



A Systematic Review of the Prevalence of Cervical Precancerous Lesions Among HIV-Positive Women Following HPV Vaccination in KwaZulu-Natal, South Africa

A Systematic Review of
the Prevalence

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Lorraine Hughes

*Vaal University of Technology (VUT)
Agricultural Research Council (ARC)*

Thandiwe van der Merwe

*Nelson Mandela University
Vaal University of Technology (VUT)*

Marie Welch

*Department of Clinical Research, Vaal University of Technology (VUT)
Department of Surgery, SA Astronomical Observatory (SAAO)*

Sipho Khumalo

*Nelson Mandela University
Department of Surgery, Vaal University of Technology (VUT)*

Correspondence: lhughes@hotmail.com

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Abstract

Women living with HIV (WLHIV) in sub-Saharan Africa carry a disproportionate burden of cervical cancer, which is primarily caused by persistent human papillomavirus (HPV) infection. HPV vaccination is a key preventive intervention. Evaluating its impact through demonstration projects in high-prevalence settings such as KwaZulu-Natal, South Africa, is crucial for this immunocompromised population. This systematic review aimed to synthesise evidence on the prevalence of cervical precancerous lesions among WLHIV who received HPV vaccination within a KwaZulu-Natal demonstration project. The objective was to establish a consolidated prevalence estimate and to identify gaps in the existing literature. A systematic search was performed across multiple electronic databases for peer-reviewed literature. Eligible studies reported the prevalence of histologically or cytologically confirmed cervical intraepithelial neoplasia (CIN) grade 2 or higher among vaccinated WLHIV in KwaZulu-Natal. Study screening, data extraction, and quality assessment were conducted independently by two reviewers. The search identified a limited number of eligible studies. The synthesis suggests a lower prevalence of high-grade precancerous lesions (CIN2+) among vaccinated WLHIV compared to unvaccinated WLHIV in the same region. One included study reported a CIN2+ prevalence of 5.2% in its vaccinated cohort. The available evidence, though limited, indicates a potential protective effect of HPV vaccination against high-grade cervical precancerous lesions in WLHIV in KwaZulu-Natal. This finding highlights the value of integrating vaccination into comprehensive HIV care. Further longitudinal research with larger sample sizes and extended follow-up is required. Integration of routine cervical screening with HPV vaccination programmes for WLHIV should be prioritised. Health policy should support sustained investment in both vaccination and screening within this high-

risk group. human papillomavirus, HPV vaccination, HIV, women, cervical intraepithelial neoplasia, prevalence, systematic review, South Africa, KwaZulu-Natal This review consolidates initial evidence on post-vaccination cervical precancer prevalence among WLHIV in a high-burden African setting, informing clinical practice and highlighting critical research priorities for cancer prevention.

Keywords: *HIV-positive women, human papillomavirus vaccination, cervical intraepithelial neoplasia, prevalence, sub-Saharan Africa, systematic review, South Africa*

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