

# Migration and Mobility, Incarceration, and Younger Age Predict ART Discontinuation Among Female Sex Workers: A Longitudinal Study in Vancouver, Canada

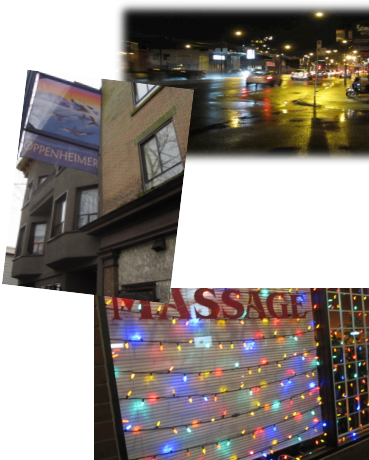
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Poster #THPE064

## Background

- Elevated HIV burden among female sex workers (SWs) in many settings globally
  - 13.5x higher odds of HIV compared to the general population of women (Baral et al, 2012)
- Yet, there remains a dearth of data on access and retention in active antiretroviral therapy (ART) among SWs
  - Available data suggest gaps in access
  - Limited research on ART access and use among SWs outside of Sub-Saharan African settings
  - Lessons from HIV prevention research suggest crucial role of structural determinants (e.g., stigma, migration and mobility, criminalization)
- We undertook the current study to identify individual and structural factors correlated with ART disruption or delays among HIV-positive SWs over time



## Methods

### An Evaluation of Sex Workers' Health Access (AESHA)

- Longitudinal community-based cohort initiated in 2005; Expanded in 2010 with >800 street and off-street female SWs across Metro Vancouver, BC
- Collaboration with >15 community partners
- Eligibility: Female or transgender woman; 14 years of age+; exchanged sex for money in last month
- Time-location sampling and outreach to street/off-street venues
- Biannual interview questionnaires and HIV/STI/HCV testing
- Ongoing monitoring of health outcomes and access to care

### BC Centre for Excellence Drug Treatment Program (DTP)

- Informed consent to link with comprehensive provincial data on ART pharmacy dispensation for HIV+ women

### Data analysis

- Data analysis was restricted to HIV seropositive women who initiated ART prior to baseline, and had linked data with DTP (n=74).
- Bivariate and multivariate logistic regression with Generalized Estimating Equations (GEE) to examine longitudinal correlates of ART non-use (no ART dispensed in a 6-month period) over time
- All variables treated as time-updated covariates of occurrences in the past 6 months, with the exception of time-fixed covariates (e.g., ethnicity, age)

### Independent variables\*\*

#### Individual

- Socio-demographics
- Duration of known HIV positivity
- CD4 count
- Injection & non-injection drug use

#### Interpersonal

- Condom negotiation
- Client volume

#### Structural

- Work environment (e.g., work venue, violence)
- Internal mobility & migration (moved to/from another city or province)
- Incarceration (detained, imprisoned, or jail >overnight)
- Housing instability & homelessness

### Dependent variable\*

ART Delays/Discontinuation: No ART dispensed in the prior 6 months

\*Source: DTP Pharmacy Dispensation Records  
\*\*Source: AESHA questionnaire

## Results

- At baseline, 47 women (63.5%) were on ART and 27 (36.5%) were not.
- During the 2.5 year study, 28 participants (37.8%) experienced ART non-use (ART not dispensed in prior 6 months)
  - 25% (n=7) were previously ART-exposed and experienced a treatment disruption
  - 75% (n=21) were previously ART-naïve and experienced delays (i.e., a six-month gap or longer) in initiation of ART

**Table 1: Baseline characteristics of SWs (n=74) stratified by ART use, 2010-2012**

Variable	ART disrupted or delayed (n=27)	Consistently used ART (n=47)	P-value
<b>Individual and interpersonal factors</b>			
Duration of known HIV+(median)	2.88 years	10.60 years	<0.001
CD4 count (median)	520 cells/mm <sup>3</sup>	320 cells/mm <sup>3</sup>	0.039
Viral load (median)*	4.02 per log <sup>10</sup>	1.60 per log <sup>10</sup>	<0.001
Age, per year younger (med, IQR)	31 (28-35)	38 (33-45)	0.008
Aboriginal ancestry	19 (70.8%)	28 (59.6%)	0.353
Inconsistent condom use (clients)	4 (14.8%)	8 (17.0%)	1.000
Non-injection drug use	26 (96.3%)	43 (91.6%)	0.647
Injection drug use	20 (74.1%)	31 (66.0%)	0.468
<b>Structural factors</b>			
Primary place of service			
Outdoor/public space (ref)	13 (48.2%)	22 (46.8%)	0.133
Informal indoor	12 (44.4%)	21 (44.7%)	0.947
Brothel/quasi-brothel	2 (7.4%)	4 (8.5%)	0.858
Internal migration or mobility*	5 (18.5%)	3 (6.4%)	0.132
Incarceration*	6 (22.2%)	5 (10.6%)	0.194

NOTE: All data refer to n (%) of participants, unless otherwise specified

**Table 2: Factors independently correlated with ART non-use among SWs (n=74), 2010-2012**

Variable	Unadjusted Odds Ratio	Unadjusted 95% Confidence Interval	Adjusted Odds Ratio	Adjusted 95% Confidence Interval
Age, per year younger	1.08	1.01-1.16	<b>1.09</b>	<b>1.01-1.17</b>
Non-injection drug use	4.87	1.16-20.44	<b>5.04</b>	<b>1.31-19.34</b>
Primary place of service				
Informal indoor	1.16	0.64-2.11		
Brothel/quasi-brothel	0.62	0.10-3.92		
Client physical/sexual violence	1.13	0.57-2.26		
Internal migration or mobility	5.65	1.61-19.82	<b>5.19</b>	<b>1.38-19.56</b>
Incarceration	2.80	1.27-6.18	<b>2.54</b>	<b>1.04-6.20</b>

## Discussion

- In spite of success in scaling-up access to ART, ongoing structural factors, including migration, mobility, and incarceration, remain barriers to ART retention
  - Over 2.5 years, ~40% of SWs discontinued ART
  - Associations with age, migration/mobility, and incarceration irrespective of drug use
- Potential treatment disruptions may be due to disconnections with care and limited social supports
- Future research and interventions to scale-up access for SWs remain needed
  - Combination interventions
  - Community and peer-based approaches