

# HIV SEROSTATUS KNOWLEDGE, ABSENCE OF PREVIOUS TESTING AND SEXUAL BEHAVIORS AMONG INJECTING DRUG USERS

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## Abstract

**Background:** Few studies have examined the association between HIV status knowledge and sexual behaviors among injection drug users (IDUs). We tested the hypothesis that IDUs who know their HIV positive status will have safer sexual practices than IDUs aware of their HIV negative status or never tested for HIV. **Methods:** IDUs who had injected in the past 6 months were recruited in harm reduction programs across the Province of Quebec and Ottawa, Canada. Participants completed a questionnaire including questions on sexual behaviors and provided saliva for HIV antibody testing. For IDUs with multiple participations, the last interview was selected. Data from 2003 to 2009 were analysed. Three groups were compared: IDUs aware of their positive HIV status (n=510), IDUs aware of their HIV negative status (n=2928) and IDUs never tested for HIV (n=427). Proportions were compared using chi-square tests. **Results:** Male IDUs aware of their positive HIV status were less likely to have had sex in the last month (HIV positive: 32.4%, HIV negative: 47.2% and never tested: 55.0%; p<0.0001, n=2741) and, among those sexually active, more likely to have used a condom at last sexual intercourse (HIV positive: 57.4%, HIV negative: 43.7% and never tested: 51.7%; p<0.005, n=1249). This was not observed for women. In the last six months, the proportion of male IDUs who had always used condoms for vaginal or anal sex with their female sex partners was significantly higher in HIV positive than in HIV negative and in those never tested, for regular (54.3%, 22.4% and 33.1%, respectively, p<0.0001, n=1131), casual (77.4%, 54.4% and 51.2%, respectively, p=0.0002, n=933) and partners of whom they are a client (86.7%, 69.7% and 42.1%, respectively, p<0.02, n=123). Women never tested for HIV were less likely than the other groups to use condoms with their regular partners (never tested: 4.7%, HIV positive: 21.3% and HIV negative: 20.2%; p<0.05, n=550) and their client sex partners (never tested: 46.2%, HIV positive: 82.1% and HIV negative: 76.6%; p<0.05, n=259). Women aware of their HIV positive status were more likely to report condom use with their casual sex partners, whereas those never tested were less likely (HIV positive: 66.7%, HIV negative: 48.0% and never tested: 15.8%; p<0.01, n=250). **Conclusions:** IDUs aware of their positive HIV serostatus reported more consistent condom use with their various types of sex partners than those aware of their HIV negative status or never tested.

## Background

Some studies have shown that knowledge of HIV positive status is associated with safer sexual behaviors in injecting drug users (IDUs) [1-5].

At least one study did not demonstrate safer sexual practices in IDUs aware of their HIV positive status [6]. Another study observed more consistent condom use with primary but not casual sex partners [5].

Few studies have examined the association between HIV status knowledge and sexual behaviors among injection drug users according to the type of sex partners.

## Objective and hypothesis

The objective was to compare sexual behaviors between:

- IDUs aware of their HIV positive status
- IDUs aware of their HIV negative status
- IDUs who have never been tested for HIV.

The hypothesis was that IDUs aware of their HIV positive status will have safer sexual practices compared to IDUs aware of their HIV negative status or never tested for HIV.

## Methods

- IDUs who had injected in the past 6 months were recruited in harm reduction programs across the Province of Quebec and Ottawa, Canada.
- Data from 2003 to 2009 were analysed. The last interview was selected for IDUs who participated more than once.
- A questionnaire administered by an interviewer was completed by each participant. Some questions were related to sexual behaviors in the last 6 months and in the last month.
- Data are available separately for heterosexual regular, casual, client sex partners and partners of whom participants are a client. To be considered as consistent condom users, IDUs must **always** have used condom (vs. sometimes or never) with a given type of sex partners.
- HIV antibody testing was performed on saliva samples using an enzyme linked immunosorbent assay.
- Proportions were compared using chi-square tests.

