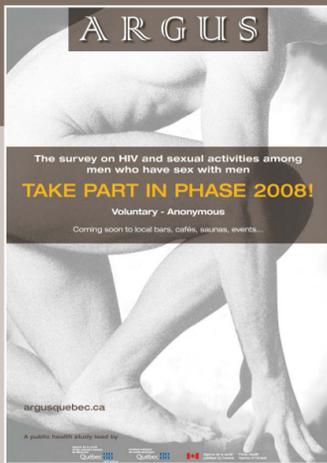


TRENDS IN BEHAVIOURS ASSOCIATED WITH SEXUALLY TRANSMITTED AND BLOODBORNE INFECTIONS (STBBIs) AMONG HIV POSITIVES MEN WHO HAVE SEX WITH MEN (MSM) IN MONTREAL: RESULTS FROM THE ARGUS 2005 AND 2008 SURVEYS.

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CONTEXT AND OBJECTIVE

- ARGUS is part of M-Track, an enhanced surveillance system that monitors HIV/STBBIs, and associated risk behaviours among MSM in Canada.
- To explore the evolution of risk profiles among HIV positives Montreal MSM from 2005 to 2008.

METHODOLOGY

- Combined data from two ARGUS cross-sectional surveys (first, January to August 2005; second, May 2008 to March 2009).
- Modified time-location sampling was used for subject recruitment. Participants aged 18 years or older were recruited through the same gay social venues (approximately 40 venues in each survey) and completed a self-administered questionnaire.
- This analysis is restricted to MSM living in Montreal who self-reported as HIV positive (205 subjects in 2008 and 180 in 2005).
- 33 indicators were selected for this trend analysis: sexual activities, context of meeting sexual partners, sexual relations under the influence of alcohol and drugs, general consumption of alcohol and drugs, use of health services, history of STBBIs and opinions on HIV.
- Univariate analyses assessed associations between each indicator and the year of the survey (2005 and 2008). Odds Ratio (OR) associated with each indicator is presented and represent the probability of respondents of 2008 compared to those of 2005. Variables meeting $p \leq 0.20$ significance threshold were considered potentially important.
- For each indicator meeting this significance threshold, a multivariate logistic regression model was used to control for variation in the sample characteristics between 2005 and 2008. The following variables were forced into the multivariate model when associated with the year of survey or with the indicator: type of recruitment site, age, ethnic or cultural group of identification, personal annual income before taxes, being currently part of a couple with a man and sexual orientation. Terms of interaction were included when indicated. Only statistically significant findings are presented (adjusted Odds Ratio (aOR) and 95% confidence intervals (95%CI)].

LIMITATIONS

- Participants recruited in 2008 appear to be somewhat different from those recruited 2005. Differences in behaviour between 2005 and 2008, therefore, could be the result of a change in these samples on a variety of sociodemographic and other factors. While efforts to adjust for these were undertaken, whether this approach was adequate and sufficiently inclusive cannot be known.
- An information bias cannot be excluded given the sensitivity of questions on sexual behaviours; this may have resulted in a social desirability bias.
- The study is limited to MSM attending gay social venues.

FINDINGS

Trends in behavioural indicators among MSM living in Montreal who self-reported as HIV positive, from 2005 to 2008 (The Argus Study)

