

Molecular epidemiology of human papillomavirus among Arab women in Qatar

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Objectives:

Human papillomavirus (HPV) is the most commonly known sexually transmitted agent. To date, few reports are available on the distribution of most prevalent and variant types of HPV in Arab women. Therefore, the aim of this study is to determine the age-specific distribution of HPV types among Arab women being subjected to routine pap smear tests in the State of Qatar.

Methods:

1100 pap smears have been collected in ThinPrep vials (BD SurePath™) from Arab women seeking routine gynecological care at the Women's Hospital, Hamad Medical Corporation (HMC) in Doha, Qatar. All the samples were transported to the laboratory in an icebox container. Viral DNA from ThinPrep samples was extracted by QIAamp MinElute virus spin kit according to manufacturer's instructions and was screened for HPV DNA by real-time PCR using L1 HPV specific (GP5+/6+) primers. The type-specific distribution of the viruses was determined by HPV high and low risk typing RT-PCR kits (Sacace Biotechnology, Italy) and PCR-based sequencing. Real-time PCR amplification was carried out in ABI 7500 real-time PCR (Applied Biosystems).

Results:

Based on the collected data, HPV DNA was detected in 125 women (11.36%), and 15 different HPV genotypes were detected, comprising high-risk and low-risk genotypes. The prevalence of HPV infection was seen in 54.5% Qatari and 45.5% non-Qatari women. With regard to age, 33.5% of all HPVs were found in women 30-39 years of age, 24.8% in women 40-49 years of age, 15.8% in women 50-59 years of age, 5.5% in women over 60 years and 20.4% in women less than 30 years old.

Implications and Impact:

The study shows that the prevalence of HPV infection in Arab women in Qatar is among the highest in the Arab world compared with previous reports. However, more extensive population-based studies should be undertaken before implementing HPV vaccination.