



# Revolutionizing Cervical Cancer Screening: Self-Vaginal Sampling for Human Papillomavirus Detection

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### Abstract



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### Keywords

- ▶ cancer prevention
- ▶ cervical cancer screening
- ▶ cost-effective
- ▶ high-risk human papillomavirus
- ▶ self-vaginal sampling

With an 80% lifetime risk of human papillomavirus (HPV) infection among women, and a 0.6% risk of cervical cancer, the importance of effective screening methods cannot be overstated. Self-vaginal sampling (SVS) emerges as a promising tool in the fight against HPV, offering convenience,

cost-effectiveness, and the potential to delve into the intricate world of vaginal microbiota.<sup>1,2</sup>

Participation in prevention programs is key to reducing the incidence and mortality from cervical cancer. SVS not only enhances accessibility to screening but also addresses

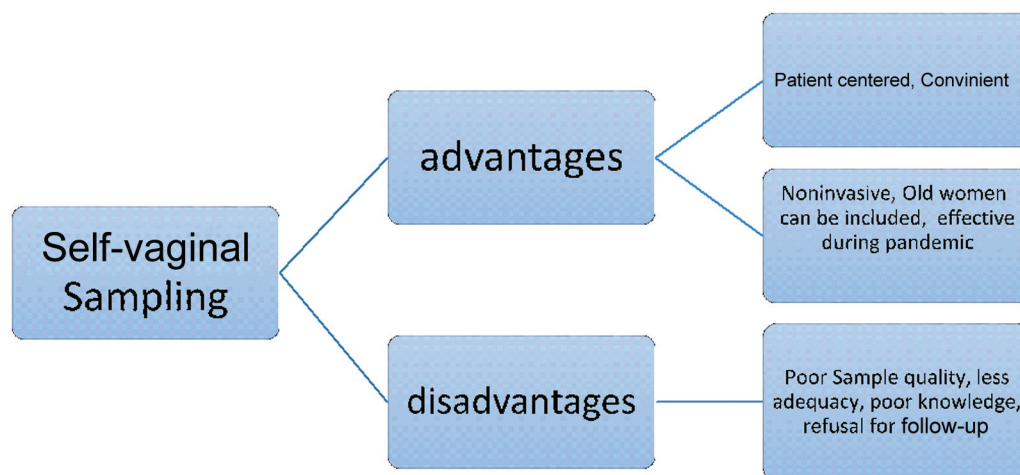
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**Fig. 1** Advantages and disadvantages of self-vaginal sampling.

barriers that hinder participation in conventional methods. Its home-based approach minimizes discomfort and empowers women to take charge of their health. Furthermore, SVS provides insights into the vaginal microbiome, aiding in the detection of pathogens beyond HPV.<sup>3,4</sup>

However, challenges loom over SVS implementation. Loss to follow-up remains a concern, while issues like low self-efficacy and sampling errors pose obstacles (**-Fig. 1**). Misconceptions and fear surrounding the procedure can lead to suboptimal sampling, impacting the accuracy of results. Additionally, inadequate training and communication gaps may compromise the quality of samples obtained.<sup>5</sup>

Despite these hurdles, SVS holds promise in narrowing health disparities, particularly in marginalized communities. Its role becomes even more pivotal in times of crises like the COVID-19 pandemic, offering a safe screening alternative. By prioritizing patient-centered care and fostering inclusivity, SVS emerges as a beacon of hope in the realm of cervical cancer screening.<sup>4</sup>

One of the very important aspects of SVS is that we can also include women in the age group of  $\geq 60$  years, which are always excluded from regular studies of screening program. Screening for HPV becomes increasingly vital for women in older than 60 years, given the limitations of cytology in detecting cervical abnormalities effectively. Moreover, this

demographic often faces exclusion from routine screening programs, resulting in late identification of cervical cancer and its progression into more aggressive forms.

#### Conflict of Interest

None declared.

#### References

- 1 Bik EM, Bird SW, Bustamante JP, et al. A novel sequencing-based vaginal health assay combining self-sampling, HPV detection and genotyping, STI detection, and vaginal microbiome analysis. *PLoS One* 2019;14(05):e0215945
- 2 Latsuzbaia A, Vanden Broeck D, Van Keer S, et al. Clinical performance of the realtime high risk HPV assay on self-collected vaginal samples within the VALHUDES framework. *Microbiol Spectr* 2022;10(05):e0163122
- 3 Stanczuk G, Baxter G, Currie H, et al. Clinical validation of hrHPV testing on vaginal and urine self-samples in primary cervical screening (cross-sectional results from the Papillomavirus Dumfries and Galloway-PaVDAg study). *BMJ Open* 2016;6(04):e010660
- 4 Daponte N, Valasoulis G, Michail G, et al. HPV-based self-sampling in cervical cancer screening: an updated review of the current evidence in the literature. *Cancers (Basel)* 2023;15(06):1669
- 5 Hariprasad R, John A, Abdulkader RS. Challenges in the implementation of human papillomavirus self-sampling for cervical cancer screening in India: a systematic review. *JCO Glob Oncol* 2023;9:e2200401