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

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OUTLINE OF PRESENTATION

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1. Introduction
2. Overview of HIV, HPV, and cervical cancer
3. Screening approaches in economically-developing countries
4. Screening and treatment in 3 countries by HIV status
5. Moderated Q&A
6. Wrap-up and summary

LEARNING OBJECTIVES

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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

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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

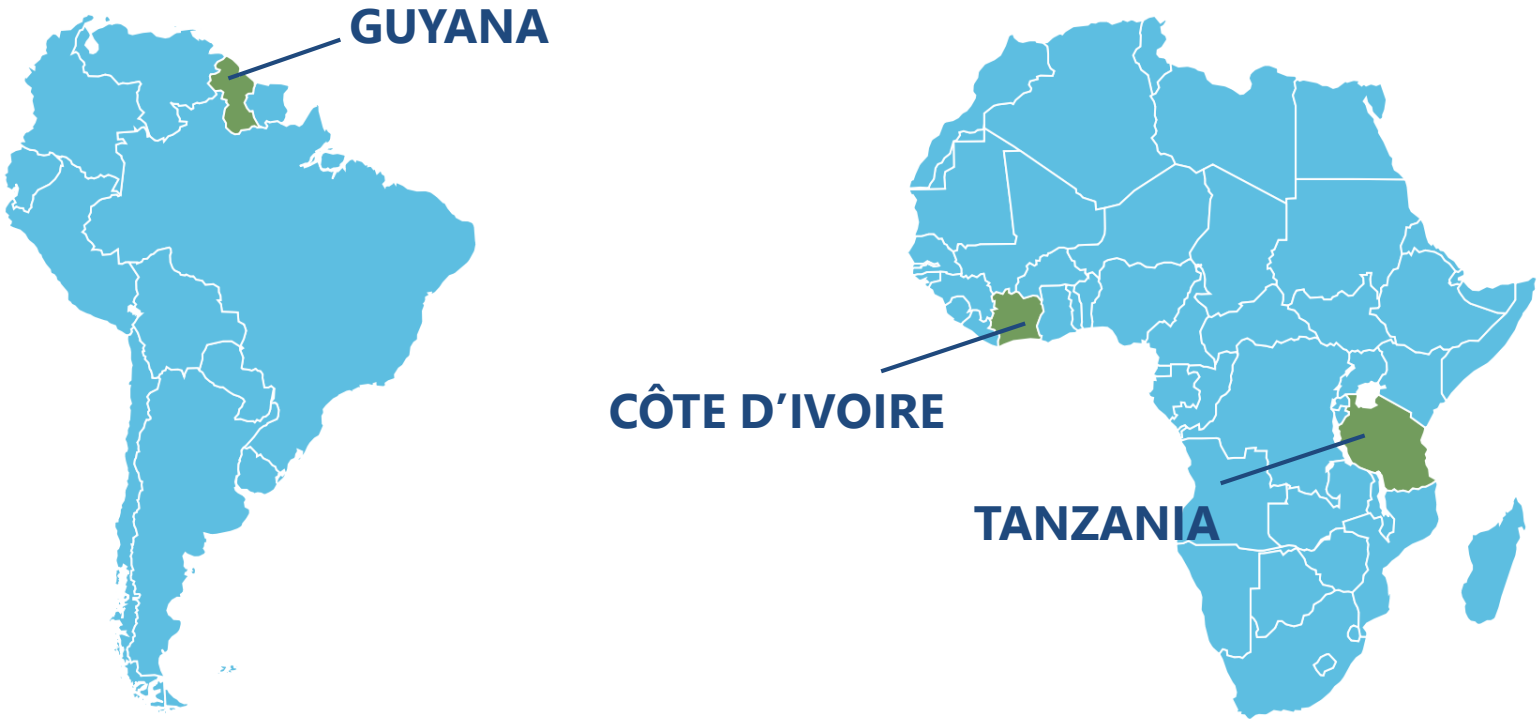
More than 85% of cervical cancer cases and deaths occur in developing countries, which have only 5% of the world's cancer resources.

