

Factors associated with intention to use self-sampling services for HIV and other sexually transmitted and blood-borne infections among men who have sex with men in British Columbia, Canada

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Background

Population subgroups that are likely to use self-sampling services for HIV and other sexually transmitted and blood-borne infections (STBBIs) are not well-characterized in Canada.

Given provincially organized health services, we assessed factors associated with intention to use self-sampling services among gay, bisexual, and other men who have sex with men (gbMSM) in British Columbia.

Methods

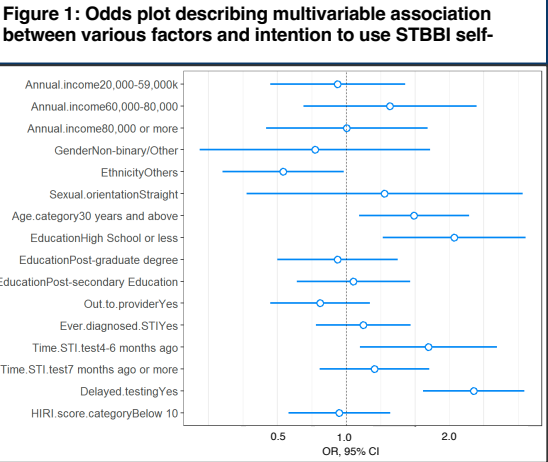
We analyzed data from the 2019 Sex Now online survey of gbMSM aged ≥15 years in Canada. Respondents indicated how likely they would use a testing service by ordering a self-collection kit online that would be mailed to their addresses with instructions to self-collect a sample which would be shipped to a lab for testing.

We assessed the association between intention to use self-sampling (i.e., likely/very likely vs. other responses) and explanatory variables including sociodemographic characteristics, sexual behaviours, healthcare access and testing. Using multivariable logistic regression, we selected our model using automated backward elimination based on Akaike information criterion, after retaining predictors identified in the literature. We conducted sensitivity analyses using missing data analyses considering 19% of the data had missing values in at least one of 11 covariates. Missing values were imputed in 20 datasets under the missing at random assumption using multiple imputations with chained equations (MICE).

Results

Overall, **758 respondents** had complete responses to survey components of interest, with a mean age of 39.39 years (SD: 14.25). Among these, **66.1% (501) indicated intention to use self-sampling services** (Table 1).

In multivariable analysis, age ≥ 30 years (adjusted odds ratio [AOR] 1.64, 95% CI 1.11-2.42), having last STBBI test between 4-6 months prior to the survey (AOR 1.82, 95% CI 1.11-3.05), having high school level of education or less (AOR 2.19, 95% CI 1.35-3.63), and experiencing delayed testing due to access barriers (e.g., cost, distance, inconvenient hours, fear of judgement etc.) (AOR 2.53, 95% CI 1.77-3.65) were associated with higher odds, while being a racialized minority was associated with lower odds (AOR 0.63, 95% CI 0.41-0.96) (Figure 1).



In missing data analysis, annual income of \$60,000-80,000 CAD (AOR 1.65, 95% CI 1.02-2.66), having high school level of education or less (AOR 1.43, 95% CI 1.03-2.00), and experiencing delayed STBBI testing due to access barriers (AOR 2.15, 95% CI, 1.64-2.81) were associated with higher odds of intending to use self-sampling, while being a racialized minority (AOR 0.70, 95% CI 0.52-0.95) was associated with lower odds.

Conclusion

- The high intention to use self-sampling for HIV and other STBBIs suggests that the service can potentially increase access to testing services for gbMSM in BC.
- Having high school level of education or less and experience of delayed testing is strongly associated with intention to use self-sampling for STBBIs. Income may be associated with intention to use self-sampling, but we are uncertain given inconsistencies between the main and sensitivity analyses.
- Self-sampling for STBBIs may therefore be useful for people with lower levels of education and those experiencing delayed testing due to health service access barriers. Self-sampling may be considered as a way to equitably improve access to STBBI testing.
- Further research is required to understand barriers to self-sampling among racialized gbMSM, understand the health systems impact of self-sampling and characterize its role in ensuring equitable access to STBBI testing.

Table 1: Selected characteristics of included participants, SexNow 2019 survey

Client characteristics	Unlikely to use self-sampling N=257 (%)	Likely to use self-sampling N=501 (%)
Age		
<30	81 (31.5)	140 (27.9)
≥30 or older	167 (68.5)	361 (72.1)
Race/Ethnicity		
White	217 (84.4)	393 (78.4)
Racialized minority	40 (15.6)	108 (21.6)
Urbanicity (# or residents)		
Large Urban City (≥100,000)	189 (73.5)	339 (67.7)
Medium city (30,000-99,999)	43 (16.7)	91 (18.2)
Rural (<30,000)	25 (9.7)	71 (14.2)
Annual income		
<\$20,000 CAD	39 (15.2)	83 (16.6)
\$20,000-59,000 CAD	121 (47.1)	231 (46.1)
\$60,000-80,000 CAD	35 (13.6)	81 (16.2)
≥\$80,000 CAD	62 (24.1)	106 (21.2)
Education		
High school or less	32 (12.5)	111 (22.2)
Post-secondary education	69 (26.8)	129 (25.7)
Bachelor's degree	94 (36.6)	160 (31.9)
Post-graduate degree	62 (24.1)	101 (20.2)
Time since last STI test		
≤3 months	153 (59.5)	257 (51.3)
4-6 months	27 (10.5)	81 (16.2)
≥ 7 months	77 (30.0)	163 (32.5)
Ever diagnosed with an STBBI (yes)	136 (52.9)	269 (53.7)
Out to health provider (yes)	187 (72.8)	348 (69.5)
Delayed testing* (yes)	58 (22.6)	207 (41.3)
HIRI-MSM score**		
≥ 10	169 (65.8)	337 (67.3)
< 10	88 (34.2)	164 (32.7)

*Reasons for delayed testing include health service access barriers including access costs, distance to test sites, inconvenient hours, language barriers, and concerns about privacy and sensitivity of their health providers to gay, bisexual, or queer health.

**HIRI: HIV Incidence Risk Index for MSM (HIRI-MSM)



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