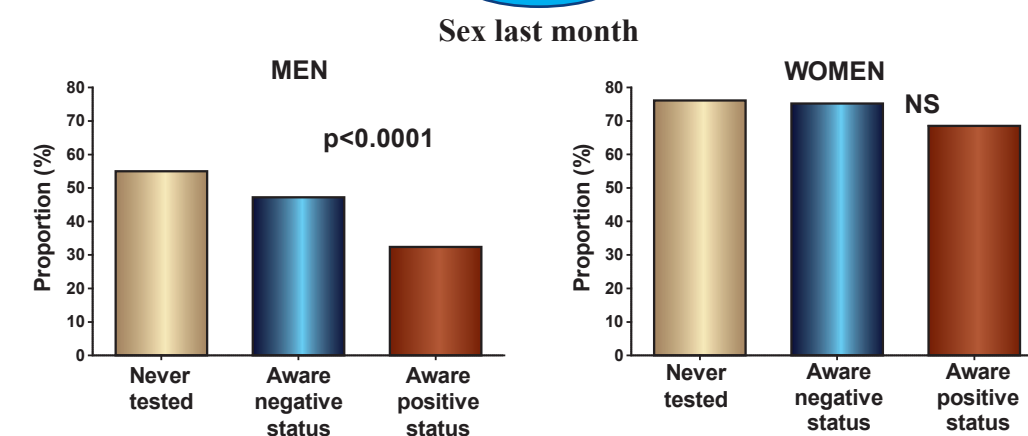
## Results

Table 1

Characteristics of participants of the study according to the knowledge of their HIV status

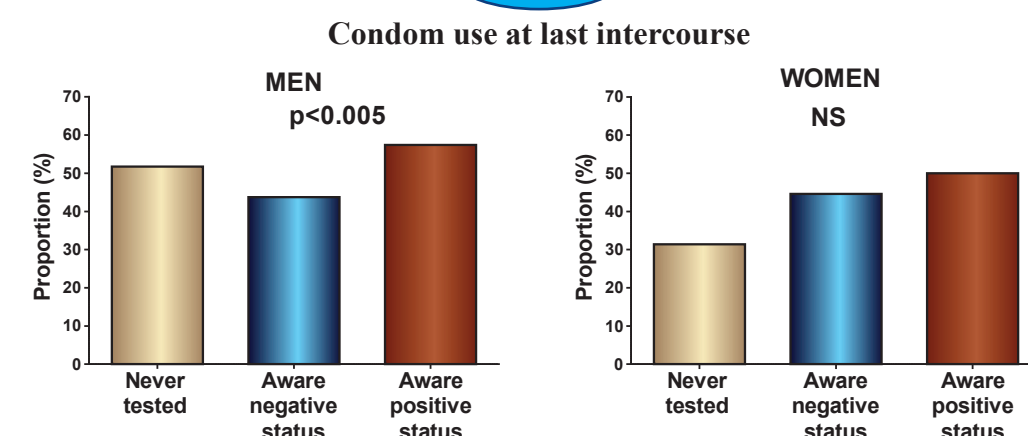
Characteristics (units, n=)	HIV serostatus knowledge			P value
	Never tested n=427	Aware negative status n=2928	Aware positive status n=510	
Sex (% men, n=3865)	82.7	74.8	81.8	< 0.0001
Age average (years, n=3865)	33.9	35.5	40.9	< 0.0001
Less than 25 years old (% , n=3865)	28.8	15.9	2.6	< 0.0001
Canadian origin (% , n=3626)	81.5	89.5	85.5	< 0.0001
Completed high school (% , n=3840)	44.8	52.7	46.9	< 0.002
Detention, last 6 months (% , n=3858)	11.3	14.2	13.0	NS

