Pathways Between Intersectional Stigma, Depression and HIV Care Cascade Outcomes Among Women Living with HIV in Canada

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Acknowledgments

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• **Canadian HIV Women’s Sexual and Reproductive Health Cohort Study (CHIWOS)**

• **Participants & peer researchers**
Background

• One-fifth of people living with HIV in Canada are women\(^1\)
• Women living with HIV (WLWH) have higher depression rates than men living with HIV\(^2,3\)
• Depression is associated with poorer health outcomes among people living with HIV\(^2,4,5\)
Background

• Social & structural factors experienced by WLWH—such as stigma, violence, reduced social support—contribute to these depression rates$^{6-10}$

• Biological factors such as ARV side effects & neurobiological changes also contribute to depression among people living with HIV$^{11-12}$
Background

• Associations between depression & lower ARV adherence reported in systematic reviews\textsuperscript{13} & longitudinal studies\textsuperscript{5}
  – Depression symptoms (e.g. hopelessness) may directly lower adherence, and other indirect factors that impact adherence include low social support & substance use\textsuperscript{6,11}
Knowledge gaps

- Knowledge gaps remain regarding pathways to depression, and from depression to ARV adherence\(^4,11\)
  - intersectional stigma & depression is understudied
  - protective factors also understudied, including the role of structural factors such as women centered HIV care
Theoretical approach

• Psychosocial model of racism\textsuperscript{14}: racism leads to psychosocial sequelae that predicts lower adherence
  – may impact health whether or not it is perceived as a stressor
  – Stress (socioenvironmental, such as racism) $\rightarrow$ lower social support $\rightarrow$ depression $\rightarrow$ coping (adaptive/maladaptive) $\rightarrow$ adherence & associated health outcomes
Objectives

1) Examine the relationship between *intersectional stigma* (racial and gender discrimination, HIV related stigma) and *depressive symptoms*, and the mediating role of social support and women-centered HIV care

2) Assess the relationship between *depression* and *HIV outcomes* (ARV adherence, CD4 count), and the mediating roles of resilience and injection drug use history
Methods

• National cohort with WLWH in the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS) in 3 Canadian provinces
  – Trained peer research assistants
  – Baseline data from cohort study
Measures

• **HIV outcomes:** a) estimated adherence to ART in past month (dichotomized to $\geq 90\%$, $< 90\%$); b) CD4 count (estimate most recent) (dichotomized $< 200$ cells/mm$^3$ & $\geq 200$ cells/mm$^3$)

• **Depression:** CESD$^{15}$ 10-item scale; depression symptoms: score $\geq 10$, score $\geq 15$ severe depression

• **Stigma:** Wright’s shortened HIV stigma scale$^{16}$, Everyday Discrimination Scale for Sexism and for Racism$^{67}$

• **Social Support (MOS-SSS)$^{18}$, Resilience (Resiliency Scale RS-10)$^{19}$, Injection drug use history (yes/no)

• **Women-centred HIV Care (WCHC)$^{20}$:** 6-item, evidence-based definition (e.g. care I receive from HIV doctor is women-centred)
Methods

- *Multinomial logistic regression*: intersectional stigma on depression & severe depression (ref: no depressive symptoms)
- *Multivariate logistic regression*: depression on HIV outcomes
- *Structural equation modeling* (weighted least squares estimation methods) to test:
  - (1) direct effects of intersectional stigma on depressive symptoms and severe depression, and indirect effects via social support and WCHC;
  - (2) direct effects of depressive symptoms and severe depression on HIV outcomes (ART adherence, CD4 count), and indirect effects via resilience and injection drug use history
Results

• Half (48.6%) of participants (n=1367; mean age=42.77, IQR=35-50; 41.6% white, 22.46% Indigenous, 28.8% Black, 7.1% other ethnicities) reported depressive symptoms and 26.9% severe depression

• Most were currently on ART (82.87%, n=1127), of these, (82.68%) reported 90% adherence.

• ~One-third (31.55%) have injection drug use history
Unadjusted and adjusted multinomial logistic regression of depressive symptoms and severe depression on intersectional stigma (N=1367)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Depressive symptoms (10=&lt;CSED&lt;15)</th>
<th>Severe depressive symptoms (CESD&gt;=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted OR (95% CI)</td>
<td>Adjusted OR (95% CI)</td>
</tr>
<tr>
<td>HIV-related stigma</td>
<td>1.01 (1.01-1.02)***</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>Racial discrimination</td>
<td>1.03 (1.02-1.05)***</td>
<td>1.02 (0.99-1.04)</td>
</tr>
<tr>
<td>Gender discrimination</td>
<td>1.05 (1.03-1.06)***</td>
<td>1.04 (1.01-1.06)**</td>
</tr>
<tr>
<td>Social support</td>
<td>0.88 (0.85-0.90)***</td>
<td>0.88 (0.84-0.92)***</td>
</tr>
<tr>
<td>Women-centred health care</td>
<td>0.97 (0.94-1.01)</td>
<td>0.98 (0.94-1.02)</td>
</tr>
</tbody>
</table>
Unadjusted and adjusted logistic regression of >90% ART adherence and CD4>200 mm³/cells on depressive symptoms & severe depression (N=1367)

<table>
<thead>
<tr>
<th>Variables</th>
<th>&gt;90% ART adherence</th>
<th>CD4&gt;200 mm³/cells</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted OR (95% CI)</td>
<td>Adjusted OR (95% CI)*</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CESD&lt;10</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10=&lt;CESD&lt;15</td>
<td>0.83 (0.55-1.26)</td>
<td>1.03 (0.66-1.61)</td>
</tr>
<tr>
<td>CESD&gt;=15</td>
<td>0.47 (0.33-0.67)***</td>
<td>0.55 (0.36-0.85)**</td>
</tr>
<tr>
<td>Resilience</td>
<td>1.04 (1.02-1.06)***</td>
<td>1.02 (1.00-1.05)*</td>
</tr>
<tr>
<td>Ever used injection drugs</td>
<td>0.65 (0.47-0.89)**</td>
<td>0.73 (0.48-1.12)</td>
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</tbody>
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Findings: Structural equation model of intersectional stigma, depression and HIV outcomes

• HIV stigma:
  – direct path to depression not significant, indirect path via social support
  – direct path to severe depression, social support a mediator

• Gender discrimination:
  – direct path to depression, indirect via social support
  – indirect path to severe depression via social support & WCHC

• Racial discrimination:
  – Direct path to severe depression
Findings: Structural equation model of intersectional stigma, depression and HIV outcomes

• Direct path from depression to ART adherence & CD4 count not significant
  – Indirect path from depression to ART adherence via resilience
  – Indirect path from depression to CD4 count via resilience & IDU history
• Direct path from severe depression to ART adherence significant, also indirect effect via resilience
• Indirect path from severe depression to CD4 count via resilience and IDU history
Discussion

• Nearly half of participants reported depression and one-quarter severe depression

• Intersectional stigma was associated with lower levels of support & women centered HIV care, this in turn was associated with depressive symptoms

• Depression was associated with lower resilience & IDU history, this in turn was associated with lower ARV adherence and lower CD4 count; for severe depression, there was a direct pathway to lower adherence
Discussion

• Psychosocial model useful to examine psychosocial sequelae of intersectional stigma, and associations with *structural* (health care approach), *interpersonal* (social support) and *intrapersonal* (depression, resilience, IDU history) factors and HIV outcomes (adherence, CD4)

• Need to focus on protective factors at multiple levels (WCHC, social support, resilience)

• Harm reduction approach, depression screening & treatment, and intersectional stigma reduction
Contact

• Further information:
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References

References


