The HEAT Syndemic: A new status neutral framework of the HIV epidemic among transgender women to guide prevention efforts

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NO CONFLICTS
HIV EPIDEMIC AMONG TRANSWOMEN

50 times more likely to be living with HIV globally

estimated 42% of TGW are living with HIV in the U.S

less likely:
uptake PrEP
receive ART
less adherent to ART
poorer viral suppression

Baral et al., 2013; CDC, 2021; Becasen et al., 2022; Deutsch et al., 2015; Kalichman et al., 2017; Vaitses Fontanari et al., 2019; Wilson et al., 2020
What’s driving this HIV epidemic?
GAP

frameworks that specifically address unique factors of HIV risk for transwomen to guide intervention on the sustained and complex HIV epidemic

simultaneously addressing both primary and secondary prevention
HEAT syndemic
HIV Epidemic Among Transgender women

a new status neutral framework of the HIV epidemic among transgender women to guide prevention efforts

*based in:*
Syndemic Theory
Minority Stress Model

established + unique syndemic conditions should consider TOGETHER

Hendricks & Testa, 2012; Meyer, 2003; Sevelius, 2013
HEART study
Health & Resilience of Transwomen in Miami

N = 81
Nov 2020 - Mar 2022

Inclusion: male sex assigned at birth, feminine gender, recent penetrative sex and/or injection behavior

cross-sectional biopsychosocial assessment

questionnaires on syndemic conditions via CASI
biospecimen collection: HIV testing, viral load labs

partnered with trans-led CBOs & research staff from community

All study procedures received approval from the University of Miami Institutional Review Board (Study# 20191279)
prevalence of syndemic conditions
examine applicability of syndemic conditions chosen for the framework
PREVALENCE ESTABLISHED SYNDROMIC CONDITIONS

- Problematic alcohol use: 28%
- Problematic drug use: 60%
- Depression: 21%
- PTSD: 28%
- Suicidality: 38%
- Intimate partner violence: 64%
- Childhood abuse: 58%
- Incarceration history: 36%
- Economic marginalization: 85%
- Extremely low income: 60%
- Unstable housing: 31%
- Food insecurity: 57%
PREVALENCE UNIQUE SYNDEMIC CONDITIONS

- Gender-based discrimination: 54%
- Gender-based rejection: 57%
- Gender-based victimization: 51%
- Non-affirmation of gender: 35%
- Negative expectations: 54%
- Nondisclosure/concealment: 37%
- Internalized stigma: 41%
correlations among syndemic conditions
test the framework’s assumption that syndemic conditions chosen are interrelated
For correlations between: two binary variables = phi coefficient | two continuous variables = Pearson’s r | a continuous and binary variable = point-biserial

CORRELATIONS BETWEEN ALL SYNDEMIC CONDITIONS

- Alcohol risk
- Drug risk
- Depression sx
- PTSD sx
- Suicidality
- IPV
- Childhood abuse
- Incarceration hx
- Economic marginalization
- Discrimination
- Rejection
- Victimization
- Unmet affirmation
- Negative expectations
- Nondisclosure/concealment
- Internalized stigma

Yellow circle: $p < .05$ | positive
Blue circle: $p < .05$ | negative
bivariate associations between syndemic conditions and HIV status check on the appropriateness of proposing the framework as status neutral
# Differences in Syndemic Conditions by HIV Status

<table>
<thead>
<tr>
<th>Condition</th>
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<tbody>
<tr>
<td>Alcohol risk</td>
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<tr>
<td>Drug risk</td>
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<tr>
<td>Depression sx(s)</td>
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<tr>
<td>PTSD sx(s)</td>
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<tr>
<td>Suicidality</td>
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<tr>
<td>IPV</td>
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<tr>
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Fisher’s exact probability tests
series of generalized regression models
examine association between:
# syndemic conditions → biobehavioral HIV acquisition/transmission risk
...as an empirical check on the proposed framework
# OF SYNDEMIC CONDITIONS PREDICT HIV RISK BEHAVIOR?

model better considering total # vs established and unique separately?

Discriminatory Power

- # total syndemic conditions
  - # condomless sex acts not protected by PrEP/viral suppression
    - established only: $R^2_T = 0.086$
    - unique only: $R^2_T = 0.093$
    - combined: $R^2_T = 0.106$
    - total: $R^2_T = 0.095$

- # total syndemic conditions
  - recent sex work not protected by PrEP/viral suppression
    - established only: $R^2_T = 0.166$
    - unique only: $R^2_T = 0.104$
    - combined: $R^2_T = 0.186$
    - total: $R^2_T = 0.181$

NOTE: needle sharing n=2

*models controlled for race & ethnicity and HIV status*

*no significant covariate effects*
HEAT syndemic

- Mental health issues
- Economic marginalization
- Intimate partner violence
- Substance use
- Childhood abuse
- Incarceration
- Gender minority stress

Biobehavioral HIV risk
POST-HOC: LIFE CHAOS

Marginalization → Life Chaos

instability and unpredictability in daily life with subsequent inability to plan for or anticipate the future

# total syndemic conditions ← life chaos ← condomless sex

indirect = 99% of the total effect

life chaos ← # syndemic conditions ← sex work

indirect = 62% of the total effect

causal inference approach
LIFE CHAOS

- mental health issues
- economic marginalization
- intimate partner violence
- bioenvironmental HIV risk
- incarceration
- substance use
- childhood abuse
- gender minority stress

HEAT syndemic
IMPLICATIONS

2025 UNAIDS targets place an emphasis on having “people-centered and context-specific integrated approaches”...

transgender women cannot benefit from HIV interventions if the context of their lives is not addressed.

interventions at the macro-, mezzo- and micro-level are needed
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