

Association Between HIV Optimism and Sexual Risk Behaviour Among HIV Positive Men in British Columbia

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Background

The availability of highly active antiretroviral therapy (HARRT) has resulted in concern that fear of HIV/AIDS has dissipated and been replaced by "HIV Optimism". This optimism in the light of new drug therapies may create complacency around safer sexual practices. In this way, advances in treatment may trigger risky sexual behaviour.

Objective

The objective of this investigation was to investigate optimism in light of new HIV drug therapies and its association with sexual risk behaviour among HIV-positive male members of the British Columbia Persons with AIDS Society (BCPWA).

Methods

Between May and September 2002, a total of 581 HIV-positive male members of the BCPWA completed self-administered questionnaires. Data were obtained regarding demographic variables, self-reported CD4 count and plasma viral load (PVL), unprotected anal intercourse (UAI) with one or more anonymous partners during the past year (i.e. had sex once and did not know the person), and responses to a 13-item HIV optimism scale. Possible responses to each item were strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Total scores could range from a minimum of 13 (i.e. not optimistic at all) to a maximum of 65 (i.e. extremely optimistic). This analysis was restricted to 502 men who reported having sex with other men. Mean optimism score was compared between men who reported engaging in UAI with those who did not. We also compared mean optimism scores with respect to age, education level, CD4 count and plasma viral load (PVL).

Results

The demographic characteristics of the sample are displayed in Table 1. The mean age of respondents was 45 years (S.D.=8.7). The majority of men were born in Canada (84%), Caucasian (87%), and resided in BC for a median duration of 22 years. Eighty-three percent of men completed their high school education. Seventy-six percent of respondents were unemployed and 91% lived in stable housing.

With respect to sexual identity, 95% of men identified themselves as gay or homosexual (Table 2). Approximately 1 out of 4 men reported engaging in UAI with anonymous partners in the previous six months.

The majority of respondents reported their most recent CD4 count above 200 cells (Table 3). Fifty-four percent of men reported PVL measurements below 400 copies.

Responses to the 13-item HIV Optimism scale are shown in Table 4. Approximately 1 in 3 men agreed that they are less worried about HIV infection than they used to be. The overall mean optimism score was 23.3 (S.D.=7.4). The minimum total score was 13 and the maximum was 51.

As shown in Table 5, men who reported UAI with anonymous partners had a significantly higher mean optimism score than men reporting no UAI (26.9 vs. 22.4; $p<0.001$). In addition, men who reported their most recent CD4 count below 200 cells had a higher mean optimism score than men with CD4 counts above 200 cells (23.6 vs. 21.9; $p=0.050$). Among men who were less than 40 years of age, the mean optimism score was marginally higher compared to men who were 40 or older (24.3 versus 23.1; $p=0.099$). No associations were observed.

In multivariate analysis (ANOVA), the association between mean optimism score and UAI remained significant ($p<0.001$) after adjustment for CD4 count ($p=0.040$) and age ($p=0.088$). No significant interactions between UAI, CD4 count, and age were observed.

Table 1: Demographic characteristics of 502 HIV-positive men who completed BCPWA survey

Variable	n (%)
Born in Canada	
Yes	421 (84)
No	64 (13)
Not reported	17 (3)
Ethnicity	
Aboriginal	28 (6)
Non-Aboriginal	474 (94)
Education – Completed Grade 12?	
Yes	418 (83)
No	83 (17)
Not reported	1 (<1)
Employed	
Yes	122 (24)
No	365 (73)
Not reported	15 (3)
Household Income	
< \$10,000	93 (18)
\$10,000-\$50,000	266 (53)
> \$50,000	88 (18)
Not reported	55 (11)
Type of Housing	
Apartment	242 (48)
Single detached house	106 (21)
Condominium	86 (17)
Townhouse	23 (5)
Hotel room	8 (2)
Prison	5 (1)
Rooming house	4 (<1)
Recovery house	1 (<1)
Not reported	27 (5)
Age	Years
Mean	45
Standard deviation	8.7
25 th percentile	39
Median	44
75 th percentile	51
Range	21 to 79

Table 2: Sexual identity and risk behaviour reported by 502 HIV-positive men who completed BCPWA survey

Variable	n (%)
Sexual Identity	
Gay	226 (45)
Homosexual	200 (40)
Bisexual	19 (4)
I hide my identity	11 (2)
Queer	9 (2)
Fag	4 (<1)
Other	13 (3)
Not reported	20 (4)
Do you engage in unprotected sex with anonymous partners?	
Yes	118 (24)
No	384 (77)

Table 3: Self-reported CD4 count and viral load measurements

Variable	n (%)
Most recent CD4 count	
< 200 cells	90 (18)
≥ 200 cells	339 (68)
Unsure	73 (15)
Most recent viral load measurement	
< 400 copies	269 (54)
≥ 400 copies	144 (29)
Unsure	89 (18)

Table 4: Responses of 502 HIV-positive men to 13-item HIV Optimism Scale

Considering the new drug therapies available to treat HIV, do you agree or disagree with the following statements?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. A person with undetectable viral load cannot pass on the virus	2%	4%	8%	23%	63%
2. I am less worried about HIV infection than I used to be.	6%	25%	21%	21%	27%
3. New HIV treatments will take the worry out of sex.	1%	2%	13%	32%	51%
4. If every HIV positive person took the new treatments, the AIDS epidemic would be over.	1%	1%	5%	29%	64%
5. If a cure for AIDS were announced, I would stop practicing safe sex.	7%	8%	21%	30%	34%
6. People with undetectable viral load don't need to worry so much about infecting others with HIV.	1%	7%	8%	24%	60%
7. Until there is a complete cure for HIV/AIDS, prevention is still the best practice.	4%	1%	5%	21%	69%
8. HIV is less of a threat because the epidemic is on the decline.	1%	1%	4%	29%	65%
9. HIV/AIDS is a less serious threat than it used to be because of new treatments.	2%	12%	9%	29%	48%
10. It's never safe to fuck without a condom regardless of viral load.	5%	3%	8%	24%	60%
11. Because of new treatments, fewer people are becoming infected with HIV.	<1%	3%	13%	35%	50%
12. I believe that new drug therapies make people with HIV less infectious.	1%	11%	14%	27%	48%
13. I am less worried about HIV infection now that treatments have improved.	1%	14%	15%	29%	41%

Table 5: Comparison of mean optimism score between sub-groups of interest

	Mean	Standard deviation	p-value*
Age			
< 40 years (n=147)	24.3	7.1	0.099
≥ 40 years (n=355)	23.1	7.5	
Education			
Did not complete high school (n=83)	22.7	7.1	0.283
Completed high school (n=418)	23.6	7.5	
UAI with anonymous partners			
Yes (n=118)	26.9	8.0	<0.001
No (n=384)	22.4	6.9	
Most recent CD4 count (self-reported)			
≤ 200 cells per mm ³ (n=90)	23.6	7.3	0.050
> 200 cells (n=339)	21.9	7.4	
Most recent PVL value (self-reported)			
≤ 400 copies (n=269)	23.2	7.3	0.981
> 400 copies (n=144)	23.2	7.2	

* Based on t-test for independent samples

Conclusions

This study suggests that HIV optimism may be associated with higher levels of unprotected anal intercourse among HIV-positive men in British Columbia.