

Abstract PESUD34-Figure 1.

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Background: Achieving viral suppression (VS) is one of the crucial goals of HIV care cascade. Residential segregation by race has long been framed as a potential structural barrier to successful VS at the individual level, but evidence is scarce at the population level, which has strong implication for healthcare policymaking and resources allocation. This study aims to examine the longitudinal relationship between county-level racial segregation and VS rate among people living with HIV (PLWH) in 46 counties of South Carolina (SC) from 2013 to 2018.

Methods: De-identified laboratory reports of all PLWH in SC were extracted from the electronic HIV/AIDS reporting system in the SC Department of Health and Environment Control from January 2013 to December 2018. Based on CDC's definition, county-level VS rate was calculated as the percentage of PLWH who have viral load (VL) less than 200 copies/ml in the last VL report at each calendar year (excluding those newly diagnosed in that year). Racial residential segregation was calculated using Massy and Denton's formula of isolation index for Black residents. The association between racial segregation and VS rate was tested by generalized linear mixed model, adjusting for potential confounders (e.g., sociodemographic characteristics, social capital, HIV care resources) and time.

Results: From 2013 to 2018, the average VS rate in SC increased from 64.3% to 65.4% among all PLWH. Counties in Upstate (Spartanburg and Cherokee) and Lowcountry (Orangeburg) reported low VS rate. Final model revealed that counties with higher residential isolation experienced lower VS rate ($b = -0.354$, 95%CI: $-0.614 \sim -0.095$). However, stronger county-level social capital, which was indicated by community health index, was related to higher VS rate in SC ($b = 0.757$, 95%CI: $0.277 \sim 1.237$).

Conclusions: This study described the temporal and spatial distribution of VS rate in SC. Structural influence of residential segregation on viral suppression was found. It is also suggested that more social cohesion at the county level was a protective factor of VS. These findings emphasize the need to address racial disparities in social capital based on racial residential segregation as part of a comprehensive strategy to curb the HIV epidemic.

PESUD36

Improving our understanding of how structural determinants impact HIV epidemics: A scoping review of dynamic models to guide future research

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Background: Dynamic models of HIV transmission have proven valuable tools for informing HIV prevention strategies. Including structural determinants in models is crucial to estimate their population-level impacts on HIV transmission and inform efforts towards HIV elimination. However, this is challenging due to a lack of coherent conceptual frameworks, limited understanding of their specific causal pathways, and few empirical estimates of their impacts on downstream mediators.

Methods: With the overarching aim to improve models, we conducted a scoping review of studies that used dynamic HIV transmission models to evaluate the impact of structural determinants. From included studies, we extracted information on the types of structural determinants and methods used to model their impacts on HIV transmission. We appraised studies on how they conceptualized structural exposures and represented their causal relationships over time within models.

Results: We identified 9 dynamic transmission modelling studies that incorporated structural determinants of HIV, including violence (N = 3), incarceration (N = 2), stigma (N = 2), housing instability (N = 2), migration (N = 1), and education (N = 1). Only one study modelled multiple determinants simultaneously. In most models, structural determinants were conceptualized using current, recent, non-recent and/or lifetime exposure categories. Modelled structural determinants largely impacted HIV transmission through mediated effects on one or more proximate risk factors, including sharing injection equipment, condom use, number of partners, and access to treatment. However, causal pathways were simplistic, with few mediators and/or lack of clear empirical justification. To mea-

sure impact, most studies simply assumed the elimination of structural determinants in counterfactual comparison scenarios. Few models included long-term and/or delayed effects of past, recurrent, or acute exposure, potentially overestimating impacts of determinants.

Conclusions: Despite the importance of structural determinants for HIV prevention, methods for including them in dynamic HIV transmission models remain insufficient. Few studies have attempted to incorporate structural determinants in HIV models, and methods vary considerably. To improve inferences, models should adopt precise exposure definitions, deconstruct and estimate their complex causal pathways, and translate them into their mechanistic components. The need for development of coherent frameworks to conceptualize the synergistic interplay between strengthened empirical data analysis and the inclusion of structural determinants in dynamic models is pressing.

