P1-S5.18 ABSTRACT WITHDRAWN

P1-S5.19 MARRIAGE DISSOLUTION AND HIV PREVALENCE IN RURAL ZIMBABWE 2003–2008

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Background Over the past decade, HIV prevalence in Zimbabwe has significantly declined, with recent research attributing this decline to wide-spread behaviour change such as reductions in extramarital sexual partnerships. Despite these reductions in risky sexual Behaviours, infections could still be transmitted from one marital union to another as divorced or widowed HIV-positive persons remarry.

Methods Using information collected through face-to-face interviews in 2003–2005 AND 2006–2008, we compared HIV prevalence and basic demographics among women and their spouses (married, or in a long-term or cohabiting relationship for >12 months) in Manicaland, Zimbabwe. We used logistic regression to assess differences in marital history and basic demographics between HIV seronegative concordant couples, HIV serodiscordant couples and HIV seropositive concordant couples.

Results In nearly one-third of the 2836 (27.8%) of marital unions interviewed, at least one member was infected with HIV (n=787); both members were HIV positive in 372 couples (13%). Of the 415 serodiscordant couples, 157 (5.5%) were serodiscordant female positive. Overall, compared to those in seronegative concordant (NC) partnerships, women in female-positive discordant (FP) or seropositive concordant (PC) partnerships were older (25–34 years vs 15–24; OR 1.7, 95% CI 1.17 to 2.47; OR 3.35, 2.52 to 4.45, respectively), more likely to been divorced (FP OR 4.19, 2.83 to 6.20; PC OR 4.12, 3.10 to 5.48), and more likely to have been widowed (FP OR 7.83, 3.65 to 16.76; PC OR 7.86, 4.30 to 14.36). Similar but weaker trends in divorce/widowhood were observed among men in male-positive discordant relationships compared to men in SN relationships. Women in FP and PC partnerships both were nearly three times as likely to report >1 lifetime sex partners than women in SN partnerships (FP OR 2.82, 2.02 to 3.92; PC OR 2.86, 2.27 to 3.59); mean lifetime sex partners reported by women in FP and PC partnerships was similar (FP: 2.11 lifetime partners; PC 2.06).

Conclusions HIV prevalence is high among persons in long-term, stable partnerships, and strongly associated with one or both partners reporting a history of divorce or being widowed. In particular, widowed and divorced women may play an important role in ongoing HIV transmission dynamics. VCT services and other interventions that target couples should be promoted among divorced and widowed individuals.

P1-S5.20 MULTI-LEVEL ANALYSIS OF THE PREDICTORS OF HIV PREVALENCE AMONG PREGNANT WOMEN ENROLLED IN SENTINEL SURVEILLANCE IN FOUR SOUTHERN INDIA STATES

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Background The heterogeneity of HIV epidemic in the districts of four Southern states of India is reflected in HIV prevalence in pregnant women (ANC HIV prevalence) as well. Earlier studies have attempted to identify district level high risk population parameters that influenced ANC HIV prevalence. It is important to identify other district and individual level factors that influence ANC HIV prevalence to plan effective interventions.

Methods The data from cross-sectional studies, known as integrated biological and behavioural assessments (IBBA), carried out between 2004 and 2007 among female sex workers (FSWs), their clients and men who have sex with men (MSM) in 24 districts were used to generate district-level variables concerning high-risk sub-population. The data on HIV sentinel surveillance in the ANC population (dependent variable) were obtained from the National AIDS Control Organization (NACO) for the same years. Other district level data were obtained from various governmental agencies and other reliable sources. Multilevel logistic regression analysis was used to identify individual and district-level factors associated with ANC HIV prevalence.

Results The mean annual ANC HIV prevalence between 2004 to 2007 in the 24 districts considered ranged from 0.25 to 3.25%. In the multilevel model, individual level factors such as age ≥25 years [Adjusted OR (AOR): 1.49; 95% CI 1.27 to 1.76], being illiterate (AOR: 1.64; 95% CI 1.07 to 2.53) and being employed (AOR: 1.38; 95% CI 1.17 to 1.64) were significantly associated with high risk of being infected by HIV. HIV prevalence among FSWs at the district level, which was a significant high risk population parameter in the earlier studies, remained significant in the current study (AOR: 1.03; 95% CI 1.01 to 1.05). The only other district level factor which was considered in the final model was percentage of women who married below age of 18 years (AOR: 1.02; 95% CI 1.00 to 1.04).

