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Mapping of Fourteen High-Risk Human Papillomavirus Genotypes by Molecular Detection in Sexually Active Women in the West African Sub-Region

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ABSTRACT

Introduction: Human papillomavirus (HPV) infection and cervical cancer remain a major concern worldwide, especially in sub-Saharan Africa where cervical cancer, induced by high-risk HPV (HR-HPV), is the leading cause of cancer death in women.

Objective: The objective of this study was to determine the distribution of high-risk human papillomavirus oncogenic genotypes (HR-HPV) in women from general population of five West African countries.

Methods: This was a cross-sectional descriptive study, involving 2133 women from nine cities of five West African countries: Benin, Burkina Faso, Côte d'Ivoire, Niger and Togo. Women were screened for precancerous cervical lesions and HR-HPV infection by a multiplex real-time PCR on extracted viral DNA.

Results: The average age of the women in this study was 35.06 ± 10.00 years with a range of 15 to 65 years. The overall prevalence of high-risk HPV infection among women in five West African countries was 33.61% (717/2133). The prevalence of dysplasia was 8.81% or 188 positive VIA/VILI. In decreasing order of frequency, the genotypes found were: HPV 52 followed by HPV 31, 59, 51, 66, 45, 68, 56, 56, 58, 35, 39, 18, 33 and 16. The prevalence of HPV16/18 was 7.02%.

Conclusion: This study reveals a high prevalence of HPV 52 genotype followed by HPV 31, 59, 51, 66, 45, 68, 56, 58, 35, 39, 18, 33 and 16 in West Africa. The overall prevalence of high-risk HPV infection ranged from 12 to 50%. The HPV genotypes predominant in the general population in West Africa are not HPV16 and 18. Is it due to viral clearance or genetic mechanisms? As cervical cancer is one of the few preventable cancers, it is crucial to place emphasis on prophylactic vaccination against broad spectrum HPV, adapted to the African context.

Keywords: High-risk HPV, Real time PCR, Genotypes, Women, Epidemiology, West Africa

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