PESUD37

“Guys are different”: Young women’s views on heterosexual relationship dynamics and how they influence women’s potential PrEP uptake and disclosure in Durban, South Africa

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Background: Considerable evidence demonstrates that heterosexual relationship dynamics influence women’s decisions around HIV prevention methods, but little research has been conducted among educated South African women. In the context of oral pre-exposure-prophylaxis (PrEP) becoming publicly available in South Africa (2019), we explored urban, educated young women’s views on relationship dynamics with male partners, how these dynamics might impact women’s use of PrEP, and how women might navigate those dynamics if they chose to use PrEP. Understanding and taking into account the realities of the lives of women is key to designing successful PrEP programs.

Methods: This analysis utilized qualitative data from a study to develop a gender-focused PrEP information-motivation workshop to introduce young women to PrEP, in Durban, South Africa. Participants were aged 18–25, educated, and recruited from urban clinic and community settings. Six focus group discussions and eight in-depth interviews were conducted with 46 women. Data were analyzed thematically.

Results: Women described men as having a different culture and set of behaviors than women and as experiencing different societal gender norms, which leads to women being at a greater risk for HIV. These differences bring complexity to women’s relationships and influence their choices around PrEP use and disclosure. While acknowledging the potential benefits of PrEP, women stated that risks included: potential for anger and loss of trust in relationships, breakup, physical violence, pregnancy or other sexually transmitted infections. Despite these concerns, women expressed desire for mutuality in relationships and shared suggestions to manage choices around PrEP use and disclosure, including willingness to end relationships.

Conclusions: These results document the challenges that even urban, educated women experience in heterosexual relationships with respect to gender dynamics and HIV prevention and add to the growing body of evidence that women’s use and adherence to PrEP in Africa is shaped by male partners and women’s perceptions of their male partners’ reactions. For PrEP to be rolled out successfully, implementation programs need to provide women with concrete methods to improve self-agency and communication skills that address conflict. Women need these skills to navigate the complex power dynamics they experience in heterosexual relationships.

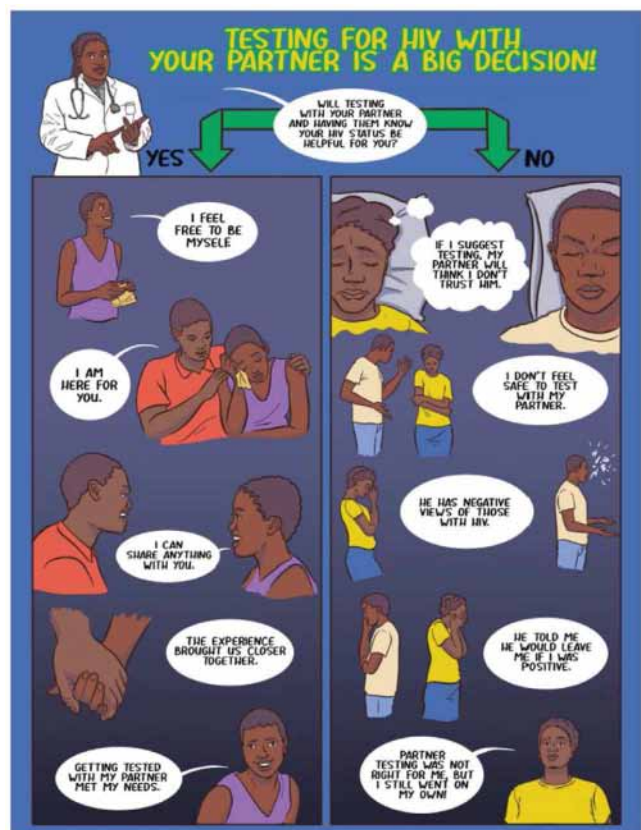
PESUD38

HIV testing experiences and priorities among refugee youth in a humanitarian setting in Uganda

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Background: Refugee youth experience social drivers of HIV, including violence, poverty, and constrained access to HIV prevention services. Scant research has focused on youth-centred HIV testing strategies—including HIV self-testing (HIV-ST)—in humanitarian crises. We explored HIV testing experiences and preferences among refugee youth in Bidi Bidi refugee settlement, Uganda to inform development of an HIV self-testing intervention.



Abstract PESUD38-Figure 1.