Figure 1



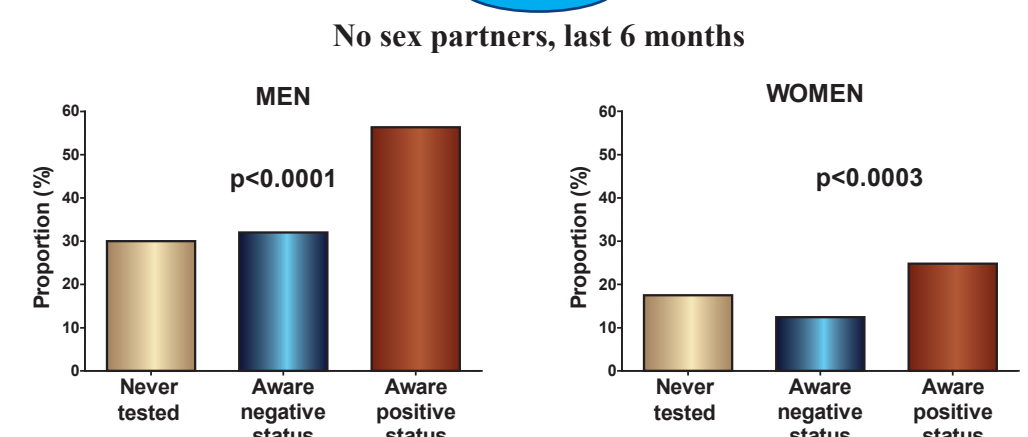
Proportion of participants who had sex in the last month according to the knowledge of their HIV status. Left panel: men; right panel: women. NS: not significant.

Figure 2



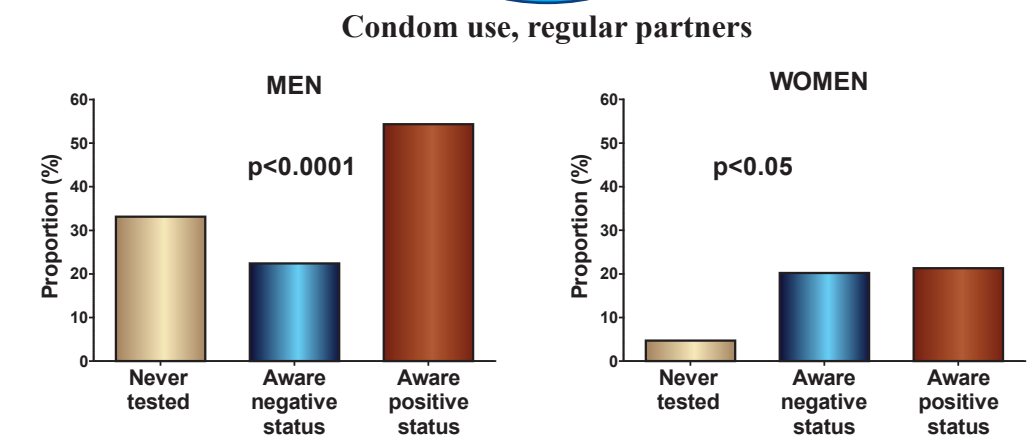
Proportion of participants who have used a condom during their last sexual intercourse (if they had sex in the last month) according to the knowledge of their HIV status. Left panel: men; right panel: women. NS: not significant.

Figure 3



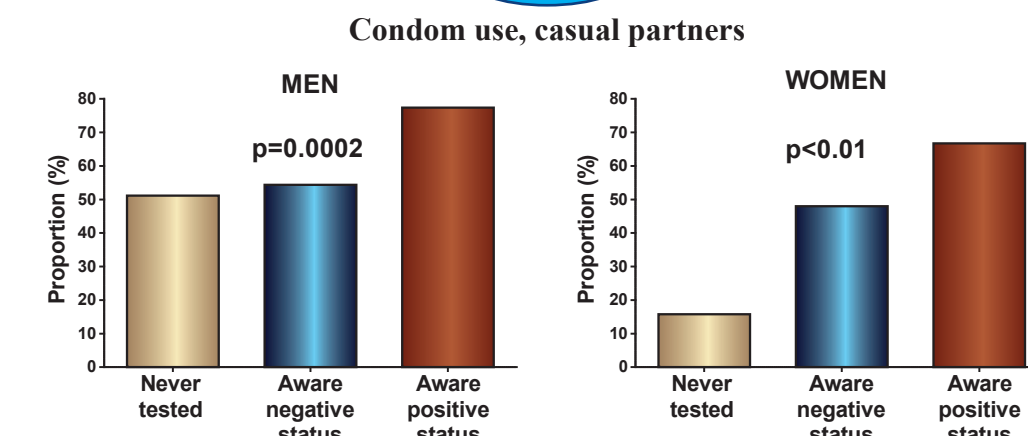
Proportion of participants who reported no sex partners in the last 6 months according to the knowledge of their HIV status. Left panel: men; right panel: women.

