

P1-S2.04 IMPACT OF FEMALE SEX WORKER TURNOVER ON HIV PREVALENCE, INCIDENCE AND CORE GROUP INTERVENTION IMPACT IN COTONOU (BENIN)

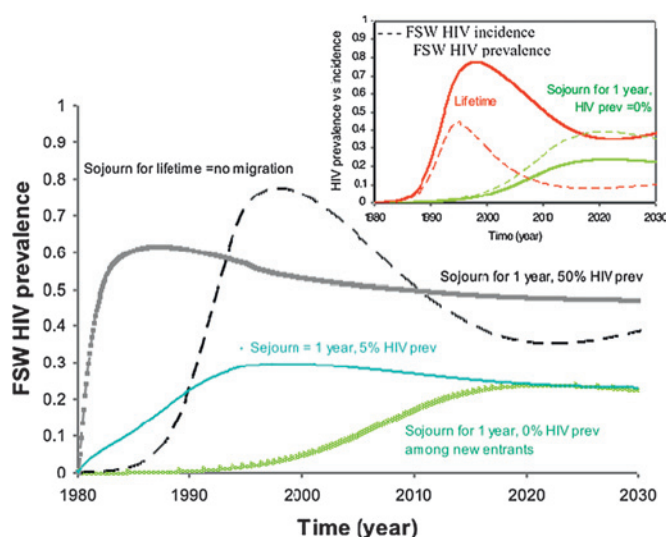
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Background The influence of turnover of female sex workers (FSW), resulting from different durations spent in sex work or migration patterns remains partly understood but is believed to be an important determinant of HIV/STI spread among FSW and overall populations and intervention impact.

Methods A deterministic transmission dynamics model, parameterised using serial cross-sectional data, was used to simulate the course of HIV and gonorrhoea (Gc) in FSW/clients and the general population of Cotonou. Different turnover patterns were produced by varying the time spent in sex work (SW duration=lifelong to 1 year) or, equivalently, time spent in the location by migrants (sojourn duration=lifelong, 5, 1 year). Each FSW leaving the local population was replaced by a new FSW with the same risk behaviour and with FSW HIV prevalence, for the SW duration scenarios, set to that of the low risk population and, for the migration scenarios, to 0%, 5% or 50%.

Results Shortening SW duration (or sojourn duration with initial 0% FSW HIV prevalence) from lifelong to 5- and 1-year delayed and reduced FSW HIV peak prevalence from ~75% in 1999 to 56% in 2000 and ~25% in 2020, respectively. The 1-year scenario increased long-term HIV prevalence of the overall female population by twofold, as the rapid turnover reduced the decline in Gc prevalence caused by AIDS differential mortality. With 1-year sojourn duration, local FSW HIV prevalence was mostly determined by the HIV prevalence of new FSW and FSW HIV incidence always exceeded prevalence (Abstract P1-S2.04 figure 1). Sudden increases in turnover of new HIV negative FSW (or sojourn duration=1 year & 0% HIV), in a maturing epidemic (1993), could reduce FSW HIV prevalence by >50% within 2 years but increase HIV incidence, in absence of intervention, compared to no turnover (ie, lifelong duration). The different SW and migration duration patterns did not significantly reduce the general population impact of a FSW targeted condom intervention per se, after controlling for epidemic stages, assuming similar exposure to the intervention by local and new FSW.



Abstract P1-S2.04 Figure 1 Cotonou.

Conclusions The impact of FSW turnover on HIV is complex but relatively modest if occurring at a slower rate than 0.20 per person-year (ie 1/5 years). Monitoring change in FSW turnover is

important to interpret HIV prevalence trends over time, especially following an HIV intervention. Targeted FSW intervention remains effective in presence of rapid turn-over if new FSW can be reached rapidly.

P1-S2.05 CLIENTS OF STREET-BASED FEMALE SEX WORKERS AND POTENTIAL BRIDGING OF HIV/STI IN RUSSIA

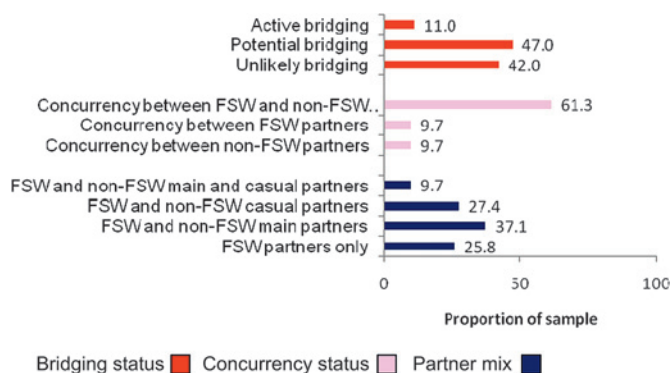
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Background Russia is currently experiencing one of the fastest growing HIV epidemics in the world. Transmission is concentrated among injection drug users and female sex workers (FSW), but sexual transmission to the general population is increasing. The prevalence of HIV among street-based FSW in St. Petersburg, many of whom use drugs, was 48% in 2003, but the role of their male clients in HIV transmission and bridging to the general population has yet to be studied.

Methods In a pilot study to determine feasibility of involving clients in a research study and describe HIV risk behaviours, we interviewed 62 clients during February–March of 2010 in St. Petersburg Russia. Recruitment methods included FSW and peer referrals and street intercept. Behavioural data collection covered condom use with different types of sex partners, substance use, and STI/HIV testing histories.

Results A majority of clients (74%) reported having non-FSW partners during the past 12 months, and nearly half of the total sample (47%) reported having regular non-FSW sex partners. Inconsistent condom use was reported by 39% of clients with FSW partners and 57% with their non-FSW partners. A majority of clients (58%) was classified as active or potential bridgers based on having both FSW and non-FSW partners and reporting inconsistent condom use with non-FSW partners. A majority (61%) also reported concurrent FSW and non-FSW partners. Nearly half (48%) of last reported sex contacts with FSW involved consumption of alcohol by the client. Non-injection and injection drug use in the past



Abstract P1-S2.05 Figure 1 Distributions of bridging status*, concurrency, and partner mix in the past 12 months among clients of street-based FSW in St. Petersburg, Russia (n=62). *Active bridging—inconsistent condom use during vaginal sex with both FSW and non-FSW partners; potential bridging—consistent condom use during vaginal sex with FSW partners and inconsistent condom use during vaginal sex with non-FSW partners; unlikely bridging—consistent condom use during vaginal sex with FSW and non-FSW partners, or consistent condom use during vaginal sex with FSW and not having a non-FSW sex partner.