	Univariate analyses			Multivariate Logistic regression models, controlling for the recruitment site and the sociodemographic characteristics ^(a) of respondents	
	Argus 2005 n=180 (%)	Argus 2008 n=205 (%)	OR ^(b)	aOR ^(c)	CI 95%
Sexual activities within the last six months					
1. Sex (oral or anal) with a man	93.3	94.1	1.14		
Among respondents who have had sexual relations with a man in the past 6 months					
2. Sex with six men partners or more	47.0	62.2	1.85***	2.34***	(1.41-3.87)
3. Sex with six or more "one-night stand" ^(d) men partners	44.7	48.1	1.14		
4. Anal sex with six men partners or more	25.3	39.1	1.89***	2.16***	(1.27-3.69)
5. Group sex ^(e) ALO ^(f)	33.9	49.2	1.88***	1.99***	(1.22-3.24)
6. Unprotected anal sex (UAS) with a man partner ALO	35.4	53.0	2.06***	1.89***	(1.16-3.10)
7. Unprotected anal sex (UAS) with a "one-night stand" partner ALO	31.7	37.0	1.27		
8. Intentional unprotected anal sex (UAS) with a "one-night stand" partner (bareback) ALO	23.3	25.6	1.13		
9. Unprotected anal sex with a partner other than a regular HIV positive partner ALO	44.6	47.4	1.12		
Context of meeting of sexual partner within the last six months					
10. Given money in exchange for sex (oral or anal) ALO	9.1	7.1	0.76		
11. Received money in exchange for sex (oral or anal) ALO	7.9	5.3	0.66		
12. Meeting of new sexual partner or looking for sexual partner in a sauna ALO	58.1	50.8	0.74*		
13. Meeting of new sexual partner or looking for sexual partner in a circuit party ALO	8.0	15.7	2.14***	2.83***	(1.21-6.61)
14. Looking for sexual partner on the internet once a month or more	25.0	34.3	1.57**		
Sexual relations under alcohol and drugs influence within the last six months					
15. Under the influence of alcohol half times or more during sex	30.8	20.1	0.56***	0.55***	(0.31-0.97)
16. Under the influence of marijuana (pot, hash, grass) half times or more during sex	22.8	14.8	0.59**		
17. Under the influence of Poppers (amyl nitrate) half times or more during sex	20.5	15.9	0.73		
18. Under the influence of cocaine/crack half times or more during sex	15.4	5.0	0.29***	0.22***	(0.09-0.54)
19. Under the influence of recreative drugs (mushrooms, ecstasy, ketamine, poppers, GHB, amphetamines, "crystal") half times or more during sex	24.2	20.9	0.82		
Among all respondents					
General consumption of alcohol and drugs within the last six months					
20. Drank four time or more alcoholic beverages weekly in last twelve months within the last six months	24.7	21.1	0.81		
21. Snorted cocaine ALO	28.4	38.0	1.54**		
22. Smoked crack or cocaine ALO	9.8	10.6	1.09		
23. Injected drugs (other than steroids) ALO	4.6	4.5	0.99		
24. Injected steroids ALO	2.9	5.5	1.92		
Testing and sexually and blood transmitted infections antecedents within the last twelve months					
25. Tested for hepatitis C	42.2	52.7	1.52**		
26. Tested for syphilis	51.0	72.9	2.59***	2.39***	(1.46-3.89)
27. Diagnosed with gonorrhea	11.3	15.0	1.38		
28. Diagnosed with genital chlamydia	5.8	9.7	1.75*		
29. Diagnosed with syphilis	2.9	10.3	3.82***	3.68***	(1.27-10.65)
Opinions on HIV, agreement (moderately or very much) with					
30. « I am less concerned about getting HIV now that better anti HIV medications are available »	29.3	30.1	1.04		
31. « An HIV-positive man who takes his medication lowers his risks of transmitting HIV »	14.6	41.7	4.18***	4.33***	(2.44-7.67)
32. « HIV/AIDS has become a controllable disease (like diabetes) »	27.5	50.7	2.71***	2.51***	(1.55-4.08)
33. « I am fed up with being told to use condoms »	29.9	19.2	0.56***	0.47***	(0.28-0.80)

* : $p < 0.20$; ** : $p < 0.10$; *** : $p < 0.05$

- a) Age (18-29 years, 30-49, 50 years or more), ethnic or cultural group of identification (French-Canadian, Others), personal annual income before taxes (less than \$30000, \$30000-59000, \$60000 or more), being currently part of a couple with a man for more than 6 months, and sexual orientation (Homosexual or gay, Others);
- (b) OR : Odds Ratios;
- (c) aOR : adjusted Odds Ratios;
- (d) Regular partner is a man with whom you have had sex many times and that you consider a couple partner, a husband, a common law partner or a boyfriend. Casual partner is a man with whom you have had sex on more than one occasion; a casual partner can be a "fuck friend", a lover, etc., but is not a regular partner as described above. One night partner is a man with whom you have had sex only once ;
- (e) Sex with more than 2 men at the same time;
- (f) ALO at least once.

MAIN OBSERVATIONS

When controlling for the recruitment site and the sociodemographic characteristics, compared to respondents in 2005, Montreal HIV-positive MSM recruited in 2008 :

- were more likely to have had during the last six months: i) sex with six men partners or more; ii) anal sex with six men partners or more; iii) group sex and iv) unprotected anal sex (UAI) with a male partner; sexual behaviours that appear to have remained consistent since 2005 include: UAI with a "one-night stand" partner, intentional UAI with a "one-night stand" partner and UAI with a partner other than a regular HIV positive partner;
- were less likely to have been half the time or more often under the influence of alcohol or under the influence of cocaine/crack during sex;
- were more likely to have been tested for syphilis or to have been diagnosed with syphilis in the last twelve months;
- were more likely to agree (moderately or very much) with the statements: "An HIV-positive man taking medications is less likely to transmit HIV" and "HIV/AIDS has become a controllable disease (like diabetes)"

CONCLUSION

Compared to respondents in 2005, Montreal HIV-positive MSM recruited in 2008 demonstrated no significant decrease in at-risk sexual behaviour. They demonstrated a significant increase in the number of sex partners and of anal sex partners and a stable, but high, level of anal intercourse without a condom with partners other than a regular HIV-positive. Furthermore, perceptions regarding HIV transmission and as a disease may be evolving.