Figure 4



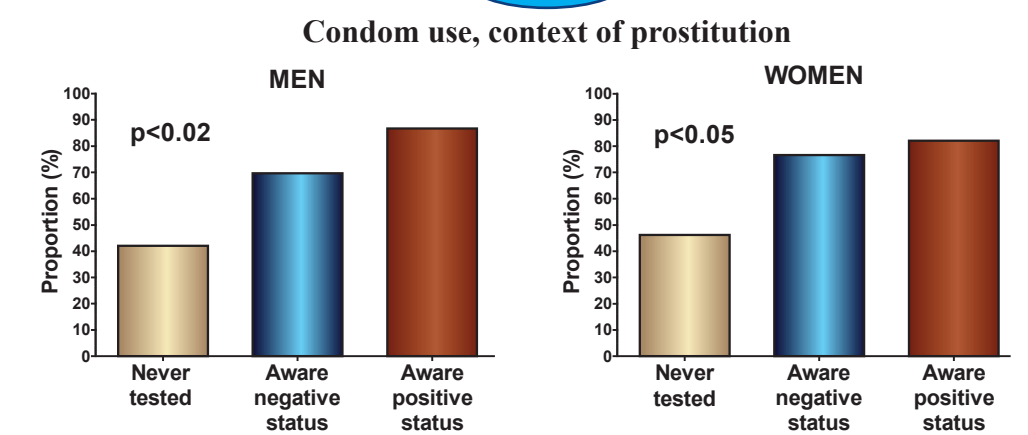
Proportion of participants who reported consistent condom use with their regular sex partners in the last 6 months according to the knowledge of their HIV status. Left panel: men; right panel: women.

Figure 5



Proportion of participants who reported consistent condom use with their casual sex partners in the last 6 months according to the knowledge of their HIV status. Left panel: men; right panel: women.

Figure 6



Proportion of participants who reported consistent condom use with their sex partners in prostitution in the last 6 months according to the knowledge of their HIV status. Men (left panel): with partners of whom they are a client; women (right panel): with client sex partners.

Table 2

Most frequent reasons reported by participants for never have been tested for HIV (n=246)

Reasons	Frequency (n=)
You think you are at low risk for HIV infection	64
You don't want to know	37
You never thought about it	31
You are scared to find out	17
You think that you are HIV negative	16
You never borrowed syringes/needles	13
You never borrowed syringes/needles from an infected person	11
You never had sex with an infected person	11
It would be too difficult to know that you are infected	10

## Summary of results

- **Sex in the last month:**
  - Male IDUs aware of their HIV positive status were less likely to have had sex in the last month.
  - This was not statistically significant for women.
- **Condom use at last sexual intercourse:**
  - Men aware of their HIV positive status were significantly more likely to report condom use.
  - This was not observed for women.
- **Sex in the last 6 months:**
  - Both men and women aware of their HIV positive status were more likely to report no sex partners.
- **Consistent condom use in the last 6 months:**
  - With regular sex partners:
    - Men aware of their HIV positive status were more likely to report consistent condom use.
    - Women who have never been tested for HIV were less likely.
  - With casual sex partners:
    - Men aware of their HIV positive status were more likely.
    - Women aware of their HIV positive status were more likely.
    - Women who have never been tested for HIV were less likely.
  - With client sex partners:
    - Women who have never been tested for HIV were less likely to report consistent condom use.
  - With sex partners of whom participants are a client:
    - Men aware of their HIV positive status were more likely.
    - Male IDUs who have never been tested for HIV were less likely to report consistent condom use.

## Conclusions

In agreement with our hypothesis, IDUs aware of their HIV positive status were less likely to be sexually active and more likely to report consistent condom use with their various types of sex partners.

In addition, IDUs who have never been tested for HIV were less likely to report consistent condom use.

The proportion of participants who reported inconsistent condom use remains high, even in IDUs aware of their HIV positive status and especially in women.

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