Poster No 1023.

HIV positive MSM with unsuppressed viral load are more likely to engage in risky sex in Vancouver, Canada

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Background

- Treatment as Prevention has been actively promoted in British Columbia (BC) as an approach to controlling the local HIV epidemic.
- We examined the prevalence and characteristics of HIV positive participants with unsuppressed viral load (VL) in a sample of MSM from Vancouver, BC.

Methods

- Participants were aged ≥16 years, male-identified, had sex with a man in the past six months and enrolled from February 25, 2012 – February 28, 2014.
- Individuals were recruited using respondent driven sampling (RDS) through referrals from peers who previously participated with multiple waves of recruitment to reach different social networks.
- Seeds were recruited from community agencies and contacts or through advertisements on mobile smartphone applications or websites.
- Participants completed a self-administered computer-based survey and a nurse-administered point-of-care HIV test.
- We also conducted VL and CD4 cell counts for HIV positive participants.
- Risky sex was defined unprotected anal intercourse (UAI) with a known HIV negative or unknown serostatus partner in the past 6 months.
- We performed multivariate logistic regression using RDS weighted variables to examine factors associated with having an unsuppressed VL (≥200 copies/mL).

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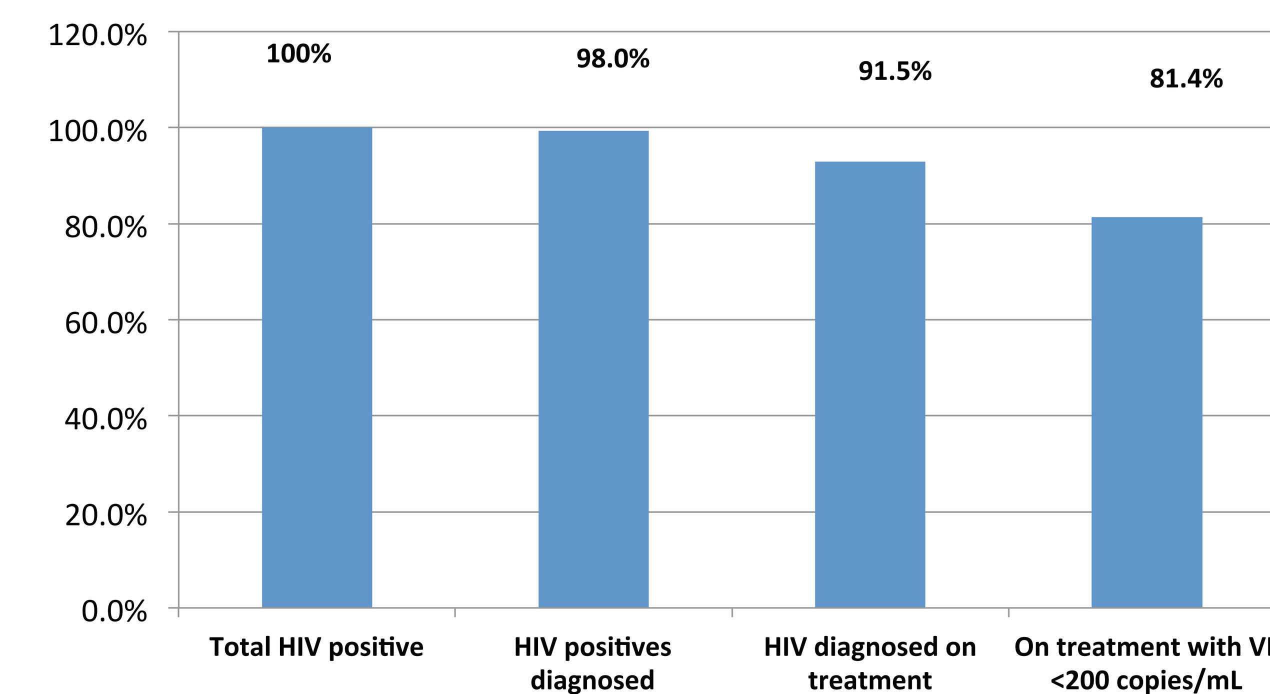
Table 1:
Logistic regression analysis of factors associated with VL ≥200 copies/ mL among HIV positive study participants

		Univariable			Multivariable		
Characteristic	**Category**	**OR**	**95% CI**		**OR**	**95% CI**	
Age	< 45	**Ref**					
	45+	0.53	0.26	1.09			
Caucasian	No	**Ref**			**Ref**		
	Yes	0.12	0.05	0.27	0.23	0.09	0.60
Sexual orientation	Gay	**Ref**					
	Bisexual/Other	0.42	0.18	0.97			
Born in Canada	No	**Ref**					
	Yes	0.56	0.24	1.31			
Current student	No	**Ref**					
	Yes	1.30	0.42	4.08			
Income < $15k	No	**Ref**			**Ref**		
	Yes	5.85	2.35	14.54	6.43	2.08	19.89
Any injection drug use in the past 6 months	No	**Ref**					
	Yes	2.13	0.92	4.90			
UAI with discordant or unknown partner	No	**Ref**			**Ref**		
	Yes	3.26	1.54	6.90	3.13	1.10	8.90
Transactional sex past 6 months as the receiver	No	**Ref**					
	Yes	1.44	0.61	3.37			
Used ecstasy in the past 6 months	No	**Ref**					
	Yes	2.90	1.23	6.82			
Used GHB in the past 6 months	No	**Ref**			**Ref**		
	Yes	8.17	3.72	17.93	4.85	0.09	0.96
Used crystal meth in the past 6 months	No	**Ref**					
	Yes	7.65	3.43	17.06			
Visited gay bars or clubs past 6 months	No	**Ref**					
	Yes	0.32	0.15	0.66			
Number of anal sex partners in the past 6 months	0--2	**Ref**					
	3--5	1.46	0.52	4.08			
	6--10	0.73	0.18	3.02			
	11--20	2.56	0.86	7.62			
	21+	1.62	0.52	5.04			
50+% of the time tells their partner about his own HIV status	No	**Ref**			**Ref**		
	Yes	7.23	1.29	40.60	7.04	1.01	49.14

Figure 1:
Cascade of care for HIV positive study participants with RDS-weights applied



Results

- We recruited 719 participants, of whom 119 (16.6%) were seeds.
- The median age was 33 years (IQR 26 - 47).
- The RDS-adjusted HIV prevalence was 23.0%.
- 98% of HIV positive participants were aware of their infections
- 91.5% were receiving ART; 81.4% had VLs<200 copies/ mL (Fig 1)
- 18.6% HIV-positive participants had a VL ≥200 copies/mL resulting in an unsuppressed VL prevalence of 5.4% among all participants.
- Having an unsuppressed VL was associated with:
- Caucasian ethnicity (adjusted odds ratio [AOR]=0.23; 95% confidence interval 95%CI] 0.09-0.60);
- Annual income of <$15,000 per year (AOR=6.43; 95%CI 2.08-19.9);
- Using GHB in the previous six months (AOR=4.85; 95%CI 1.79-13.2);
- UAI with a known HIV negative or unknown serostatus partner (AOR=3.13; 95%CI 1.10-8.90)
- Disclosing one's HIV serostatus ≥50% of the time (AOR=7.04; 95%CI 1.01-49.1).

Conclusion

- Despite a high prevalence of HIV, few individuals in our sample of MSM had unsuppressed VL.
- However, participants with unsuppressed VL were also more likely to report risky sex.
- Our data suggest a current leading edge of HIV transmission among ethnic minority, low-income MSM in association with methamphetamine or GHB use.

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