Conclusion HIV prevalence among FSWs is a key determinant of HIV prevalence among pregnant women in Southern India. Illiteracy of women and high prevalence of women marrying under 18 years at district level are both indicators of low socio economic status. Therefore in addition to targeted interventions for FSWs, awareness programs among individuals from lower socio economic status might help in reducing incidence of HIV in pregnant women.

P1-S5.21 SELF-ESTEEM AND STI/HIV PREVALENCE AMONG RESIDENTS OF A TANZANIAN SUGAR PLANTATION

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Background Sexually transmitted infections (STIs), including HIV, lead to significant reproductive morbidities worldwide. The association between risky sexual behaviours and increased STI/HIV prevalence has been well-documented. In addition, low self-esteem appears to lead to higher-risk sexual behaviours. However, the direct association between self-esteem and STI/HIV has not been well studied. We aimed to examine whether self-esteem directly affects STI/HIV prevalence, after adjusting for risky sexual behaviour.

Methods We conducted a secondary analysis of a cross-sectional study of sugar plantation residents in Tanzania. The 2004 study included a self-administered survey with self-esteem assessment and testing for syphilis, herpes simplex virus type 2 (HSV-2) and HIV. We restricted our analysis to individuals with valid STI/HIV results and complete self-esteem data. Through principal component analysis, the 8-item self-esteem scale was reduced to a single variable. This variable was further categorised as low, medium, and high self-esteem and was the primary exposure variable in a multivariable log binomial model with a combined outcome representing any prevalent STI/HIV (syphilis, HSV-2, or HIV).

Results From the full study sample of 556 residents, 431 (78%) individuals had both complete STI/HIV data and self-esteem assessment and were included in the analysis. The analysis population was 51% male and 49% female. Nearly 60% (n=254) had at least one STI/HIV. We observed no significant heterogeneity by gender in the effect of self-esteem on STI/HIV prevalence. Gender, transactional sex and alcohol use were retained as confounders in the final model; no other demographic or behavioural variables met our a priori statistical criteria for confounding. The adjusted prevalence ratios (PR) for STI/HIV for individuals with low self-esteem compared to those with medium self-esteem and high self-esteem were 0.95 (95% CI 0.80 to 1.13) and 0.92 (95% CI 0.67 to 1.27), respectively.

Conclusion Self-esteem was not independently associated with STI/HIV prevalence in plantation residents in Tanzania. Our findings suggest that the role of self-esteem in reproductive health may be limited to its association with increased sexual risk behaviour, which subsequently affects STI/HIV prevalence. Interventions aimed at improving self-esteem may only be appropriate if they reduce likelihood of participation in risky behaviours.

P1-S5.22 GENDER DIFFERENCES IN BEHAVIOURAL CORRELATES OF BIOLOGICALLY-CONFIRMED SEXUALLY TRANSMITTED INFECTIONS

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Background Since sexually transmitted infection (STI) testing may not be feasible in all clinical and research settings, clinicians and researchers rely on self-reported sexual risk behaviours to serve as indicators of STI. The reported behaviours that are the strongest indicators of infection may differ for men and women.

Methods Using Wave III (2001–2002, young adulthood) of the National Longitudinal Study of Adolescent Health, we conducted analyses among white, black, and Hispanic participants (N=7185) to estimate gender-specific age-, race-, and poverty-adjusted associations between biologically-confirmed STI (gonorrhoea, chlamydia, and trichomoniasis) and indicators of sexual risk behaviour including young age of sexual initiation (less than 16 years), multiple (two or more) partnerships in the past year, lifetime number of partners, failure to use a condom at the most recent sex act, report of sex in the past year with an STI-infected partner, sex trade defined as paying or getting paid for sex, and report of past year diagnosis with gonorrhoea, chlamydia, and trichomoniasis, syphilis, herpes simplex virus, or HIV. We tested the significance and, when identified, report gender-specific race differences in the associations between sexual risk behaviour and STI.

