

Preference and acceptance of HPV self-sampling: Gaining insights on urine as a sample type

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BACKGROUND & OBJECTIVES

Although cervical cancer screening has successfully reduced incidence and mortality, a high proportion of women do not attend regular cervical cancer screening programs. Common reasons for non-attendance are physical discomfort of a cervical examination, lack of time and transportation, as well as inconvenient clinic hours.

Limitations of Pap smears



Physical discomfort



Cultural barriers



Lack of time

Self-sampling, including first-void urine sampling which accurately detects HPV, might overcome some of these barriers. First-void urine clearly is emerging for HPV detection as showed in Figure 1. The last decade the number of publications concerning urine and HPV increased massively, the amount even quadrupled between the previous and this decennia.

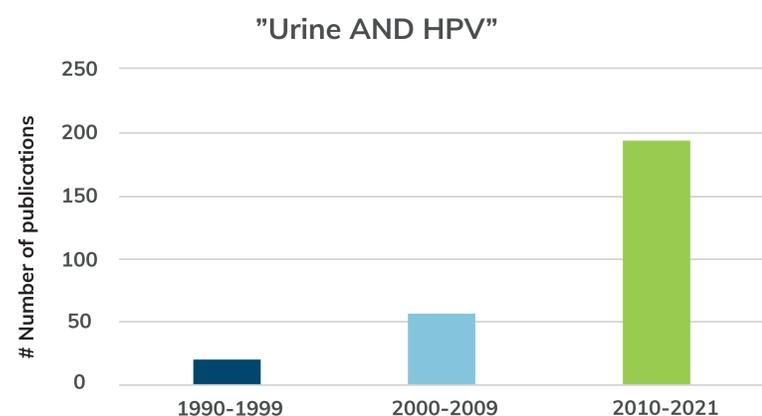


Figure 1: Number of publications linking urine and HPV across years

The aim of this study was to perform a literature review on acceptance and preference of urine sampling as a potential strategy to increase screening uptake

METHODS

In November 2020, Pubmed was systematically searched for studies reporting on ("HPV" AND "Cervical cancer" AND "screening" AND "(preference OR acceptance OR non-attendance OR non-attenders)" AND "urine") over the last 10 years (2010-2020). This provided 15 results. Four studies were selected where one of the objectives was to compare sample preferences. Two studies were added based on participation in studies where Colli-Pee was used. Colli-Pee is a urine collector for user-friendly, standardized and volumetric collection of the initial stream (first-void) of urine (Novosanis, Belgium). One study was added based on an internal literature database.

RESULTS



Studies were performed in Canada, Spain, Belgium, the UK, South Korea, Federated States of Micronesia and the US. The number of inclusions ranged from 91 to 732 women. All women were referred to colposcopy or attended a visit to obtain a Pap smear. Acceptance was evaluated on a 5- or 4-point ordinal scale, where it ranged from 86% to 98% for urine samples, and from 76% to 87% for clinician-taken samples.

Acceptance was also evaluated as "feeling comfortable" or "positive feelings about a sample type" which resulted in higher acceptance of urine compared to clinician-taken samples as well. Almost all studies reported preference of urine over vaginal self-samples and clinician-taken samples. Only one study in Federated States of Micronesia reported a higher percentage of women who preferred a clinician-taken sample (44%) over a urine self-sample (38%). The authors reported that these women preferred to have skilled and knowledgeable screeners. However, this research also indicated that future screenings need to be more accessible which offers opportunities for home-based self-collection of samples for HPV detection.

Benefits of home-based urine sampling



Avoid unnecessary trips to the hospital



Suited for postal mail



Anonymous



Easy collection



Cost-efficient

CONCLUSION

Based on this literature review, urine is identified as the most accepted and preferred sample type for HPV-based cervical cancer screening. It should be noted that this evaluation is based on self-reported data from women who are visiting a clinician for screening purposes. Therefore, additional data should be collected and evaluated on actual preference reflected by participation rates in individual cohorts of women offered different sampling methods in the primary screening population. Moreover, the cost-effectiveness of these strategies should also be evaluated and compared.