Factors associated with HAART Optimism among men who have sex with men in the era of expanded access to antiretroviral therapy in Vancouver, Canada

J.I. Forrest[1], Z. Cui[1], P. Sereda[1], A. Rich[1], E.A. Roth[2,3], T.L. Patterson[4], R.S. Hogg[1,5], D. Moore[1,6], B.D.L. Marshall[7]

1. Faculty of Health Sciences, Simon Fraser University, Burnaby, BC; 2. British Columbia Centre for Excellence in HIV/AIDS, Vancouver, BC; 3. Department of Anthropology, University of Victoria, Victoria, BC; 4. Department of Psychiatry, Faculty of Medicine, University of California, San Diego; 5. Faculty of Health Sciences, Simon Fraser University; 6. Faculty of Medicine, University of British Columbia, Vancouver, BC; 7. School of Public Health, Brown University

Background

Expanded, universal, free of cost access to highly active antiretroviral therapy (HAART) in British Columbia (BC) represents a province wide population level biomedical intervention. The effectiveness of this intervention may be mediated by individual level socio-cultural or bio-behavioral factors including "HAART optimism" or "risk compensation", or that individual risk behaviour may increase as widespread access to treatment leads to decreased concern about HIV.

HAART Optimism and its associated factors among men who have sex with men (MSM) remain poorly understood.

Study Objective: This study aimed to validate a HAART optimism scale proposed by Van de Ven et al. (2000) and explore factors associated with reporting high HAART optimism among a cohort of HIV-positive and –negative MSM in greater Vancouver, BC.

Methods

Study Population: The Momentum Health Study is a longitudinal cohort study of MSM in Vancouver. Participants were ≥16 years old, gender-identified as a man and reported sex with a man in the past six months. Participants were recruited via respondent driven sampling (RDS) and completed a self-administered computer-based survey. Data were analyzed for participants enrolled between February 28 2012 and February 28 2014.

Statistical Analysis: Internal reliability coefficients were calculated for the Van de Ven scale and for a group of ten items measuring attitudes towards HIV seroadaptive behaviours. Confirmatory factor analyses were performed to test the goodness-of-fit. Multivariable logistic regression identified independent predictors of high HAART Optimism, defined as having reported a greater than median score (median = 25).

Results

Table 1: 1- Factor optimized HAART Optimism scale*

Item Number	Question	Tucker & Lewis' Reliability Coefficient: 0.82
1	A person with undetectable viral load cannot pass on the virus.	55
2	I'm less worried about HIV infection than I used to be.	56
3	New HIV treatments will take the worry out of sex.	59
4	If every HIV-positive person took the new treatments, the AIDS epidemic would be over.	58
5	If a cure for AIDS were announced, I would stop practising safe sex.	54
6	People with undetectable viral load do not need to worry so much about infecting others with HIV.	66
8	The availability of treatment (PEP) immediately after unsafe sex makes safe sex less important.	53
9	HIV is less of a threat because the epidemic is on the decline.	62
10	HIV/AIDS is a less serious threat than it used to be because of the new treatments.	54
12	Because of new treatments fewer people are becoming infected with HIV.	46

*Coefficients' values are multiplied by 100 and rounded to the nearest integer

Results (continued)

In total, 716 men were included in this analysis after those who did not respond to the HAART optimism scale items were excluded (n=3). Factor analysis revealed the full 12 item HAART Optimism scale had good internal consistency (Cronbach's α = 0.81) and a one-factor model had high reliability (Tucker & Lewis' Reliability Coefficient = 0.82). Six items providing good internal consistency (Cronbach's α = 0.71) and high reliability (Tucker & Lewis's Reliability Coefficient = 0.86) in a two-factor model were selected to measure attitudes towards seroadaptive behaviours.

Table 2: Predictors of high HAART optimism: multivariable model

Variable	Adjusted Odds Ratio	95% Confidence Interval	p value
Age			<.0001
16-24	1.00	(Reference)	
25-39	2.39	(1.489 – 3.837)	
40+	2.11	(1.21 – 3.69)	
Serostatus at visit			<.0001
Negative	1.00	(Reference)	
Positive	2.42	(1.44 – 4.08)	
Born in Canada			0.0001
No	1.00	(Reference)	
Yes	2.24	(1.51 – 3.33)	
P6M no. anal sex partner (median = 4)			0.0383
Below Median	1.00	(Reference)	
Above median	0.55	(0.37 – 0.82)	
P6M unprotected sex with discordant or unknown status partner			<.0001
No	1.00	(Reference)	
Yes	2.36	(1.56 – 3.57)	
How often ask partners about serostatus			0.0007
Never	1.00	(Reference)	
Sometimes	0.67	(0.39 – 1.11)	
All the time	0.46	(0.25 – 0.85)	
Discussed TasP with friend/ sex partner			0.0011
No	1.00	(Reference)	
Yes	2.26	(1.25 – 4.10)	
Validated seroadaptive behaviour attitudes scale			<.0001
Low	1.00	(Reference)	
High	2.70	(1.86 – 3.91)	

In adjusted models: Higher HAART optimism was significantly associated with being HIV-positive, older age, and a number of sexual risk variables including higher than median responses to attitudes towards seroadaptive behaviours, lower number of anal sex partners in past 6 months, and asking partners about serostatus all the time.

Conclusions

MSM who reported high HAART optimism in this study were more likely to report unprotected sex with a discordant or unknown status partner; however, these men also reported lower numbers of sex partners and more favourable attitudes towards seroadaptive behaviours, indicating they may be mitigating their risk through alternative behavioural prevention strategies.

Younger participants (16-24 years) reported lower HAART optimism than their older counterparts, suggesting a contradiction to widely held beliefs that younger gay men may no longer view HIV as a serious disease.

Acknowledgments

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