Factors affecting HIV prevalence among clients of female sex workers in 16 districts of southern India

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Background
Clients of female sex workers (FSWs) are considered an important bridging population for HIV. This study aims to assess the impact of Avahan (India AIDS Initiative of Bill & Melinda Gates Foundation), through comparison of HIV prevalence between two surveys (2006-07 and 2009-10) among clients of FSWs across 16 districts in south India (n=7,000 per-round).

Methods
Multilevel logistic regression analysis was performed using HIV as outcome, with individual variables at level 1 and district-level programme variables (from the Avahan computerised monitoring system) at level 2. Mean value of the programme indicators for the years 2007 & 2008 were used as district level variables.

Results
HIV prevalence declined significantly from round 1 to round 2 (5.5% to 3.4%; p = 0.001). Clients’ characteristics such as increased age (25-34 yrs-AOR = 2.22, 95% CI: 1.74.2.85, ≥35 yrs-AOR = 2.32, 95% CI: 1.75.3.07), being literate (AOR = 0.69, 95% CI: 0.58, 0.82), being separated/divorced/widowed compared to never married (AOR = 1.52, 95% CI: 1.02.2.62), had sex with 3 FSWs within past 6 months (AOR = 0.61, 95% CI: 0.43.0.87), anal sex with man/hijra in last 6 months (AOR = 1.48, 95% CI: 1.14, 1.91), being circumcised (AOR = 0.73, 95% CI: 0.57, 0.92) and had at least one STI symptom (AOR = 1.21, 95% CI: 1.00.146) were associated with being HIV positive. Among the programme variables, greater programme coverage was significantly associated with lower prevalence (AOR = 0.992, 95% CI: 0.985, 0.999).

Conclusions
These results demonstrate that there was a decline in HIV prevalence among clients of FSWs over the course of the intervention and the districts with increased Avahan programme coverage had lower HIV prevalence. Further explorative analysis is required to understand the role of programme coverage on the reduction in HIV prevalence among clients in light of similar surveys among FSWs that showed a clearer association of increase in programme coverage between survey rounds and decrease in HIV.

Effect of pregnancy on HIV-1 disease progression among antiretroviral-naïve HIV-1 infected women

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Background
Among HIV-1 infected women who have not initiated full regimen antiretroviral therapy (ART), CD4 counts decline during pregnancy, possibly due to hemodilution. It is unclear if this drop is sustained beyond pregnancy, and if pregnancy results in accelerated HIV-1 disease progression.

Severity of maternal HIV-1 disease is associated with adverse birth outcomes in Malawian women

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Background
HIV-infected women have increased risk of adverse birth outcomes, including low birth weight (LBW) and preterm delivery (PTD). We assessed whether severity of maternal HIV-1 disease - characterised by HIV-1 viral load in peripheral blood, HIV-1 viral load in placental blood, and maternal CD4+ T-cell count - was associated with LBW or PTD.

Methods
We performed secondary analyses of The Malaria and HIV-1 Disease - characterised by HIV-1 viral load in peripheral blood, HIV-1 viral load in placental blood, and maternal CD4+ T-cell count - was associated with LBW or PTD. However among malaria-negative women, HIV-1 severity in this group appeared not to be associated with adverse birth outcomes. However in malaria-negative women, maternal HIV-1 disease severity was significantly associated with increased prevalence of LBW and PTD.