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.

INTRODUCTION

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**.

Compare this to[2]:

	Cervical cancer incidence	Cervical cancer mortality
Guyana	46.9/100,000	21.9/100,000
Côte d'Ivoire	21.7/100,000	14.6/100,000
Tanzania	54.0/100,000	32.4/100,000

OVERVIEW OF HIV, HPV, CERVICAL CANCER

OVERVIEW OF HPV & CERVICAL CANCER

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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

OVERVIEW OF HIV

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.

OVERVIEW OF HIV

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

Developed 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.

Countries with Limited Resources

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

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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

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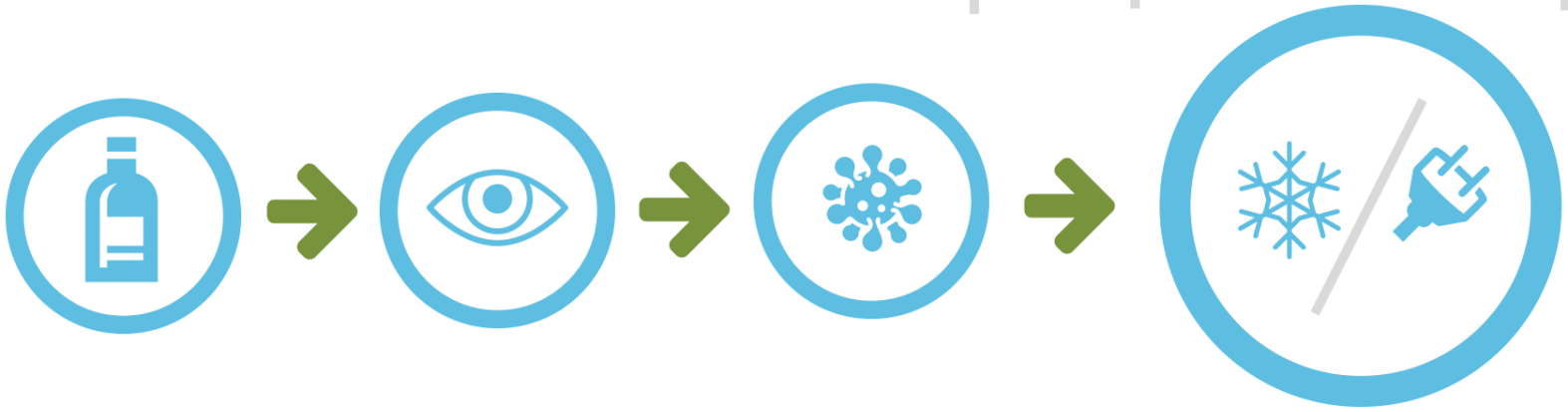
VIA SCREENING

TREATMENT



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 is offered to VIA-positive woman, either by:

- **cryotherapy**- the freezing of precancerous cells
- **LEEP**- loop electrosurgical excision procedure

RESULTS

PUBLICATION

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The findings from this study were published in:

Anderson, J., M. Wysong, et al. "Evaluation of Cervical Cancer Screening Programs in Cote d'Ivoire, Guyana, and Tanzania: Effect of HIV Status." PLoS One. 2015 Sep 25;10(9):e0139242. doi: 10.1371/journal.pone.0139242. eCollection 2015.

MATERIALS AND METHODS

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- **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

