

## LETTER TO THE EDITOR

# HPV Molecular Prevalence and Effects of Background Sampling Techniques: Implication for Vaccine Plan

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Infection with the human papillomavirus (HPV) is a major public health issue. This viral infection has been linked to cervical cancer in women, and the current preventive measure is HPV vaccination. There are various types of HPV vaccines available, and the epidemiology of HPV infection varies by context. The laboratory investigation is critical in making decisions about which HPV vaccine to use and who to target for bulk immunization [1].

As previously stated, a molecular laboratory test is required to provide data on the local epidemiology of HPV infection. However, there is a significant issue with the sample technique. A pilot investigation comparing HPV results in urine samples against clinician-collected swabs revealed 97% agreement [2]. However, the majority of studies choose urine sample because it is convenient. In order to evaluate the HPV laboratory results, background error resulting from sampling must be taken into account. The authors of this article provide an illustration from a prior study from a nation in Indochina (DOI: 10.1016/j.ijregi.2023.02.011).

The prevalences of any HPV and any high-risk HPV in the previous epidemiological survey were 11.6% and 8.6% for grade 10 schoolgirls and 18.5% and 12.4% for grade 12 schoolgirls, respectively. The prevalences of bivalent vaccine-type, quadrivalent vaccine-type, and nonavalent vaccine-type HPV infections were specifically 3.4%, 4.0%, and 6.4%, respectively, for grade 10

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schoolgirls. The prevalences for female students in grade 12 were 4.5%, 6.6%, and 10.4%. For adjustment of the prevalence, based on the earlier mentioned 97% agreement, the finalized adjusted prevalence can be presented as “observed prevalence from urine sampling + 3%”.

As a result, the adjusted prevalences of any HPV and any high-risk HPV for grade 10 schoolgirls are 8.6% - 14.6 and 5.6 - 11.6%, respectively, and 15.5 - 21.5% and 9.4 - 15.4% for grade 12 schoolgirls. For grade 10 schoolgirls, the adjusted prevalences of bivalent vaccine-type, quadrivalent vaccine-type, and nonavalent vaccine-type HPV infections were 0.4 - 6.4%, 1.0 - 7%, and 3.4 - 9.4%, respectively.

Based on this finding, it is possible that a significant number of schoolgirls are already infected but were overlooked by the HPV test utilizing urine collection. To address the problem of local HPV infection, the HPV vaccination schedule could be changed to a younger age range (less than grade 10) than the current recommendation.

**Declaration of Interest:**

None.

**References:**

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