HIV Status Effect on Cervical Cancer Screening in Three Countries: Paper Presentation

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Global Health Mini University 2016
ACKNOWLEDGEMENTS

Donors:
• Centers for Disease Control and Prevention: Tanzania
• USAID: Côte d’Ivoire and Guyana

Leadership and support from Jhpiego’s field offices in Tanzania, Côte d’Ivoire, and Guyana

Ministries of Health of Tanzania, Côte d’Ivoire, and Guyana

Service providers and clients who participated in the study
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The learner will be able to describe the relationship between HIV, HPV and cervical cancer.

The learner will be able to define how HIV status impacts screening results and management.

The learner will be able to discuss the necessary program changes to support screen and treat for populations with significant numbers of HIV-infected women.
INTRODUCTION
INTRODUCTION

HIV infection increases a woman’s risk for cervical cancer\(^1\).

Cervical cancer incidence and mortality are higher in countries with high HIV prevalence and limited screening resources.

Visual inspection with acetic acid (VIA) allows screening of cervical lesions, followed by cryotherapy treatment in a single-visit approach (SVA).

However, data on VIA performance and SVA in HIV-infected women are limited.
INTRODUCTION

More than 85% of cervical cancer cases and deaths occur in developing countries, which have only 5% of the world’s cancer resources.

Cervical cancer is the second most common cancer among women in the developing world and most common cause of cancer deaths.

This study’s objective was to examine cervical cancer screening using VIA/SVA in programs serving HIV-infected women between 2009-2012.
This study took place in Guyana, Côte d’Ivoire, and Tanzania, three countries with high cervical cancer rates.
INTRODUCTION

In North America, where cervical cancer screening is routine, cervical cancer incidence is **6.6/100,000** and cervical cancer mortality is **2.7/100,000**.

<table>
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<tr>
<th>Country</th>
<th>Cervical cancer incidence</th>
<th>Cervical cancer mortality</th>
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<tr>
<td>Guyana</td>
<td>46.9/100,000</td>
<td>21.9/100,000</td>
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<tr>
<td>Côte d’Ivoire</td>
<td>21.7/100,000</td>
<td>14.6/100,000</td>
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<tr>
<td>Tanzania</td>
<td>54.0/100,000</td>
<td>32.4/100,000</td>
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Compare this to²:
OVERVIEW OF HIV, HPV, CERVICAL CANCER
OVERVIEW OF HPV & CERVICAL CANCER

Human papillomavirus (HPV): primary cause of cervical cancer
Cervical dysplasia: precursor of invasive cervical cancer

Invasive cervical cancer does not develop until 10-15 years after initial infection.

Opportunity to diagnose and treat cervical cancer precursors and to interrupt progression to cancer.
Compared with HIV-negative women, women infected with HIV have:

- Higher prevalence rates and longer persistence of HPV
- Higher rates of cervical dysplasia

Cervical cancer incidence and mortality rates are higher in countries with high HPV prevalence rates and few resources for screening and prevention.
There are limited data on the provision, performance, and integration of cervical cancer screening using VIA/SVA in programs serving HIV-positive women.
SCREENING APPROACHES IN DEVELOPING COUNTRIES
Since the introduction of cervical cytology, mortality from cervical cancer has decreased by more than 70%.

The lifetime risk of cervical cancer can be reduced by approximately 80-90% by screening women every 3-5 years.

Implementation of cervical cytology is constrained by:

- Inadequate health infrastructure
- Lack of cytopathologists and cytology technicians to prepare and analyze Pap smears
- Need for follow-up visits for further evaluation and treatment
OVERVIEW OF VIA/SVA

VIA is a low cost, low-technology approach to cervical cancer screening.³

- Enables identification of precancerous lesions that can be treated with cryotherapy or loop electrosurgical excision procedure (LEEP), potentially in a single-visit approach (SVA)

VIA/SVA has been shown to be a cost-effective, safe, feasible, and acceptable alternative to cytology, with comparable sensitivity.
OVERVIEW OF VIA/SVA

VIA SCREENING

Acetic acid (vinegar) is swabbed onto the cervix

A trained provider views the cervix after 1 minute

In a VIA-positive woman, the acetic acid will cause lesions to appear white

TREATMENT

Treatment is offered to VIA-positive woman, either by:

• cryotherapy - the freezing of precancerous cells
• LEEP - loop electrosurgical excision procedure
RESULTS
The findings from this study were published in:

MATERIALS AND METHODS

- **DESIGN:** Cross-sectional study

- **LOCATION:** 3-country study
  - Tanzania
  - Côte d'Ivoire
  - Guyana

- **DATES:** January 2009 – March 2012

- **SITES:**
  - 24 HIV care & treatment clinics
  - 23 reproductive & child health clinics

- **PROVIDERS:**
  - Nurses
  - Midwives
  - Physicians

- **PROVIDER TRAINING:**
  - Standardized training package
  - 6-day training on cervical cancer screening & treatment
  - Practicum component
  - Skills/knowledge assessment to assess competency
  - Supportive supervision

- **PARTICIPANTS:** VIA/SVA programs targeted (but were not limited to) HIV-infected women between 30-50
RESULTS

CERVICAL CANCER SCREENING AND TREATMENT OUTCOMES IN 3 COUNTRIES

New women screened 34,921

Suspect cancer cases detected/referred 336 (1%)

VIA screen positive 3,580 (10%)

VIA screen negative 31,005 (89%)

Referred for large lesions 622 (17%)

Cryotherapy eligible 2,958 (83%)

Treated with cryo- same visit 2,508 (85%)

Cryo postponed 451 (15%)

Returned for cryo after postponing 234 (52%)

Lost to cryo treatment 217 (48%)
EFFECT OF HIV STATUS

In each country, HIV-infected women were more likely to be VIA-positive and more likely to have large lesions that were not eligible for cryotherapy.

In a multivariate analysis adjusted for location of screening, facility type, country, HIV status, facility location, HIV infection status was found to be an independent predictor of VIA positivity.

HIV-infected women in all three countries had 1.95 higher odds of being VIA-positive than women without HIV or with unknown HIV status.
DISCUSSION

HIV-positive women are at a higher risk of being VIA-positive

HIV-positive women are at a higher risk of having large lesions requiring referral

• LEEP should be considered at the inception of a program, especially in high HIV prevalence countries

Treatment with cryotherapy or LEEP is safe, even among HIV-positive women

• Findings suggest an increased need for incorporation of LEEP, which requires greater resources and training
DISCUSSION

In low-resource settings, VIA and SVA is feasible, acceptable, and reduces loss to follow-up by ensuring linkage of screening with treatment.


Further study is needed to assess whether screening earlier in the course of HIV might be associated with smaller and more treatable lesions.
REFERENCES


Q&A