

Identifying sexual risk profiles for clients and non-paying partners of female sex workers to inform HIV prevention in Port Elizabeth, South Africa: a latent class analysis

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ABSTRACT CONTENT

BACKGROUND: Female sex workers(FSW) in South Africa experience disproportionate HIV burden, with approximately 60% living with HIV. Little is known about the sexual behaviors and characteristics of clients of FSW, which could inform HIV prevention efforts. We characterized

partnership patterns among male clients and non-paying partners of FSW in Port Elizabeth, South Africa.

METHODS: Time-location sampling was used to recruit 563 male clients and/or non-paying partners in a cross-sectional bio-behavioral survey in 2017. We used LCA to identify underlying groups of men with similar risk profiles based on 1)years buying or exchanging sex; 2)number of paid/transactional partners; 3)number of primary non-paying partners; 4)number of non-paying casual partners; and 5)condom use during vaginal and anal sex in the last 3 months. We fit latent class models with 2-4 classes and inspected fit statistics to identify the best-fitting model. Demographic characteristics, HIV seropositive prevalence, and service use patterns were estimated by class.

RESULTS: The median age of participants(N=563) was 32 years[IQR:27-34], and most(n=343, 60.9%) engaged in transactional sex for >10 years. HIV prevalence in the overall sample was 14.2%(80/563). We identified a 3-class solution as the best-fitting latent class model, which consisted of the following behavioral profiles: Class 1: consistent condom use, multiple partners of all types, shortest duration paying for sex(n=268, 48%); Class 2: consistent condom use, 1 main partner, no casual unpaid partners, longest duration(n=234, 42%); Class 3: inconsistent condom use, 1 main partner, no casual unpaid partners, moderate duration(n=61, 11%). HIV prevalence was 21.7% in class 3, 16.0% in class 2 and 11.3% in class 1.

CONCLUSIONS: Distinct sexual risk profiles among clients of FSW were identified. Tailored interventions should focus on reaching men at greatest risk for HIV especially those with inconsistent condom use. Data collection is needed to assess trends in behavioral risks and HIV among clients over time.