

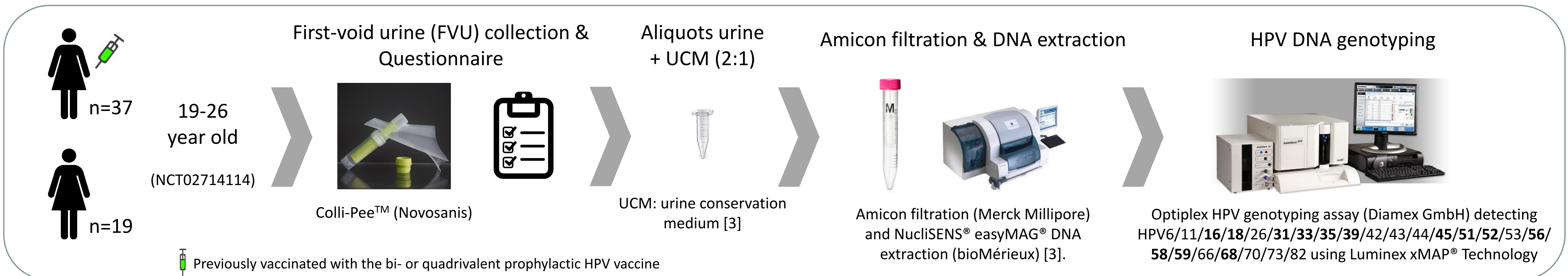
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## Background/objectives

Feasibility of first-void urine (FVU) sampling to monitor the impact of HPV vaccination has recently been reported [1]. The fact that a FVU device is non-invasive, guarantees first-void sampling (i.e. first 15-20ml of urine void), and can be collected at home and mailed to the lab [2] represents major assets. As limited data are available on sampling preference in vaccinees, we assessed the acceptance of using FVU self-sampling as a monitoring tool in vaccinated and unvaccinated women.

## Methods



## Results

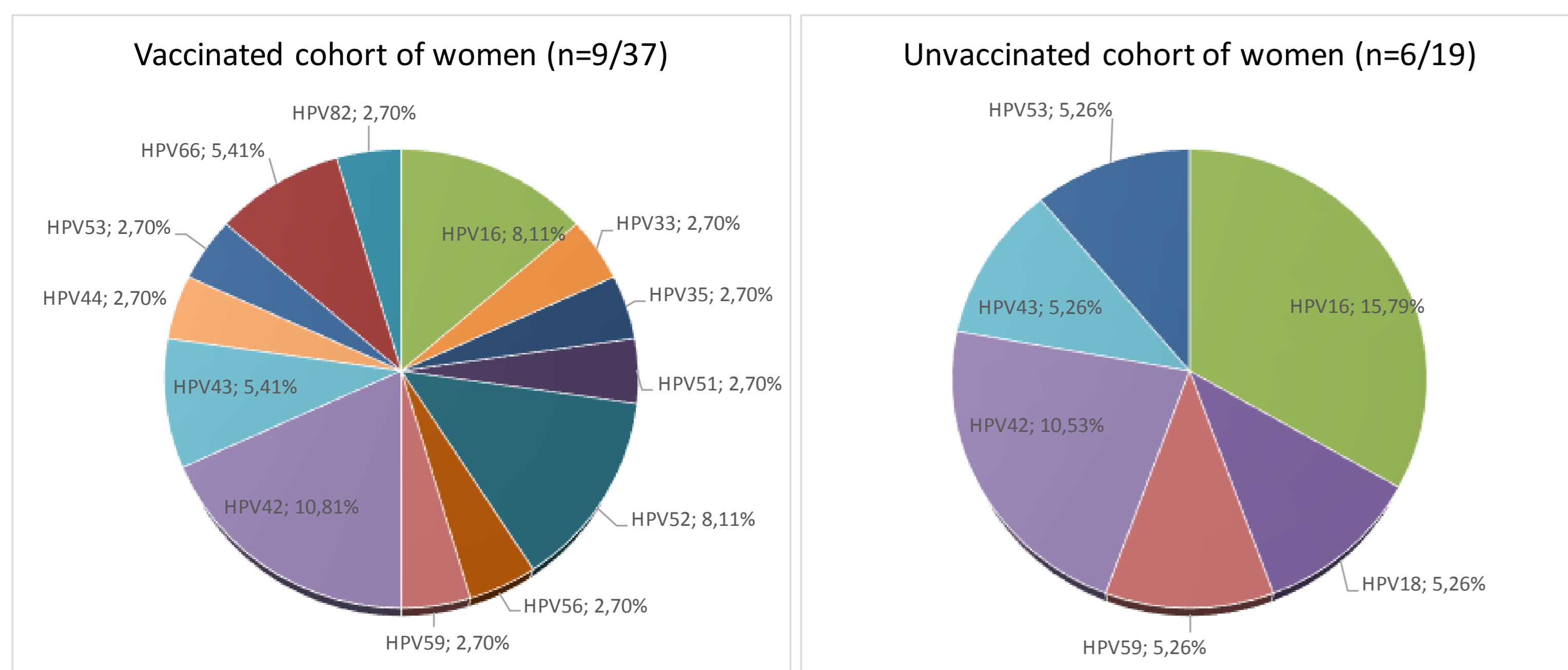
- Study population (n=56): 19 to 26 year old women
- Mean age: 22.11 ± 1.97 (vaccinated ♀); 22.68 ± 2.08 year (unvaccinated ♀)
- Mean age of first vaccine dose: 15.15 ± 1.66 year
- Overall prevalence HPV16/18 in FVU samples: 13% (7/56)
- Lower overall HPV DNA, and HPV16/18 prevalence in vaccinated versus unvaccinated women (Table 1)

