



Attitudes regarding HIV, PrEP and condom use jointly predict risk compensation among men who have sex with men – findings from the VicPrEP implementation project, Melbourne

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BACKGROUND

Potential risk compensation related to pre-exposure prophylaxis (PrEP) use among men who have sex with men (MSM) remains a major concern. This may exacerbate already high rates of sexually transmissible infections in this key population. Recent reports from implementation projects in high-income settings provide initial evidence of reduced condom use amongst MSM obtaining PrEP through community programs. We previously reported a reduction of condom use with casual partners among MSM enrolled in VicPrEP, the Victorian PrEP implementation project in Melbourne, the capital city of the Australian state of Victoria.[#] To increase understanding of PrEP-related risk compensation among MSM and inform program responses we assessed sociodemographic and attitudinal covariates of trends in condom use with casual partners among MSM participating in the VicPrEP project.

METHODS

Initiated in 2014, VicPrEP was the first Australian PrEP demonstration project, undertaken through one sexual health clinic and three general practice clinics in Melbourne. A total of 115 participants were enrolled in one year and were offered PrEP for up to 30 months. Participants received comprehensive baseline and 3-monthly self-report questionnaires during the first year of participation. The outcome variables included in the present analysis was change in condom use with male casual partners from baseline to 12-month follow-up, which was assessed using a five-point rating scale (1 = never, 5 = always). Predictor variables included referral, age, education, country of birth and number of male anal sex partners, as well as attitudes regarding HIV, PrEP and condoms that were assessed with five-point rating scales (1 = low/negative, 5 = high/positive). Prospective associations between baseline assessment of predictors and trends in condom use over follow-up were analysed using Generalized Estimating Equations (distribution: gamma; link function: log).

RESULTS

Frequency of condom use for anal sex with casual partners decreased significantly over one year follow-up (Baseline Median = 3.0, IQR = 2.0 – 4.0; 12 month Median = 2.0, IQR = 1.0 – 3.0; Wald Chi2 (df=4) = 21.03, p = 0.000), notably in the first 3 months of using PrEP. As shown in the table, multivariable analysis found that, in addition, MSM who found HIV a more serious condition and found it more important to remain HIV-negative were more likely to continue condom use for anal sex with casual male partners. MSM who considered PrEP critical for personal HIV prevention were less likely to continue to use condoms. MSM who were more likely to continue using condoms with casual partners reported more adverse impacts of condom use.

CONCLUSIONS

In the VicPrEP community implementation project, condom use for anal sex with casual partners among MSM decreased upon commencing PrEP. This underscores the importance of stressing PrEP's role as additional HIV prevention tool and the continued importance of condom use in also preventing other sexually transmissible infections than HIV. Changes in condom use were found to be associated with men's beliefs about the personal health threat posed by HIV, beliefs about the importance of PrEP for personal HIV prevention, and adverse experiences of using condoms. This complex evaluative process guiding HIV-prevention behaviors offers multiple points of entry for community-based initiatives to raise awareness about and address potential impacts of risk compensation, including through STI testing and re-evaluating condoms.

[#] Lal, L, Audsley, J, Murphy, DA, Fairley, CK, Stooze, M, Roth, N, Moore, R, Tee, BK, Puratmaja, N, Anderson, PL, Leslie, D, Grant, RM, De Wit, J, Wright, E; VicPrEP Study Team. Medication adherence, condom use and sexually transmitted infections in Australian preexposure prophylaxis users. *AIDS*. 2017; vol. 31: pp. 1709-14. doi: 10.1097/QAD.0000000000001519

Predictors of condom use for anal sex with casual partners over one-year of follow-up among MSM in the VicPrEP project

Assessment	Univariable Associations		Multivariable Associations	
		Wald Chi2 (df=4)		Wald Chi2 (df=4) =
Baseline	Reference	= 26.54, p = 0.000	Reference	24.62, p = 0.000
3 months	B = -0.18 (95 CI -0.28, -0.08)		B = -0.20 (95 CI -0.31, -0.09)	
6 months	B = -0.22 (95 CI -0.31, -0.12)		B = -0.23 (95 CI -0.33, -0.13)	
9 months	B = -0.28 (95 CI -0.38, -0.17)		B = -0.28 (95 CI -0.39, -0.16)	
12 months	B = -0.25 (95 CI -0.37, -0.13)		B = -0.23 (95 CI -0.36, -0.10)	
Referral		Wald Chi2 (df=1)		
Provider	Reference	= 0.082, p = 0.774		
Patient	B = -0.03 (95 CI -0.20, 0.15)			
Age		Wald Chi2 (df=1)		
18-29 years	Reference	= 2.690, p = 0.101		
30 years or older	B = 0.16 (95 CI -0.03, 0.35)			
Education		Wald Chi2 (df=1)		
Non-university	Reference	= 0.353, p = 0.552		
Undergraduate or postgraduate	B = -0.05 (95 CI -0.23, 0.12)			
Country of birth		Wald Chi2 (df=1)		
Australia	Reference	= 1.297, p = 0.255		
Elsewhere	B = -0.12 (95 CI -0.31, 0.08)			
Frequency of anal sex with casual partners (average across rounds of data collection)	B = 0.00 (95 CI -0.01, 0.00)	Wald Chi2 (df=1) = 0.780, p = 0.377		
Perceived likelihood of becoming HIV positive	B = -0.01 (95 CI -0.09, 0.07)	Wald Chi2 (df=1) = 0.027, p = 0.871		
Perceived seriousness of HIV infection	B = 0.23 (95 CI 0.12, 0.34)	Wald Chi2 (df=1) = 15.62, p = 0.000	B = 0.12 (95 CI 0.01, 0.23)	Wald Chi2 (df=1) = 4.357, p = 0.037
Personal importance of remaining HIV negative	B = 0.34 (95 CI 0.20, 0.47)	Wald Chi2 (df=1) = 23.52, p = 0.000	B = 0.33 (95 CI 0.19, 0.48)	Wald Chi2 (df=1) = 19.83, p = 0.000
Perceived efficacy of PrEP in preventing HIV infection	B = -0.03 (95 CI -0.19, 0.14)	Wald Chi2 (df=1) = 0.112, p = 0.738		
Perceived acceptability of PrEP as a way to avoid HIV infection	B = -0.06 (95 CI -0.20, 0.08)	Wald Chi2 (df=1) = .689, p = 0.407		
Perceived motivation to take PrEP for HIV prevention	B = -0.03 (95 CI -0.13, 0.08)	Wald Chi2 (df=1) = 0.295, p = 0.587		
Perceived necessity of PrEP for personal HIV prevention	B = -0.11 (95 CI -0.20, -0.01)	Wald Chi2 (df=1) = 4.837, p = 0.028	B = -0.11 (95 CI -0.20, -0.02)	Wald Chi2 (df=1) = 5.395, p = 0.020
Perceived concerns regarding adverse effects of PrEP	B = 0.09 (95 CI -0.02, 0.21)	Wald Chi2 (df=1) = 2.048, p = 0.152		
Perceived impact of condom use on experience of sex	B = 0.19 (95 CI 0.09, 0.28)	Wald Chi2 (df=1) = 13.64, p = 0.000	B = 0.18 (95 CI 0.10, 0.27)	Wald Chi2 (df=1) = 17.03, p = 0.000



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