Results Overall, most sexual risk behaviours were not good indicators of biologically confirmed STI. Identified correlates of infection differed for men and women. Among men, STI was associated with young age at first sex (adjusted OR 1.96, 95% CI 1.27 to 3.01) and failure to use a condom at the most recent sex act (adjusted OR: 1.84, 95% CI 1.12 to 3.01), though these indicators were not associated with STI among women. Among women, STI was moderately associated with multiple partnerships (adjusted OR: 1.64, 95% CI 1.18 to 2.72) and lifetime number of partners (adjusted OR: 1.03, 95% CI 1.01 to 1.06), though these were not STI indicators for men. Among white women only, report of sex with an STI-infected partner was associated with STI (adjusted OR: 2.22, 95% CI 1.03 to 4.74). Indicators of sex trade and self-reported STI were not indicators biologically-confirmed STI for any population see Abstract P1-S5.22 Table 1.

Conclusions Indicators of sexual risk used in clinical and research settings should consider gender differences in markers of infection. Further, there is a need to identify more specific behavioural and social indicators of infection.

Abstract P1-S5.22 Table 1 Unadjusted and Adjusted ORs and 95% CIs for Associations between Risky Sexual Behaviour and Biologically-Confirmed Chlamydia, Gonorrhoea, or Trichomoniasis among 7185 White, Black, and Hispanic Young Adults in the USA

	Males (N=3252)		Females (N=3933)	
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)*	Unadjusted OR (95% CI)	Adjusted OR (95% CI)*
Age of sexual initiation				
Age at first sex†	0.85 (0.78 to 0.92)	0.90 (0.83 to 1.00)	0.92 (0.86 to 0.99)	0.95 (0.87 to 1.03)
Sex younger than 16	2.47 (1.64 to 3.71)	1.96 (1.27 to 3.01)	1.30 (0.91 to 1.85)	1.26 (0.86 to 1.84)
Multiple partnerships				
2+ partners in past year	1.23 (0.79 to 1.91)	0.99 (0.64 to 1.55)	1.89 (0.38 to 2.58)	1.64 (1.18 to 2.72)
4+ partners in past year	1.04 (0.61 to 1.77)	0.80 (0.44 to 1.44)	1.66 (0.98 to 2.81)	1.47 (0.84 to 2.57)
6+ partners in past year	1.16 (0.56 to 2.41)	0.89 (0.41 to 1.94)	1.48 (0.68 to 3.21)	1.37 (0.57 to 3.31)
8+ partners in past year	1.97 (0.86 to 4.48)	1.68 (0.77 to 3.67)	1.52 (0.44 to 5.24)	1.48 (0.35 to 6.32)
10+ partners in past year	1.61 (0.56 to 4.62)	1.31 (0.46 to 3.78)	0.94 (0.27 to 3.24)	0.86 (0.22 to 3.30)
Total number of partners in past year†	1.03 (0.96 to 1.11)	1.01 (0.92 to 1.10)	1.04 (0.97 to 1.09)	1.01 (0.96 to 1.07)
Lifetime number of partners†	1.02 (1.00 to 1.04)	1.01 (0.99 to 1.03)	1.03 (1.01 to 1.05)	1.03 (1.01 to 1.06)
Risky sexual partners				
Sex with an infected partner in past year	1.87 (0.93 to 3.77)	1.20 (0.62 to 2.31)	1.78 (1.14 to 2.79)	1.31 (0.78 to 2.20)
Condom Use Inconsistency				
Condom use inconsistency in past year	1.07 (0.67 to 1.70)	1.20 (0.75 to 1.92)	0.93 (0.69 to 1.26)	1.07 (0.78 to 1.46)
Non-condom use at most recent sex	1.58 (0.97 to 2.57)	1.84 (1.12 to 3.01)	0.99 (0.70 to 1.40)	1.13 (0.79 to 1.62)
Sex trade				
Ever paid for sex	1.81 (0.79 to 4.18)	1.03 (0.41 to 2.55)	1.77 (0.39 to 8.07)	1.30 (0.30 to 5.62)
Ever got paid for sex	1.69 (0.74 to 3.88)	0.94 (0.38 to 2.36)	2.95 (1.62 to 5.36)	1.34 (0.70 to 2.56)
Ever paid or got paid for sex	1.76 (0.92 to 3.36)	1.04 (0.50 to 2.17)	2.73 (1.50 to 4.99)	1.32 (0.69 to 2.55)
Self-Reported STI				
Self-reported STI in the prior year	2.72 (0.89 to 5.81)	1.36 (0.57 to 3.28)	1.77 (1.08 to 2.89)	1.20 (0.70 to 2.06)

*Controlling for age, poverty, and race/ethnicity.
†Continuous variable.