**Table 1. Frequencies and percentages of HPV DNA in first-void urine samples.**

	Total N (%)	Vaccinated N (%)	Unvaccinated N (%)
<b>Total</b>	56	37	19
HPV DNA positive	15 (26.79)	9 (24.32)	6 (31.58)
Single infection	9 (16.07)	6 (16.22)	3 (15.79)
Multiple infection	6 (10.71)	3 (8.11)	3 (15.79)
HPV16/18 (bivalent HPV vaccine types)	7 (12.50)	3 (8.11)	4 (21.05)
HPV6/11/16/18 (quadrivalent HPV vaccine types)	7 (12.50)	3 (8.11)	4 (21.05)
HPV6/11/16/18/31/33/45/52/58 (9valent HPV vaccine types)	9 (16.07)	5 (13.51)	4 (21.05)
High-risk HPV positive <sup>1</sup>	10 (17.86)	6 (16.22)	4 (21.05)

No statistically significant associations were found (Chi square test; p-value < 0.05) <sup>1</sup>Classification of high- and low-risk HPV types included in the Optiplex HPV genotyping kit (Diamex), according to the HPV classification from the International Agency for Research on Cancer (IARC) 2012.

**Figure 1. Percentages of the prevalence of individual HPV types in first-void urine of vaccinated (left) and unvaccinated (right) HPV DNA positive women.**

