High Prevalence of HIV Infection among Patients with STI Syndromes in Zimbabwe: Implications for Prevention

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Background

- The occurrence of sexually transmitted infection (STI) syndromes among persons with HIV infection indicates:
  - Presence of high-risk behaviors
  - Biological co-factors favoring HIV transmission
  - Opportunistic infection (e.g., genital herpes recurrences)

Objectives

To determine the HIV prevalence among patients enrolled in a study of the aetiology of STI syndromes in Zimbabwe and assess co-factors associated with HIV infections in this population.

Methods

- Between June 2014 and April 2015, a mobile team recruited 600 men and women in 6 clinics:
  - Harare
  - Mbare
  - Bulawayo
  - Nkulumane
  - Khama Road
  - Beitbridge
  - Gutu
  - Gutu Road Clinic

- The following patients were enrolled:
  - 200 women with vaginal discharge
  - 200 men with urethral discharge

- Demographic, and STI/sexual history data were collected using a standardized questionnaire and entered in an online database

- Specimens collected:
  - Blood (all patients)
  - Urethral Smears (Men)
  - Urine (men with GDS)
  - Vaginal Smears (women)
  - Vaginal swabs (women with GDS)

- All specimens were shipped by courier to the study receiving laboratory in Harare (ZiCHIRe)

Results

- Factors Associated with HIV Infection Among Men and Women with STI Syndromes in Zimbabwe Multivariate Analysis

<table>
<thead>
<tr>
<th>AOR</th>
<th>95% C.I.</th>
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<tbody>
<tr>
<td>Gonorrhea</td>
<td>1.9</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>0.5</td>
</tr>
<tr>
<td>Syphilis (N)</td>
<td>1.8</td>
</tr>
<tr>
<td>Female GUD</td>
<td>4.4</td>
</tr>
<tr>
<td>Male GUD</td>
<td>2.5</td>
</tr>
<tr>
<td>Female GDS</td>
<td>2.1</td>
</tr>
</tbody>
</table>

- Genital Discharge Syndromes:
  - Probecel (Becton Dickinson)
  - C. trachomatis and N. gonorrhoeae
  - Xpert CT/NG (Cepheid)
  - C. trachomatis and N. gonorrhoeae
  - Multiplex polymerase chain reaction (NICD*, Johannesburg)
  - C. trachomatis
  - N. Gonorrhoeae
  - T. vaginalis
  - M. genitalium
  - Genital Ulcer Disease:
    - M-PCR
    - T. pallidum
    - H. ducreyi
    - Herpes simplex virus (HSV)
    - C. trachomatis (LGV strains)

Conclusions

- HIV prevalence was high among patients with STI syndromes in our study

- HIV prevalence was higher among patients with genital ulcer disease compared to patients with genital discharge syndromes

- The statistically significant association between HIV prevalence and presence of gonorrhoea and syphilis markers indicate high risk behaviors related to HIV acquisition and ongoing HIV transmission

- Clinics serving patients with STI syndromes in Zimbabwe and countries with similar HIV/STI epidemiology are of importance for HIV diagnosis and prevention

Funding

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The Zimbabwe STI Aetiology Study
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