behaviour	1.76	(1.05 – 2.93)
Life history of STI	1.69	(1.10 – 2.54)
Recreational drug use at LSE	1.99	(1.29 – 3.09)
≥ 5 alcoholic beverages at LSE	1.66	(1.02 – 2.71)

Multivariate model of factors associated with UAS at LSE with a non couple partner (n = 965)

HIV negative/unknown men who had a non couple partner at LSE	OR adj	CI 95%
Age (continuous) CONSTANT		
In a couple with a man ≥ 6 months	3.76	(2.06 – 6.89)
Believing HIV (+) man taking ARV is less likely to transmit HIV	3.05	(1.55 – 6.03)
Tired of monitoring sexual behaviour	1.79	(1.13 – 2.82)
Life history of STI	1.79	(1.02 - 3.12)
≥ 5 alcoholic beverages at LSE	1.87	(1.21 – 3.12)
Sexual attractiveness of LSE partner	1.79	(1.11 – 2.91)
Recreational drug use at LSE	1.72	(1.08 – 2.73)
Interest in emotional relationship with LSE partner	1.69	(1.01 – 2.80)

Highlights

1. Being in a couple relationship (protection drops when the border is crossed)

Being in a couple relationship for 6 months or more decreased the risk of engaging in UAS with a non-couple partner. It precluded having sex with many partners and consequently prevented having sex with a non-couple partner at LSE. But if someone who was in a couple relationship crossed the border and had sex with a non-couple partner, he was more likely to engage in UAS than someone who was not in a couple.

Highlights

2. Number of partners in the last six months

(having many partners don't necessarily mean having unsafe sex)

Having a large number of partners in the last six months increased the risk of engaging in UAS with a non-couple partner by increasing the risk of having sex with a non-couple partner. But among men who had sex with a non-couple partner at LSE, engaging in UAS was not associated with the number of partners they had had during the last six months (2 to 5, 6 to 9, 10 to 19 and 20+).

Highlights

3. Antiretroviral therapy (contagiousness matters more than severity)

The belief that ARV limits HIV contagiousness was strongly associated with an increase in UAS. On the other hand, two ARGUS variables referring to perceived severity of HIV infection in the era of ARV were not associated to UAS (“being less concerned about getting HIV now that better anti-HIV medications are available” and “HIV has become a controllable disease like diabetes”).

Highlights

4. HIV serostatus of the partner (serosorting is a complex preventive measure)

A very high proportion of HIV-negative or unknown HIV status respondents didn't know the HIV status of their non-couple partner at the time of the LSE. Furthermore the serostatus (positive, negative or unknown) of the partner was not associated with engaging in UAS. Similarly a very high proportion of HIV (+) respondents didn't know the status of their non couple partner. Moreover, among the respondents with HIV (established by laboratory analyses of blood drops provided by persons who participated in the ARGUS survey) close to one respondent in four (23.2%) was unaware that he was infected.

Highlights

5. Type of non-couple partner (a non-couple partner is a non-couple partner)

The prevalence of UAS was slightly lower with “one-night stand” partner than with “fuckfriend” or with “new sexual partner that you already knew” , but this difference was not statistically significant. Furthermore, there was no interaction of the type of non-couple partner for the association between “interest to develop an emotional relationship” and UAS, or between “finding the LSE partner sexually attractive” and UAS.

Highlights

6. *Place where sex took place (UAS is everywhere)*

No association was observed between the place where LSE has taken place (in a bathhouse, in an hotel, a public area or at home) and engaging or not in UAS. We didn't asked if the LSE partner was recruited through the Internet or not; Chiasson and al. did ask, using a similar event-based approach. They found no difference in risk of UAS for partners met on-line versus off-line.

Chiasson MA and al.. JAIDS feb. 2007

Highlights

7. *Drugs*

(event-based data add strength)

In Canada, researchers like Strathdee and al. from British Columbia have already reported that recreational drugs may be a strong correlate of having UAS with casual partners. The event-level data presented today simply strengthen that proposition.

Limitations

- **Generalizability**
Limited to MSM who frequent gay venues/spaces
- **Social desirability**
- **No use of a theoretical model on UAS**
- **Temporal relationship**
- **Recall bias**

Conclusion

Whatever their individual background,

**MSM who used drugs / alcohol and
found themselves in the company of
an exciting man at LSE**

Were more likely to report UAS at LSE

Wherever they had this LSE.

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Thank you!