

Title: Trends in Cervical Cancer Screening Participation and HPV Genotype Distribution Among Young Women in Finland

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Keywords:

Cervical cancer, screening

Abstract

Cervical cancer remains a public health concern in Finland, with around 190 new cases and 55 deaths annually. Recent data show a rise in high-grade squamous intraepithelial lesions (HSIL) among women under 40, likely linked to declining participation in the national screening program. This study aimed to examine trends in screening participation and the distribution of human papillomavirus (HPV) genotypes among young Finnish women.

The study included 74,983 women who participated in the national cervical cancer screening program in Tampere and surrounding municipalities between 2017 and 2022. Partial HPV genotyping for HPV16, HPV18, and 12 other high-risk types was conducted using Abbott RealTime High-Risk HPV test (2012–2020) and Roche Cobas 4800 HPV assay (2021–2022). Follow-up data for HPV-positive women were retrieved from hospital records.

Women aged 30–40 had lower participation (67.1%) compared to those over 45 (75.5%). However, participation among younger women increased from 64.6% (2017–2019) to 69.4% (2020–2022). Among HPV-positive women, HSIL incidence rose from 1.8% to 2.3%. The prevalence of HPV16 also increased: single infections rose from 15.1% to 18.8%, and multi-infections (HPV16 with other high-risk types) from 5.1% to 12.0%.

Although screening participation among younger women has slightly improved, it remains lower than in older age groups. The rising prevalence of high-risk HPV—especially HPV16—and increased HSIL incidence highlight the need to strengthen cervical cancer screening strategies for women under 40.

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