



## **Factors Associated With Hiv Infection And Pregnancy At Screening In A Feasibility Study To Prepare For Future Hiv Prevention Trials In Northwest Tanzania**

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# Objectives



- Development of female-controlled HIV prevention methods is crucial in the fight against HIV in sub-Saharan Africa.
- Novel interventions need rigorous safety and effectiveness evaluation in clinical trials.
- HIV infection and pregnancy are two common exclusion criteria for HIV prevention trials.
- Knowing factors associated with these criteria in a cohort will inform recruitment strategies in future preventative trials.



# Methods



- Women working in bars/hotels in 3 districts in northwestern Tanzania were invited to screen for an observational prospective cohort study.
- At screening women were interviewed using structured questionnaires and were tested for HIV and pregnancy.
- Pregnancy testing was done with a rapid hCG test, HIV testing was done with two rapids (Bioline and Determine) in parallel in the context of VCT.
- Multivariate logistic analyses were performed to determine factors independently associated with these outcomes.



# Results (1)



- As of August 2009, we have screened 1689 women.
- The mean age was 29.7 years; 76.3% of women have completed primary schooling, and 65.5% are separated or divorced.
- Prevalence of pregnancy was 7.1% (95%CI=5.9-8.4) and of HIV was at 21.9%(95%CI=19.9-23.9).
- Adjusted for age and education, higher odds of prevalent HIV infection was associated with being single or widowed/separated, working in a guest house, working in Kahama town, and being a waitress.
- Adjusted for age and education, having 2 partners in the past 3 months was associated with 1.5 fold risk of being pregnant at screening.



# Results (2)



Multiple logistic regression results for pregnancy among women working in bars/hotels in northwest Tanzania

| Risk Factor                           | Categories     | N (%)            | OR (95% CI)           |
|---------------------------------------|----------------|------------------|-----------------------|
| Age                                   | 18-20          | 34 (27.9)        | 1.0                   |
|                                       | 21-23          | 25 (20.5)        | 0.7 (0.4; 1.2)        |
|                                       | <b>24-26</b>   | <b>13 (10.7)</b> | <b>0.4 (0.2; 0.7)</b> |
|                                       | 27-30          | 23 (18.9)        | 0.6 (0.4; 1.1)        |
|                                       | <b>31-35</b>   | <b>21 (17.2)</b> | <b>0.6 (0.3; 1.0)</b> |
|                                       | <b>&gt;=36</b> | 6 (4.9)          | 0.1 (0.1; 0.4)        |
| Total number of partners past 3 mths* | 1              | 80 (9.1%)        | 1.0                   |
|                                       | <b>2</b>       | <b>14 (4.2%)</b> | <b>1.5 (1.0; 2.5)</b> |
|                                       | >=3            | 23 (7.2%)        | 0.6 (1.3; 1.2)        |

# Results (3)

Multiple logistic regression results for pregnancy among women working in bars/hotels in northwest Tanzania

| Risk Factor                       | Categories            | N (%)              | OR (95% CI)           |
|-----------------------------------|-----------------------|--------------------|-----------------------|
| Age                               | 18-20                 | 34 (11.6%)         | 1.0                   |
|                                   | 21-23                 | 35 (12.2%)         | 1.0 (0.6; 1.8)        |
|                                   | <b>24-26</b>          | <b>65 (22.3%)</b>  | <b>2.1 (1.3; 3.5)</b> |
|                                   | <b>27-30</b>          | <b>85 (29.5%)</b>  | <b>3.5 (2.1; 5.8)</b> |
|                                   | <b>31-35</b>          | <b>81 (31.5%)</b>  | <b>4.2 (2.5; 7.2)</b> |
|                                   | <b>&gt;=36</b>        | <b>70 (26.2%)</b>  | <b>3.6 (2.1; 6.2)</b> |
|                                   | Marital status        | Married            | 48 (15.5%)            |
| <b>Widowed/Divorced/Separated</b> |                       | <b>243 (28.1%)</b> | <b>1.7 (1.2; 2.5)</b> |
| Single                            |                       | 80 (15.6%)         | 1.5 (1.0; 2.3)        |
| Service                           | Guest house           | 110 (26.2%)        | 1.0                   |
|                                   | <b>Hotel</b>          | <b>39 (14.9%)</b>  | <b>0.5 (0.4; 0.8)</b> |
|                                   | Bar only              | 116 (28.0%)        | 1.1 (0.8; 1.6)        |
|                                   | Grocery               | 33 (28.2%)         | 1.4 (0.8; 2.2)        |
|                                   | Restaurant/café       | 28 (16.9%)         | 0.8 (0.5; 1.3)        |
|                                   | <b>Food vendor</b>    | <b>34 (12.5%)</b>  | <b>0.5 (0.3; 0.7)</b> |
| Town                              | Geita                 | 114 (17.7%)        | 1.0                   |
|                                   | <b>Kahama</b>         | <b>151 (28.0%)</b> | <b>1.8 (1.3; 2.4)</b> |
|                                   | Shinyanga             | 96 (20.6%)         | 1.1 (0.8; 1.5)        |
| Education                         | None                  | 57 (28.6%)         | 1.0                   |
|                                   | <=Primary             | 283 (22.3%)        | 0.7 (0.5; 1.0)        |
|                                   | <b>&gt;=Secondary</b> | <b>31 (14.0%)</b>  | <b>0.4 (0.2; 0.6)</b> |
| Main job                          | Waitress              | 218 (25.1%)        | 1.0                   |
|                                   | Other                 | 153 (18.7%)        | 0.7 (0.6; 1.0)        |



# Discussion & Conclusions



HIV and pregnancy prevalences at screening are high, indicating need for HIV-preventive interventions and family planning services.

Recruitment strategies for future trials should consider type of facility where women are working.



# Future perspectives



- In preparation for future clinical trials, a comprehensive package of family planning services must be included as part of the trial design
- There is still an urgent need for female-controlled HIV prevention interventions