RELATIONAL ORIENTATIONS AND VIRAL SUPPRESSION AMONG SERODISCORDANT SAME-SEX MALE COUPLES

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HIV Treatment Cascade

Reference: CDC MMRW Dec 2011
Barriers continue to persist in achieving viral suppression

- Individual factors: age, adherence, psychiatric comorbidities, substance use

- Structural factors: poverty, access to health care, stigma, housing/transportation

References: CDC, 2011; Christopoulos et al., 2011
Couples Health: a brief overview

- Studies demonstrate the beneficial effects of social support from family members, including intimate romantic partners when facing a stressor.

- However, social support is not always protective.
  - Maladaptive Coping
  - Relationship Conflict
  - Communication Problems

References: Revenson & DeLongis, 2011; Bodenmann, 2005
Couples Coping: a brief overview

- For couples who face chronic stressors, coping involves a social support transaction
  - Dyadic coping
  - Coping Congruence
  - Collaborative Coping
  - Joint Platform
  - We-ness

References: Revenson & DeLongis, 2011; Rohrbaugh et al. 2009; Bodenmann, 2005
Including Other In Self (IOS)

Reference: Angew, Loving, et al., 2004; Aron, Aron, & Smollan, 1992
Inclusion of Other in Self

Which picture best describes your current relationship with a romantic partner?
HIV serodiscordant couples may experience unique dyadic stressors, in addition to typical illness related stressors, as a result of fears around HIV transmission.

To date, existing studies suggest the serodiscordant couples face a number of social, sexual and relationship challenges.

Nonetheless, serodiscordant couples remain committed to one another.

To what extent are both HIV-positive and HIV-negative partners’ relational orientations associated with viral suppression, over and above existing correlates of viral suppression?
Methods: DUO Project

- DUO Project (R01NR010187, PI: Johnson)
  - Longitudinal mixed-methods study
  - Men in same-sex relationships in which one or both partners are HIV-positive and currently on HIV medications
  - Overarching goal to examine relationship factors and ART adherence support
- Inclusion criteria for data analysis:
  - HIV-serodiscordant couples (N=116 couples, 232 men)
Methods: DUO Project

- Passive Recruitment
- Separate Phone Screens
- Verified Medications and Couple Status
- Separate ACASI Interviews
  - $50 incentive for interview
  - IRB Approval from University of California, SF
  - Exception at Hunter, CUNY
Methods: Measures

Outcome
- Viral Load (blood draws, Dichotomous)

Independent Variables
- Relational Orientations (IOS)
- Sexual Satisfaction (4 items, $\alpha = 0.84$)
- Commitment (4 items, $\alpha = 0.96$)
- Relationship Satisfaction (DAS, 6 items, $\alpha = 0.84$)

Covariates
- Age
- Adherence behavior (VAS)
- Depression (CESD at clinical cut off, Dichotomous)
- Race/Ethnicity
- Relationship length
- Length of time living with HIV

Reference: Kurdek, 1998; Aron et al., 1998; CAPS UCSF
Results: Sample characteristics

- **Relationship duration:**
  - 7.53 (SD = 7.80) years

- **Age:**
  - 46.70 (SD = 10.96) years old

- **Income:**
  - 40.5% earned less 20K annually

- **Time since diagnosis:**
  - 13.54 (SD = 8.01) years

- **Viral suppression:**
  - 62.9% had an undetectable viral load
### Results: Dependence

<table>
<thead>
<tr>
<th></th>
<th>HIV-positive Partner</th>
<th>HIV-negative Partner</th>
<th>test statistic</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race</strong></td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>16 (13.8)</td>
<td>11 (9.5)</td>
<td>$\chi^2(9) = 28.01$</td>
<td>.08</td>
</tr>
<tr>
<td>White</td>
<td>63 (54.3)</td>
<td>80 (69.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>25 (21.6)</td>
<td>14 (12.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12 (10.3)</td>
<td>11 (9.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td>$\chi^2(1) = 10.53^*$</td>
<td>.21*</td>
</tr>
<tr>
<td>$\geq$ 20,000</td>
<td>52 (44.8)</td>
<td>42 (36.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 20,000</td>
<td>64 (55.2)</td>
<td>74 (63.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td></td>
<td></td>
<td>$\chi^2(1) = 2.16$</td>
<td>.10</td>
</tr>
<tr>
<td>Less than 16</td>
<td>61 (52.6)</td>
<td>74 (63.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 or greater</td>
<td>55 (47.4)</td>
<td>42 (26.2)</td>
<td></td>
<td></td>
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<tr>
<td><strong>M (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>46.9 (9.9)</td>
<td>46.5 (11.9)</td>
<td>t(230) = -0.27</td>
<td>.55***</td>
</tr>
<tr>
<td>Relational Orientation</td>
<td>3.7 (1.6)</td>
<td>3.8 (1.5)</td>
<td>t(230) = .42</td>
<td>.24***</td>
</tr>
<tr>
<td>Sexual Satisfaction</td>
<td>14.7 (6.6)</td>
<td>15.7 (6.3)</td>
<td>t(230) = -1.13</td>
<td>.40***</td>
</tr>
<tr>
<td>Commitment</td>
<td>32.2 (5.7)</td>
<td>32.2 (5.5)</td>
<td>t(180) = 0.83</td>
<td>.17</td>
</tr>
<tr>
<td>Relationship satisfaction</td>
<td>22.5 (4.4)</td>
<td>21.9 (4.9)</td>
<td>t(230) = 0.82</td>
<td>.34***</td>
</tr>
</tbody>
</table>
## Logistic Regression

### Viral Suppression

<table>
<thead>
<tr>
<th></th>
<th>HIV-positive partner</th>
<th>HIV-negative partner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exp(B)</td>
<td>95%CI</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>3.06*</td>
<td>1.05, 8.92</td>
</tr>
<tr>
<td>Depression</td>
<td>0.36*</td>
<td>0.16, 0.85</td>
</tr>
<tr>
<td>Adherence</td>
<td>1.05*</td>
<td>1.01, 1.10</td>
</tr>
<tr>
<td>Relationship Duration</td>
<td>1.00</td>
<td>0.99, 1.00</td>
</tr>
<tr>
<td>Time since Diagnosis</td>
<td>1.00</td>
<td>0.99, 1.00</td>
</tr>
</tbody>
</table>

Log-likelihood $\chi^2 (8) = 21.03; p < 0.01$
Discussion

Findings

• Social determinants of health and mental health remain important factors in achieving viral suppression

• However, relational factors are independently associated with viral suppression, such that:
  • HIV-positive partners who endorsed a higher relational orientation had over a 7-fold increase in the odds of having a suppressed viral load.
  • HIV-negative partners who endorsed a relational orientation had a 6-fold increase in the odds of their partner having a suppressed viral load.
Discussion: Limitations

1. Community sample of gay/bisexual men in SF, limited generalizability

2. Cross-sectional, no causal claims (associational only)

3. No measure of explicit relational orientations in regards to health

4. Little about the dynamics between couples
Discussion

- Relational factors should be included in models designed to help individuals successfully navigate the HIV treatment cascade.

- Future research and interventions need to consider relational contexts which promote optimal dyadic coping strategies to aid in achieving success at each step in the cascade.
Thank You

All of the men who participated in this study, study staff members, and my advisor, Sarit Golub

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