

Clinical Review

Clinical Review identifies issues in the medical literature of interest to clinicians in Africa. Essential references are given at the end of each section

Public Health Review

Screening for cervical cancer at the primary care level

Cervical cancer accounts for the deaths of approximately 270 000 women each year, with nearly 85% of those deaths in resource-poor settings, according to the Alliance for Cervical Cancer Prevention (ACCP).¹ Bruni and colleagues conducted a meta analysis of Human Papillomavirus (HPV) prevalence in 194 countries spread over five continents. They found that, 'The estimated global HPV prevalence was 11.7% (95% confidence interval, 11.6%–11.7%). Sub-Saharan Africa (24.0%), Eastern Europe (21.4%), and Latin America (16.1%) showed the highest prevalences.'²

While there is now a vaccine to prevent HPV infection, it is not yet widely deployed in Africa.³ Even when the vaccine becomes available, it will be geared to younger populations who have generally yet to begin sexual intercourse.

Therefore, for the foreseeable future, there are many women at risk of developing cervical cancer. These women require early screening and intervention to prevent the development of cervical cancer. Although the pap smear (cytology screening) is the traditional screening procedure in developed countries, currently there are two main screening strategies for developing countries: 1) HPV DNA testing and 2) visual inspection with acetic acid (VIA).

Implementation of these strategies depends on awareness and willingness on the part of women at risk. Unfortunately, experiences like those in Nigeria⁴ and South Africa⁵ reflect the problem that most women are not aware of HPV and feel that cervical cancer cannot be prevented. Likewise in Zambia folk myths and misconceptions surrounding cervical cancer and its prevention methods were commonly found among women who had never been screened.⁶ Researchers in South Africa found that efforts to increase awareness of screening are not effective if they link cervical cancer to sexually transmitted infections, thereby leading to stigma perceptions.⁷

According to Jhpiego (an affiliate of the Johns Hopkins University), 'VIA is a simple low-cost procedure that consists of swabbing the cervix with vinegar, waiting for 1 minute, and viewing the cervix with a light source in order to visually detect precancerous lesions.'⁸ When precancerous cervical lesions are detected,

treatment using a freezing technique to destroy the lesions (cryotherapy) is initiated at the same clinic visit, making the process simple and convenient for health workers and clients in low-resource settings.

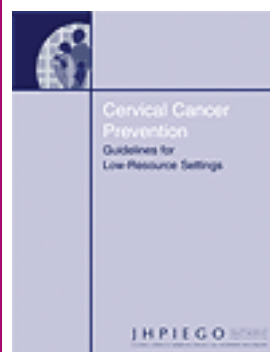
Sankaranarayanan and colleagues have noted that, 'The difficulties in organising cytology screening in developing countries have prompted the assessment of alternative methods like visual inspection with 3–5% acetic acid (VIA) for prevention of cervical cancer,' and 'VIA had an acceptable sensitivity in detecting cervical intraepithelial neoplasia.'⁹ When Sankaranarayanan and colleagues implemented VIA in India they were able to achieve a significant 25% reduction in cervical cancer incidence in the intervention group and a significant 35% reduction in cervical cancer mortality compared with the control group.

In Kenya, Were and co-workers learned that VIA cervical cancer screening, identification and treatment was quite feasible to integrate into the existing MCH-FP services at the primary care level.¹⁰ According to the World Health Organization (WHO), many aspects of VIA make it an attractive test for use in low-resource settings:¹¹

- It is a simple, inexpensive, low-technology test that requires minimal infrastructure for use.
- Its cross-sectional sensitivity appears to be similar to cytology in detecting high-grade disease.
- It is possible to train workers on how to use this screening method in a short period of time (1–2 weeks).
- It is a real-time test in the sense that the results are available immediately, making it possible to institute further diagnostic investigations for test positive women, as well as plan and offer treatment during the same visit.
- The test appears to be comparable in reproducibility to other tests.

Although WHO had initially classified HPV DNA testing as an appropriate cervical cancer screening tool for middle-income countries,¹¹ recent research has used HPV testing in low-income settings,¹² including Africa¹³ and rural India.¹⁴ Such studies have shown that HPV testing has better performance than either cytology or VIA for primary screening due to much higher test sensitivity, according to the Alliance for Cervical Cancer Prevention.¹ Simplicity of administration and relatively

Figure 1 Reference literature such as *Cervical Cancer Prevention Guidelines for Low-Resource Settings*



is available from <http://jhpiego.org>. This reference manual is designed for trainers and health care providers who are embarking on a cervical cancer prevention programme that will focus on visual inspection with acetic acid (VIA) and/or cryotherapy as the core programmatic elements.

low cost are positive factors for HPV testing.

A recent study in South Africa reported that, 'a screen-and-treat approach using HPV DNA testing identified and treated prevalent cases of CIN2+ (cervical intraepithelial neoplasia grade 2 or worse) and appeared to reduce the number of incident cases of CIN2+ that developed more than 12 months after cryotherapy.'¹⁵ Dr Harshad Sanghvi, Medical Director of Jhpiego has observed that...

'The main problem with HPV and treat programmes right now is that the currently marketed HPV test cannot be used in a single visit approach as the test needs to go to the laboratory. This leads to huge loss to follow-up in service settings. The Fast HPV test is still not available commercially, takes 2 hours to do, and costs US\$5 if done in batches of 70–90. This is then not likely to be cost effective for less busy clinics.'¹⁶

Until HPV tests can become more feasible for primary care service providers, ACCP recommends that, 'VIA-based programmes can be key to establishing the necessary programmatic structures for cervical cancer prevention, including community education and sensitisation, provider training and supervision, referral methods for higher-level care, methods to invite women to screening, and monitoring systems to track screening coverage and follow-up rates. All of these structures are essential to success of an eventual HPV test-based programme.'¹

Finally, a discussion of cervical cancer in Africa would not be complete without mention of HIV. Co-infection with the human immunodeficiency virus (HIV) has also been recognised as a risk factor.¹¹ A recent study in South Africa of HIV positive women found that, 'At the time of the initial screen, 38% of women had pre-cancerous lesions.'¹⁷ Fortunately these researchers found that highly active antiretroviral therapy appears to protect against progression toward cancerous lesions.' An implication of this study is the need for shorter screening time intervals for HIV positive women.

Figure 2 www.cervicalcancerafrica.org

Although VIA with cryotherapy during a single screening visit at a primary care facility has been in practice for over 10 years, its scale up is still underway. Until a foundation for VIA is laid in all primary care clinics, women in Africa will continue to die needlessly from cervical cancer.

For more information visit the website of the Sub-Saharan Africa Cervical Cancer Working Group at www.cervicalcancerafrica.org (see figure below left).

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