

# Is awareness of the HIV prevention benefits of ART associated with lower anxiety during sex?

## A cross-sectional analysis of women living with HIV in Canada

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## BACKGROUND

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Sustained use of ART with an undetectable viral load effectively eliminates risk of sexual HIV transmission.

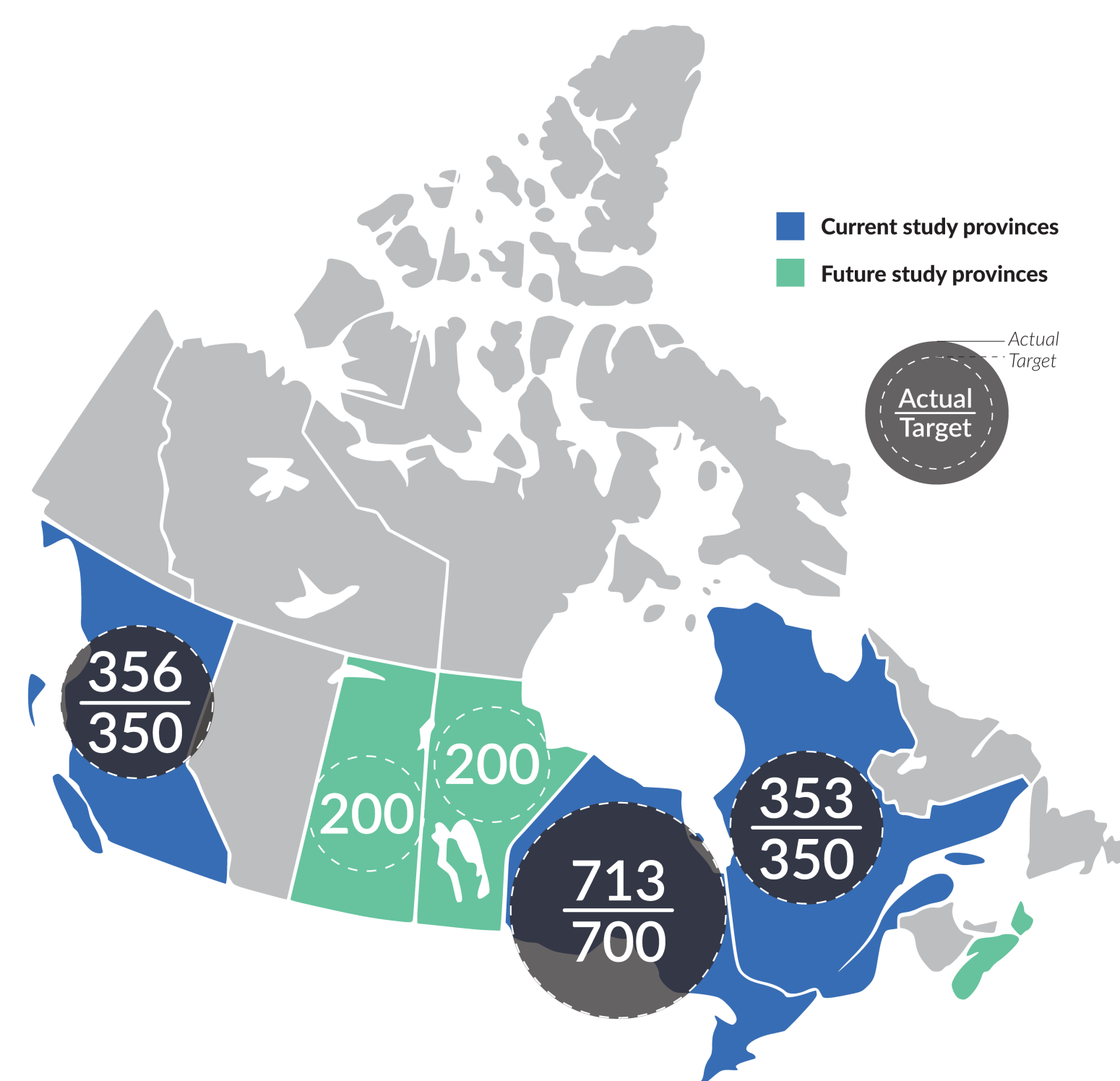
While the primary aim of this medical strategy is to **reduce sexual risk**, communities are using this science to help **reclaim their sexual lives**.

