

Evaluation of self-collected versus health care professional guided sampling and potential impact on diagnostic results of Sexually Transmitted Infections (STI) in subjects with increased risk.

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Background

Sexually transmitted infections (STI) are increasing in the risk population among men having sex with men (MSM). Regular testing might detect high amounts of asymptomatic STI. Self-sampling is a potential strategy, even though diagnostic reliability compared to testing by health care professionals (HCP) needs further investigation.

Methods

In this prospective, multicenter cohort, study, in MSM with high risk profile for STI (>2 condomless anal intercourse with >2 sex partners within the last 24 weeks before study inclusion) and no symptoms of STI, diagnostic swabs for infection with *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) were performed after randomization either first by HCP and or with self-sampling. Demographic information, sexual behavior and feedback on self-sampling were recorded using an electronic questionnaire.

Figure 1: Manual for rectal and oropharyngeal sampling and urine collection as designed for this study.



Results

In a cohort of 236 MSM, 47 (19.9 %) subjects tested positive for CT and/or NG by self- or HCP-performed sampling. Thirty (12.7 %) tested positive for CT, 20 (8.5 %) tested positive for NG including 3 (1.3 %) with proof of both. For CT, a sensitivity of 93.3% (77.9; 99.2) for both sampling methods and for NG, a sensitivity of 95.0% (75.1; 99.9) for HCP sampling and 90.0% (68.3; 98.8) for self-sampling was calculated. For rectal, oropharyngeal und urine sampling, 173 (75.2 %), 200 (88.1 %), and 204 (89.1 %) of respondents found the procedures for self-sampling to be "very easy" or "easy".

Table 1: Results for reactive swabs and urine samples for self- and healthcare professional (HCP)-collection per location and infection.

| | Reference | Self-sampling | | HCP-sampling | |
|-----------------------|---------------|---------------|-------------------|--------------|-------------------|
| | positive in | n | sensitivity | n | sensitivity |
| | either sample | | | | |
| C. trachomatis | | | | | |
| oropharyngeal swab | 5 | 4 | 0.80 (0.28; 0.99) | 3 | 0.60 (0.15; 0.95) |
| rectal swab | 23 | 22 | 0.96 (0.78; 1.00) | 21 | 0.91 (0.72; 0.99) |
| urethral swab / urine | 5 | 5 | 1.00 (0.48; 1.00) | 5 | 1.00 (0.48; 1.00) |
| N. gonorrhoeae | | | | | |
| oropharyngeal swab | 13 | 9 | 0.69 (0.39; 0.91) | 13 | 1.00 (0.75; 1.00) |
| rectal swab | 13 | 13 | 1.00 (0.75; 1.00) | 13 | 1.00 (0.75; 1.00) |
| urethral swab / urine | 2 | 2 | 1.00 (0.16; 1.00) | 2 | 1.00 (0.16; 1.00) |

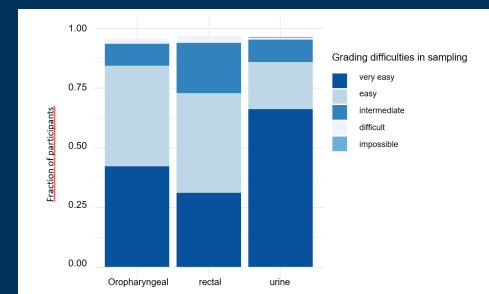


Figure 2: Grading of difficulties for self-sampling by people included into this study for rectal and oral swabs as well as urine samples.

Conclusions

Self-sampling for STI has shown comparable results to sampling through HCP in MSM with high sex risk behavior and is a viable alternative to HCP performed sampling.