

Dry Evalyn Brush, a good and well accepted self-sampling device for HPV detection



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Aim

To investigate the concordance and acceptance of self-collected specimens using the Evalyn Brush compared to physician obtained samples for detection of hrHPV.

Introduction / Background

Primary screening on high risk (hr)HPV will be the next step in prevention of cervical cancer. Women not attending screening are more likely to participate given the opportunity of self-sampling for hrHPV testing.

The Evalyn Brush® (Rovers, The Netherlands) is an improved cervicovaginal self-sampling device which is more user-friendly and easy to use, because of standardized depth of insertion and number of rotations.

Methods

- 134 women visiting the gynaecology outpatient department collected two self-samples with Evalyn Brushes and completed a questionnaire.
- The first brush was administered on a solid dry FTA cartridge (Whatman, UK). The second brush was dry stored.
- After self-sampling, a trained physician obtained a regular cervical smear suspended in ThinPrep medium.
- HrHPV detection was performed using the clinical sensitive GP5+/6+-LQ and the analytical sensitive SPF₁₀-LiPA₂₅.



The Evalyn Brush®



The FTA cartridge

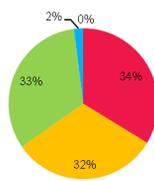
Results 1

- The overall agreement for hrHPV positivity using GP5+/6+-LQ between dry brush and ThinPrep was 86.6% (kappa-value 0.725, 95% CI: 0.607-0.843, p=0.815) (Table 1); between FTA and dry brush 88.1% (kappa-value 0.747, 95% CI: 0.633-0.861, p=0.004); and between FTA and ThinPrep 82.1% (kappa-value 0.625, 95% CI: 0.492-0.757, p=0.007).

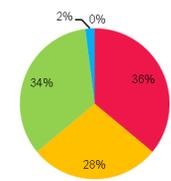
Results 2

- The overall agreement for hrHPV positivity using SPF₁₀-LiPA₂₅ between dry brush and the physician-taken sample was 85.8% (kappa-value 0.715, 95% CI: 0.597-0.843, p=1.000) (Table 1); between FTA and dry brush 84.3% (kappa-value 0.688, 95% CI: 0.567-0.810, p=0.08); and between FTA and ThinPrep 83.6% (kappa-value 0.674, 95% CI: 0.550-0.797, p=0.05).
- Of the Evalyn Brush users 98% rated their experience good to excellent.
- Most women (n=120, 95%) preferred the Evalyn Brush above the physician-taken smear.

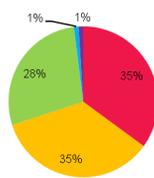
Figure 1. Questionnaire results
How was your experience with the Evalyn Brush?



How do you rate the instructions for using the Evalyn Brush?



What do you think of the convenience using the Evalyn Brush?



What do you think of the convenience in comparison with the physician taken smear?

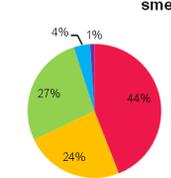


Table 1. HrHPV positivity in self-sampled Dry Evalyn Brushes compared to physician-obtained ThinPrep samples with SPF₁₀ and GP5+/6+

	Dry brush and ThinPrep	ThinPrep only	Dry brush only	None of both systems	Kappa value (95% CI)	P value
SPF ₁₀ -LiPA ₂₅ (14 HR types)	62	10	9	53	0.715 (0.597-0.834)	1.000
GP5+/6+-LQ (14 HR types)	48	10	8	68	0.725 (0.607-0.843)	0.815

Conclusions

- Self-sampling using the dry Evalyn Brush system is as good as a physician taken smear for hrHPV detection with both the analytical and the clinical sensitive test.
- The solid dry FTA cartridge is less sensitive compared to dry Evalyn Brush and the physician taken ThinPrep sample for hrHPV detection and genotyping.
- The Evalyn Brush is a well accepted self-sampling method for HPV detection in women.