### Research question:

**Is awareness of the HIV prevention benefits of ART associated with lower anxiety during sex?**

## METHODOLOGY

We used baseline questionnaire data from the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS, www.chiwos.ca). We hired and trained 40 women living with HIV as Peer Research Associates across BC, ON and QC and together, we recruited and surveyed a diverse cohort of 1,422 women living with HIV aged 16 years or older.



- **Data collection:** August 2013 to May 2015
- **Primary outcome:** Women who reported sex in the past month were asked, "Overall, how frequently have you become anxious or inhibited during sexual activity with a partner?"
- **Explanatory variable:** Awareness of ART prevention benefits was measured via the question, "How do you think taking ART changes your risk of transmitting HIV?" and defined as "makes the risk a lot lower."
- **Statistical analysis:** Multinomial logistic regression

## RESULTS

**Table 1:** Baseline characteristics and bivariable associations with sexual anxiety (n=474)

	Frequency of becoming anxious or inhibited during sex in past month					p-value
	Overall	Always/Usually (N=69, 14.6%)	Sometimes/Seldom (N=127, 26.8%)	Not at all (N=278, 58.6%)		
<b>Main explanatory variable - N(%)</b>						
Aware of the HIV prevention benefits of ART						
Yes	343 (72.4)	46 (66.7)	94 (74.0)	203 (73.0)		0.508
No	131 (27.6)	23 (33.3)	33 (26.0)	75 (27.0)		
<b>Additional continuous variables - Median (Q1, Q3)</b>						
Age at interview	39 (32.0-45.0)	40 (34.0-47.0)	39 (33.0-45.0)	39 (32.0-45.0)		0.577
Years living with HIV	9.6 (5.6-15.5)	8.2 (3.8-14.8)	9.2 (5.6-16.4)	10.2 (5.7-15.2)		0.388
Genderism/sexism	17 (10.0-27.0)	22.5 (14.5-28.5)	22 (12.0-30.0)	16 (8.0-24.0)		<0.001
Racism	16 (8.0-28.0)	21 (8.0-32.0)	15.5 (8.0-27.0)	15 (8.0-27.0)		0.232
HIV stigma	55 (40.0-70.0)	60 (46.3-80.0)	57.5 (45.0-67.5)	52.5 (40.0-67.5)		0.01
Depression	8 (3.0-14.0)	13 (8.0-20.0)	10 (5.0-15.0)	5 (2.0-11.0)		<0.001
Sexual relationship power	48 (43.0-56.0)	45 (39.0-51.0)	45 (41.0-51.0)	52 (45.0-58.0)		<0.001
<b>Additional categorical variables - N (%)</b>						
<b>Sexual orientation</b>						
Heterosexual	405 (85.8)	54 (79.4)	110 (87.3)	241 (86.7)		0.260
Lesbian/queer	67 (14.2)	14 (20.6)	16 (12.7)	37 (13.3)		
<b>Ethnicity</b>						
Indigenous	116 (24.5)	15 (21.7)	30 (23.6)	71 (25.5)		0.505
African, Caribbean, Black	128 (27.0)	25 (36.2)	29 (22.8)	74 (26.6)		
White	197 (41.6)	24 (34.8)	57 (44.9)	116 (41.7)		
Other/multiple ethnicities	33 (7.0)	5 (7.2)	11 (8.7)	17 (6.1)		

