ASSOCIATION BETWEEN INTERNALIZED HIV STIGMA AND VISIT ADHERENCE: DOWNSTREAM EFFECTS ON ART ADHERENCE

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HIV-related stigma

• is *negative social evaluation* based on a person’s (real or perceived) HIV-status
• threatens a person’s social status
• can cause stress and have other social, psychological, and health consequences for people living with HIV

Series of steps required to reduce HIV transmission

Behavioral Prevention → HIV Testing → Enrollment in Care → Retention in Care → Adherence to ART → Viral Suppression

Source: Adapted from Wilson DP, *PLOS Medicine* 2012
HIV-related stigma and treatment adherence

- A systematic review and meta-synthesis of 75 studies conducted globally reported:
  - HIV stigma and ART non-adherence were associated in 24 cross-sectional studies.
  - HIV stigma undermined ART adherence by compromising coping, social support and other psychosocial factors in 34 qualitative studies.

Source: Katz et al., JIAS 2013; Illustration by Eldredge, E, UAB Magazine 2017
Current Hypothesis

Stigma (e.g., HIV, Race, SES, Gender)

- Anticipated
- Community
- Experienced
- Internalized

Mental Health

Depression

Mechanisms

- Interpersonal factors
- Psychological resources
- Stress processes

Predictors

Adherence

- ART adherence
- Retention in care
Methods – Data Collection

- **Participants:** 196 patients from the UAB 1917 clinic
- **Inclusion criteria:** use of ART and substance non-use
- **Independent variable:**
  - **Internalized stigma:** 7-item negative self-image subscale of the revised HIV Stigma Scale (Berger, 2001); Sample item - “I feel I’m not as good as others because I have HIV/AIDS.”
- **Potential mediator:**
  - **Depressive symptom severity:** The 9-item Patient Health Questionnaire (PHQ)-9
- **Outcome measures:**
  - **Visit adherence:** extracted from clinic record, proportion of attended out of total scheduled visits
  - **ART adherence:** self reported, dichotomized at excellent vs. all other response options
Methods – Statistical Analysis

- Multiple regression analysis to assess the association between internalized stigma and visit adherence
- Using bootstrapping with Process, we tested the following indirect effects:
  - The mediating role of depressive symptoms in the association between internalized stigma and visit adherence
  - The mediating role of visit adherence in the association between internalized stigma and ART adherence
- The following demographic and clinical variables were included as covariates in all analyses:
  - Age, gender, race, socioeconomic status, and duration on ART
Table 1. Descriptive Statistics for the Study Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>72 (36.7)</td>
</tr>
<tr>
<td>Black</td>
<td>124 (63.3)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>124 (63.3)</td>
</tr>
<tr>
<td>Female</td>
<td>72 (36.7)</td>
</tr>
<tr>
<td><strong>Medication adherence</strong></td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>128 (71.5)</td>
</tr>
<tr>
<td>Less than excellent</td>
<td>51 (28.5)</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>44.90 (11.02)</td>
</tr>
<tr>
<td><strong>Months on ART</strong></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>96.36 (63.09)</td>
</tr>
<tr>
<td><strong>Internalized HIV-related Stigma</strong></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>1.98 (0.67)</td>
</tr>
<tr>
<td><strong>Depressive symptom severity</strong></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>3.66 (4.73)</td>
</tr>
<tr>
<td><strong>HIV visit adherence</strong></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>0.89 (0.16)</td>
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</tbody>
</table>
Visit Adherence

- Higher internalized stigma was associated with lower visit adherence
  \(B = -0.04, \ SE = .02, \ t = -2.06, \ p = .04\)
  (controlling for sex, race, age, SES, time on ART)

- Race and depressive symptoms were associated with visit adherence
  Black PLWH had lower visit adherence than white PLWH (\(B = -0.08, \ SE = .03, \ t = -0.22, \ p < .01\)).
  Depressive symptoms negatively predicted visit adherence (\(B = -0.01, \ SE = .00, \ t = -2.09, \ p = .04\)).
Mediating role of depression

Depression symptoms

Internalized stigma

Visit adherence

*p < .05; **p < .01
Mediating role of visit adherence

* $p < .05$; ** $p < .01$
Conclusion

Stigma (e.g., HIV, Race, SES, Gender)

- Anticipated
- Community
- Experienced
- Internalized

MENTAL HEALTH Depression

Mechanisms

- Interpersonal factors
- Psychological resources
- Stress processes

Predictors

Outcomes

Adherence

- ART adherence
- Retention in care
Implications

• The present study points to:
  – the importance of addressing internalized HIV stigma to health care outcomes among people living with HIV
  – the potential to address the negative effects of internalized stigma on ART adherence by reducing depressive symptoms and promoting adherence consistent engagement in HIV care visits
Limitations and Future Directions

- Self-report measures
- Cross-sectional design
- Limited generalizability
- Moderate sample size
- Exclusion of people living with substance use disorders

Illustration by Eldredge, E, UAB Magazine 2017
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• This content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or AHRQ.
Thank You!

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