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HIV and sex workers 1: Global epidemiology of HIV among female sex workers: influence of structural determinants

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Female sex workers (FSWs) bear a disproportionately large burden of HIV infection worldwide. Despite decades of research and programme activity, the epidemiology of HIV and the role that structural determinants have in mitigating or potentiating HIV epidemics and access to care for FSWs is poorly understood. We reviewed available published data for HIV prevalence and incidence, condom use, and structural determinants among this group. Only 87 (43%) of 204 unique studies reviewed explicitly examined structural determinants of HIV. Most studies were from Asia, with few from areas with a heavy burden of HIV such as sub-Saharan Africa, Russia, and eastern Europe. To further explore the potential effect of structural determinants on the course of epidemics, we used a deterministic transmission model to simulate potential HIV infections averted through structural changes in regions with concentrated and generalised epidemics, and high HIV prevalence among FSWs. This modelling suggested that elimination of sexual violence alone could avert 17% of HIV infections in Kenya (95% uncertainty interval [UI] 1–31) and 20% in Canada (95% UI 3–39) through its immediate and sustained effect on non-condom use) among FSWs and their clients in the next decade. In Kenya, scaling up of access to antiretroviral therapy among FSWs and their clients to meet WHO eligibility of a CD4 cell count of less than 500 cells per μL could avert 34% (95% UI 25–42) of infections and even modest coverage of sex worker-led outreach could avert 20% (95% UI 8–36) of infections in the next decade. Decriminalisation of sex work would have the greatest effect on the course of HIV epidemics across all settings, averting 33–46% of HIV infections in the next decade. Multipronged structural and community-led interventions are crucial to increase access to prevention and treatment and to promote human rights for FSWs worldwide.

Key messages

- Sex workers face a disproportionately large burden of HIV across concentrated and generalised epidemic settings, with substantial heterogeneity in HIV epidemics and structural determinants, as well as features that are very context specific.
- Fewer than half of epidemiological studies on HIV acquisition and transmission risk among female sex workers explicitly considered structural determinants.
- Epidemiology of HIV and structural determinants among female sex workers is disproportionately drawn from Asia, with large gaps in heavy burden regions of sub-Saharan Africa, Russia, and eastern Europe.
- In Canada and Kenya, where sexual violence has an immediate and sustained effect on non-condom use, elimination of violence by clients, police, and strangers could avert 17–20% of HIV infections among female sex workers and their clients over the next decade.
- Coverage of and access to prevention and treatment among female sex workers lag behind the general population and scale-up to optimal coverage of condoms and HIV care continuum will probably only be feasible alongside other structural change. In heavy HIV-burden settings, such as Mombasa, where antiretroviral therapy and condom access remain suboptimal, scale-up of antiretroviral therapy access to WHO guidelines of a CD4 cell count of less than 500 cells per μL for both FSWs and their clients could avert 34% of HIV infections and even modest scale-up of sex worker-led outreach could avert 20% of HIV infections among FSWs and their clients over the next decade.

- Interventions to promote access to safer sex work environments (eg, changes to venue, management, and policing policies, and access to prevention) could avert a substantial proportion of infections across diverse settings.
- Modelling suggests that across both generalised and concentrated HIV epidemics, decriminalisation of sex work could have the largest effect on the course of the HIV epidemic, averting 33–46% of incident infections over the next decade through combined effects on violence, police harassment, safer work environments, and HIV transmission pathways.