PREVALENCE AND RISK FACTORS ASSOCIATED WITH HPV INFECTIONS AMONG WOMEN WITH HIV IN MERU, KENYA

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1 BACKGROUND

Cervical cancer, caused by HPV is the leading cause of preventable deaths among women. High incidence and high mortality are reported in low- and middle-income countries where women with HIV exhibit an increased risk. We investigated the prevalence and genotypes of high-risk HPV in women with HIV in Meru, Kenya and identified risk factors associated with HPV infections in a cross-sectional study of 303 adult women.

2 METHODS

Cervical specimens were obtained using a self-sampling technique, followed by HPV DNA extraction and real time PCR targeting 24 high-risk genotypes with differentiation of HPV 16, 18, and 45. Data analysis was performed using R studio.

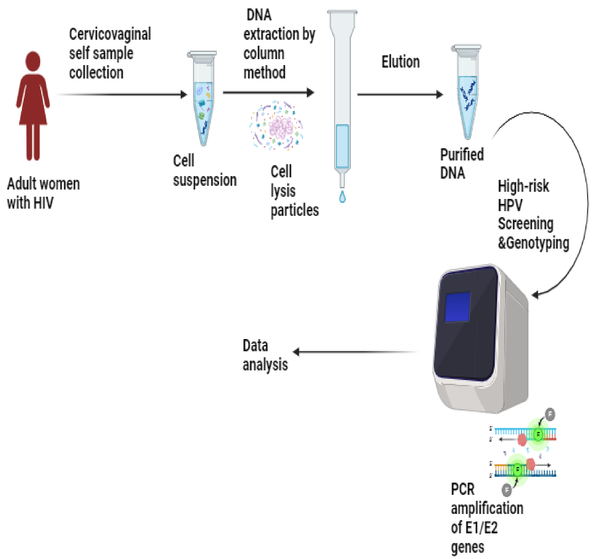


Fig1: High-risk HPV genotyping
Samples were collected using Evalyn Brush and DNA isolated by column method. Real-time PCR amplification of HPV E1/E2 genes was performed.

The prevalence of high-risk HPV among women with HIV in Meru, Kenya was 60.4%. Age was significantly associated with HPV status.

3 RESULTS

- The prevalence of high-risk HPV was 60.4% (N=183) . HPV 18 (36.6 %), HPV 45 (31.68 %) HPV 16 (12.20 %), and other high-risk HPV types (14.85 %) (Fig. 2A).
- There was a significant association between the age and HPV status (p=0.022). The median age of HPV positive women was 35 years (Fig. 2B).
- HPV 16, 18 and 45 were observed consistently, with HPV 18 exhibiting the highest frequency (Fig. 2C).
- High-risk HPV co-infection was observed, with the majority having infection with two HPV subtypes (Fig. 2D).

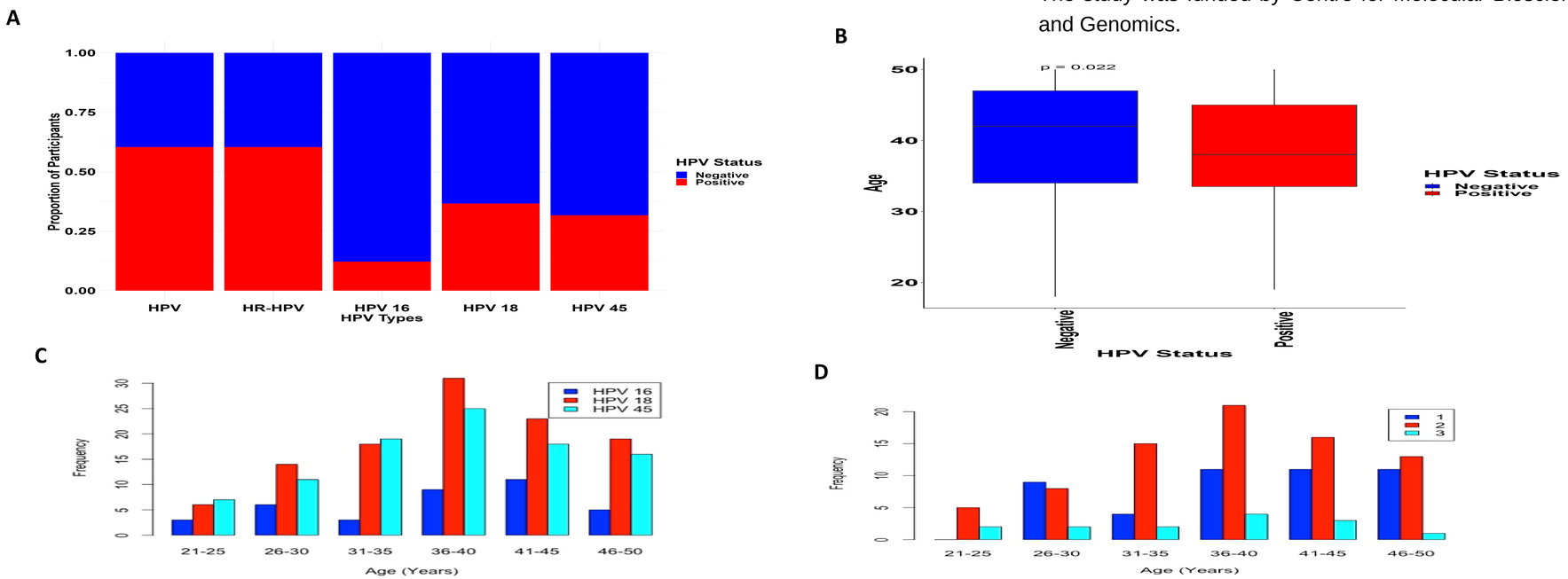


Fig2:A, The prevalence of high-risk HPV status was 60.4%. HPV 18 had the highest prevalence (36.6%) followed by HPV 45 (31.68%), and HPV 16 (12.20%). **B,** Age was the only significant factor associated with HPV status with 35 years as the median age for HPV positivity. **C,** HPV 16, 18 and 45 were detected consistently. **D,** Co-infection with two HPV subtypes was the most common across all age groups.

4 CONCLUSIONS

Our study reveals a high prevalence of high-risk HPV, dominated by HPV 18 among women with HIV in Meru, Kenya. These findings highlight the need for targeted screening programs within this population to facilitate early detection and timely interventions to prevent cervical cancer.

5 ADDITIONAL KEY INFORMATION

References

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2. De Vuyst H et al., Prevalence and determinants of human papillomavirus infection and cervical lesions in HIV-positive women in Kenya. doi: 10.1038/bjc.2012.441. Epub 2012 Oct 2. PMID: 23033006; PMCID: PMC3493776.

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Acknowledgements

The study was funded by Centre for Molecular Biosciences and Genomics.