



Adherence to and Protective Efficacy of Pre-Exposure Prophylaxis Among Female Sex Workers in Kampala, Uganda: A 2021 Cohort Analysis

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Abstract

Female sex workers in sub-Saharan Africa remain a key population disproportionately affected by HIV. Pre-exposure prophylaxis is a biomedical intervention for HIV prevention, but its real-world implementation and protective efficacy among female sex workers in Uganda require further local evidence. This brief report aimed to assess adherence to daily oral PrEP and to estimate its protective efficacy against HIV acquisition among a cohort of female sex workers in Kampala, Uganda. A prospective cohort study was conducted. Participants were HIV-negative female sex workers initiated on daily oral tenofovir disoproxil fumarate/emtricitabine. Adherence was measured via self-report and pill counts at monthly follow-up visits. HIV testing was performed at each visit to determine seroconversion. Protective efficacy was calculated by comparing the observed HIV incidence to a modelled expected incidence in the absence of PrEP. Among 150 participants, overall adherence (defined as taking $\geq 80\%$ of prescribed doses) was 67%. Adherence declined over the study period, with the highest drop-off occurring after three months. The observed HIV incidence was 2.1 per 100 person-years. The estimated protective efficacy of PrEP in this cohort was 74%. PrEP demonstrated substantial protective efficacy among adherent female sex workers in Kampala. However, suboptimal and declining adherence over time limits the overall impact of the intervention in this population. Programmes must integrate intensified, sustained adherence counselling and support strategies tailored for female sex workers. Further operational research is needed to understand and address the barriers to long-term PrEP persistence. HIV prevention, pre-exposure prophylaxis, adherence, female sex workers, Uganda, key populations This report provides critical, localised evidence on PrEP adherence and efficacy to inform public health programming for a key population in Uganda.

Keywords: HIV prevention, pre-exposure prophylaxis, sex workers, adherence, sub-Saharan Africa, cohort study

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