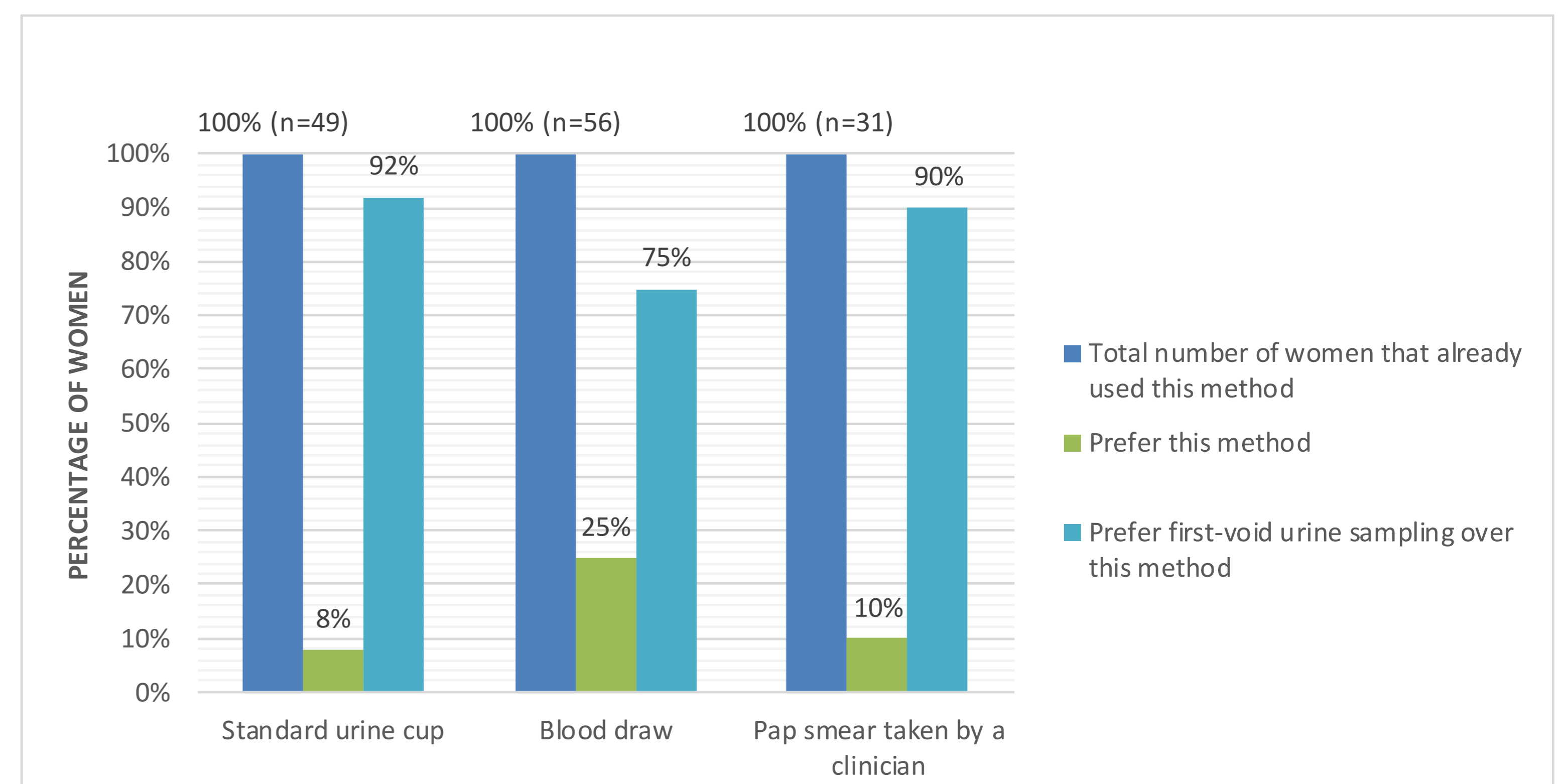


- Mean age of first sexual contact: 17.54 ± 1.85 (vaccinated ♀); 16.40 ± 1.55 year (unvaccinated ♀) (p<0.05; unpaired student T-test, equal variances assumed)
- All sexually inactive women (2/37 vaccinated, 4/19 unvaccinated) are FVU HPV DNA negative

### Questionnaires

- Most women agreed that FVU sampling with the Colli-Pee™ device is a good method for urine collection at home (95%; 53/56) or at the clinic (65%; 38/56)

**Figure 2. Preference of first-void urine sampling compared to 'standard of care'.**



➔ **75-92% of women saw FVU sampling with the Colli-Pee™ device as an improvement over the other methods**

## Conclusion

- This study illustrates that **FVU sampling is highly accepted** in this population of 19 to 26 year old women in Belgium.
- Consistent with previous studies, our study also demonstrates the **feasibility of FVU to detect HPV DNA in young women**, vaccinated against HPV after pre-adolescence.

## References

1. Franceschi S, Umulisa MC, Tshomo U, Gheit T, Baussano I, Tenet V, et al. Urine testing to monitor the impact of HPV vaccination in Bhutan and Rwanda. *Int J Cancer* 2016.
2. Vorsters A, Van Keer S, Biesmans S, Vankerckhoven V, de Koeijer M, Beyers K, et al. HPV DNA detection in urine: Effect of a first-void urine collection device and time of collection. In: *30th International Papillomavirus Conference*. Lisbon, Portugal; 2015.
3. Vorsters A, Van den Bergh J, Micalessi I, Biesmans S, Bogers J, Hens A, et al. Optimization of HPV DNA detection in urine by improving collection, storage, and extraction. *Eur J Clin Microbiol Infect Dis* 2014;**33**:2005-2014.

## Acknowledgements & Conflicts of interest

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Alex Vorsters and Pierre Van Damme are co-founders of Novosanis (Belgium).