## RESULTS

**Table 1:** Baseline characteristics and bivariable associations with sexual anxiety (n=474) (continued)

	Frequency of becoming anxious or inhibited during sex in past month					p-value
	Overall	Always/Usually (N=69, 14.6%)	Sometimes/Seldom (N=127, 26.8%)	Not at all (N=278, 58.6%)		
<b>Additional categorical variables - N (%)</b>						
<b>Gender identity</b>						
Cis woman	447 (94.3)	62 (89.9)	116 (91.3)	269 (96.8)		0.021
Trans woman	27 (5.7)	7 (10.1)	11 (8.7)	9 (3.2)		
<b>Personal yearly income</b>						
Less than \$20000	318 (69.3)	54 (85.7)	80 (65.0)	184 (67.4)		0.009
\$20000 or more	141 (30.7)	9 (14.3)	43 (35.0)	89 (32.6)		
<b>Any violence as adult</b>						
Never	67 (14.8)	9 (13.6)	8 (6.6)	50 (18.7)		<0.001
Previously	264 (58.1)	30 (45.5)	73 (60.3)	161 (60.3)		
Currently	123 (27.1)	27 (40.9)	40 (33.1)	56 (21.0)		
<b>Current sex work</b>						
No	408 (87.7)	49 (73.1)	108 (85.7)	251 (92.3)		<0.001
Yes	57 (12.3)	18 (26.9)	18 (14.3)	21 (7.7)		
<b>Illicit drug use history</b>						
Never	217 (46.3)	28 (41.2)	46 (36.5)	143 (52.0)		0.033
Previously	134 (28.6)	19 (27.9)	46 (36.5)	69 (25.1)		
Currently	118 (25.2)	21 (30.9)	34 (27.0)	63 (22.9)		
<b>ART</b>						
Never	59 (12.5)	3 (4.3)	13 (10.2)	43 (15.6)		0.091
Previously	29 (6.2)	5 (7.2)	6 (4.7)	18 (6.5)		
Currently	383 (81.3)	61 (88.4)	108 (85.0)	214 (77.8)		
<b>Most recent viral load</b>						
Undetectable	368 (77.6)	62 (89.9)	99 (78.0)	207 (74.5)		0.033
Detectable	68 (14.3)	4 (5.8)	16 (12.6)	48 (17.3)		
<b>Emotional closeness in sex life</b>						
Enough	256 (54.4)	16 (23.2)	59 (46.8)	181 (65.6)		<0.001
Not enough	215 (45.6)	53 (76.8)	67 (53.2)	95 (34.4)		
<b>Communication of sexual desires or preferences</b>						
Always/Usually	336 (73.4)	37 (56.9)	70 (57.4)	229 (84.5)		<0.001
Sometimes/Seldom/Never	122 (26.6)	28 (43.1)	52 (42.6)	42 (15.5)		
<b>Body satisfaction</b>						
Satisfied	318 (67.1)	43 (62.3)	76 (59.8)	199 (71.6)		0.043
Dissatisfied	156 (32.9)	26 (37.7)	51 (40.2)	79 (28.4)		

**Table 2:** Multivariable model of factors associated with sexual anxiety using "not at all" as the reference (n=370), showing AORs and 95% CIs

	Odds of sexual anxiety	
	Always/Usually	Sometimes/Seldom
<b>Main explanatory variable</b>		
Not aware of the HIV prevention benefits of ART	1.028 (0.466, 2.269)	0.874 (0.479, 1.596)
<b>Covariates associated with higher odds of sexual anxiety</b>		
Depression (10-point increase, CES-D scale)	<b>1.09 (1.036, 1.147)</b>	<b>1.045 (1.003, 1.089)</b>
Sexism (10-point increase, EED scale)	1.022 (0.986, 1.06)	<b>1.034 (1.005, 1.063)</b>
Current sex work	<b>6.841 (1.618, 28.918)</b>	1.428 (0.449, 4.541)
Previous illicit drug use (vs. never)	1.23 (0.546, 2.768)	<b>2.546 (1.411, 4.593)</b>
<b>Covariates associated with lower odds of sexual anxiety</b>		
Current illicit drug use (vs. never)	0.299 (0.084, 1.059)	0.801 (0.349, 1.837)
Detectable viral load	<b>0.281 (0.085, 0.936)</b>	0.599 (0.273, 1.315)
Adequate emotional closeness from partner	<b>0.358 (0.161, 0.796)</b>	0.917 (0.515, 1.633)
Sexual Relationship Power (10-point increase, SRPS)	<b>0.942 (0.897, 0.99)</b>	<b>0.92 (0.885, 0.957)</b>

## DISCUSSION

Awareness of the HIV prevention benefits of ART was not associated with lower anxiety during sex for women in this study. Instead, correlations were found with factors relating to substance use, sex work, mental health, and the quality of sex and intimate relationship experiences. These results highlight a need to gender the HIV treatment as prevention paradigm. Biomedicine alone is not enough; promoting positive sexual health outcomes among women living with HIV also requires addressing the complex social realities that shape their intimate lives.

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