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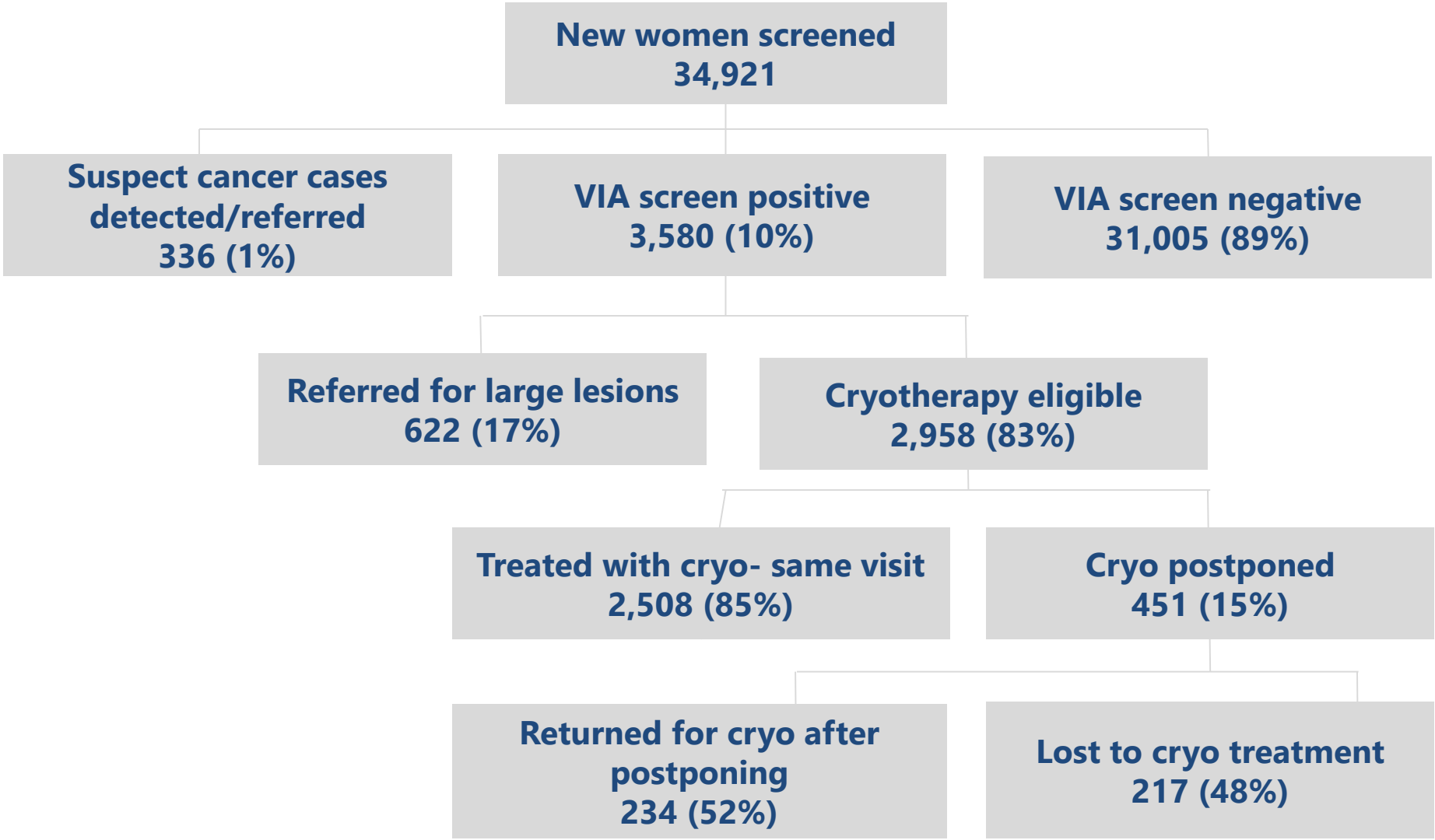
RESULTS

CERVICAL CANCER SCREENING AND TREATMENT OUTCOMES IN 3 COUNTRIES



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

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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.

WHO Global Health Sector Strategy on HIV/AIDS: Integrate/strengthen linkage with cervical cancer prevention and control.

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

REFERENCES

[1] Ahdieh L et al. Prevalence, incidence, and type-specific persistence of human papillomavirus in human immunodeficiency virus (HIV)-positive and HIV-negative women. J Infect Dis. 2001; 184:682-690.

[2]GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012. International Agency for Research on Cancer, World Health Organization.

[3] Gaffikin L et al. Safety, acceptability, and feasibility of a single-visit approach to cervical cancer prevention in rural Thailand: a demonstration project. Lancet. 2003; 361: 814-820.

Q&A