

Adequacy of self-collected anal cytology swabs incorporated in a venue-based survey of HIV and risk behaviours among MSM

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Background / Objectives

The Canadian M-Track second generation HIV surveillance system for men who have sex with men (MSM) combines a behavioural survey and dried blood spot (DBS) testing for HIV and other STI, with recruitment at gay community venues.¹ Self-collected anal swabs for HPV testing or anal cytology have comparable validity to clinician-collected specimens in home or clinic settings.^{2,3} We incorporated the self-collection of anal swabs into the Vancouver M-Track site protocol (the ManCount survey).

MSM have a high prevalence of rectal Human Papilloma Virus (HPV) and increased rates of anal cancer, particularly if HIV-positive, and rates of rectal chlamydia and gonorrhoea infection are not well characterized. The primary objective of this sub-study was to measure the prevalence of these infections/diseases in MSM in Vancouver, and assess the feasibility of self-collection in community venues. In this poster we present data related to the adequacy of self-collected specimens for anal cytologic testing.

Methods

The ManCount Survey used venue-based sampling in Vancouver gay venues. Starting in the second month of survey recruitment participants who completed the survey and DBS were asked to participate in the self-collection anal swab component (adapted from a previously validated method).² Participants could self-collect in an on-site bathroom, or by follow-up at a later date at eight community agencies and clinics.

Consenting participants were given an envelope containing a clinical specimen swab, a ThinPrep (Preservcyl) specimen container, alcohol wipes and a biohazard specimen transport bag, and directed to follow an enclosed illustrated self-collection instruction guide. A \$10 honorarium was provided.

Slides were prepared from ThinPrep specimens by routine methods and adequacy was determined by cytology technicians at the BC Cancer Agency. We calculated the proportion of specimens which were adequate for anal cytologic testing, and examined the association between specimen adequacy and HIV result from DBS testing (Chi-square test). We used exact binomial methods to calculate 95% confidence intervals.

Results

Between Sept 9 2008 and Feb 28 2009, 766 men completed the ManCount survey, and 268 men (35%) consented to participate in this sub-study. 252/268 (94.0%) men contributed specimens (all who collected in an on-site bathroom, and 5/21 who chose to self-collect at a follow-up site).

239/252 (94.8%) specimens were submitted for anal cytologic testing; the remaining 13 specimens were unsuitable for testing due to improper collection technique or leakage of specimen during transit.

Table 1: Adequacy of self-collected specimens for cytologic analysis

Adequacy for evaluation?	Total (n=239)	HIV positive (n=60)	HIV negative (n=178)
Satisfactory	62.3% [56.2-68.5%]	70.0% [58.4-81.6%]	60.0% [53.5-67.9%]
Unsatisfactory	37.7% [31.5-43.8%]	30.0% [18.4-41.6%]	39.9% [32.7-47.1%]

Chi-square: $p = 0.171$

Table 2: Description of specimens unsatisfactory for cytologic analysis

Description	Number (%)
Consisting mainly of anucleated squamous cells	54/90 (60%)
Obscured by debris	27/90 (30%)
Scanty, too few cells	9/90 (10%)
Degenerate or poor cell preservation	8/90 (9%)

The proportion of unsatisfactory specimens in the first 3 months of recruitment (36.7%) did not differ compared to the last 3 months (38.7%, $p = 0.75$).

Conclusions

The proportion of cytology specimens inadequate for evaluation (37.7%) was higher than previously reported using the same self-collection method in a clinic setting (17%)² and higher than in other self-collection studies.^{3,4}

The reasons for this are unknown, but we postulate may be related to study fatigue (as self-collection was conducted after survey completion and DBS collection), the state of on-site bathroom facilities in venues (e.g., poor lighting or privacy), recent use of lubricants or douching which may interfere with specimen adequacy, or poor comprehension of self-collection instructions.

60% of unsatisfactory specimens consisted of anucleated squamous cells only, suggesting anal swabs were not fully inserted. Following an interim analysis of study data, we included a verbal reinforcement of the self-collection instructions by survey staff to each participant; however, this did not have an impact on specimen adequacy. Specimen adequacy did not differ by HIV status, which is a key variable of interest due to the higher prevalence of HPV and anal cancer among HIV positive MSM. Further analysis of survey data to describe the characteristics of individuals with inadequate specimens is underway.

Summary

We have demonstrated that self-collection of anal swabs from MSM can be conducted in community venues, and can feasibly be incorporated into second generation HIV surveillance systems which allows for optimal representativeness and linkage to other biological and behavioural data. Specimen adequacy for cytologic analysis using self-collected specimens may be lower when obtained on-site from men attending community venues.

References

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