Prevalence and Correlates of Research-Defined Successful Aging Among Older HIV+ Adults

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The First HIV/AIDS Generation Reaches Retirement Age

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Sue Saunders, 73, organizes her daily HIV medication regimen two weeks in advance. Katja Heinemann/Aurora Photos
HIV Successful Aging

- Despite ↑ in older HIV+ adults, limited data on:
  - Proportion of older HIV-infected (HIV+) persons who are aging successfully
  - Factors that may contribute to successful aging (SA)
- Positive psychological factors (e.g., optimism, resilience) ➔ SA among HIV- older adults
- Examination of positive psychological factors in older HIV+ adults may inform intervention strategies to promote SA

Jeste, Depp, & Vahia, World Psychiatry, 2010; High et al., 2012, JAIDS
Aims

1. To estimate proportion of older HIV+ and HIV- adults who meet research-defined phenotype of SA (i.e., freedom from cognitive, everyday functioning, and emotional impairment)

2. To compare subjective self-rated SA across research-defined HIV/SA groups

3. To compare several positive psychological factors and health-related quality of life across research-defined HIV/SA groups
Methods

- 100 HIV+ & 48 HIV- subjects; 50–79 y.o.
- Research-defined Successful Aging (SA) is absence of:
  1. **Neurocognitive impairment** (comprehensive, 2 hour, seven-domain, neurocognitive battery using normative standards)
  2. Current **major depressive disorder** (via structured clinical psychiatric interview)
  3. Dependence in instrumental activities of daily living (IADLs; decline in >= 2 IADL domains).
- Other Assessments:
  1. Positive psychological factors
  2. Self-rated SA question (1-least successful to 10-most successful)
  3. Health-related Quality of Life
AIM 1: Prevalence of Successful Aging

<table>
<thead>
<tr>
<th>Variable</th>
<th>HIV+ (n=100)</th>
<th>HIV- (n=48)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>% with Current MDD</td>
<td>14%</td>
<td>2%</td>
<td>0.02</td>
</tr>
<tr>
<td>% with IADL Dependence</td>
<td>30%</td>
<td>9%</td>
<td>0.01</td>
</tr>
<tr>
<td>% with Global NCI</td>
<td>43%</td>
<td>35%</td>
<td>0.37</td>
</tr>
<tr>
<td>% Defined as SA*</td>
<td>39%</td>
<td>56%</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Notes. IADL = instrumental activities of daily living; MDD = major depressive disorder; NCI = neurocognitive impairment; SCA = successful aging. *SA = freedom from all 3 individual components (i.e., Global NCI, current MDD, IADL Dependence)

- A significantly higher proportion of HIV- older adults meet criteria for SA than HIV+ older adults, but almost 4 in 10 older HIV+ meet Research-Defined SA criteria
### Sample Descriptives by HIV/SA Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>HIV+ non SA (n=61)</th>
<th>HIV+ SA (n=39)</th>
<th>HIV- non SA (n=21)</th>
<th>HIV- SA (n=27)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>59.0 (6.9)</td>
<td>56.8 (5.6)</td>
<td>58.6 (7.6)</td>
<td>60.4 (7.0)</td>
<td>0.18</td>
</tr>
<tr>
<td>Sex (% Male)</td>
<td>92%</td>
<td>82%</td>
<td>67%</td>
<td>52%</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Education</td>
<td>14.6 (2.8)</td>
<td>13.9 (2.5)</td>
<td>14.2 (2.8)</td>
<td>13.9 (2.6)</td>
<td>0.57</td>
</tr>
<tr>
<td>Race (% White)</td>
<td>87%</td>
<td>74%</td>
<td>67%</td>
<td>63%</td>
<td>0.05</td>
</tr>
<tr>
<td>HIV Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current CD4*</td>
<td>546 (351 – 776)</td>
<td>667 (409 – 777)</td>
<td>--</td>
<td>--</td>
<td>0.63</td>
</tr>
<tr>
<td>Nadir CD4*</td>
<td>106 (38 – 300)</td>
<td>189 (40 – 298)</td>
<td>--</td>
<td>--</td>
<td>0.75</td>
</tr>
<tr>
<td>AIDS Status (% Yes)</td>
<td>68%</td>
<td>62%</td>
<td>--</td>
<td>--</td>
<td>0.49</td>
</tr>
<tr>
<td>ART status (% On)</td>
<td>97%</td>
<td>100%</td>
<td>--</td>
<td>--</td>
<td>0.75</td>
</tr>
<tr>
<td>% Undetectable Plasma</td>
<td>90%</td>
<td>95%</td>
<td>--</td>
<td>--</td>
<td>0.42</td>
</tr>
<tr>
<td>Est. Dur. HIV (yrs)</td>
<td>18.6 (8.1)</td>
<td>17.1 (7.9)</td>
<td>--</td>
<td>--</td>
<td>0.39</td>
</tr>
</tbody>
</table>

**Notes.** ART=antiretroviral therapy; *Median (IQR) reported for these variables.
**AIM 2: Self-Rated Successful Aging**

- **HIV+ non-SA group had lowest self-rated SA as compared to the other groups (which did not differ from one another)**
- **HIV+ non SA vs:**
  - HIV- non SA \( p = 0.02 \)
  - HIV- SA \( p = 0.08 \)
  - HIV+ SA \( p = 0.09 \)
Positive Psychological Factors

Grit: “Setbacks don’t discourage me.”

Social Support: “How many times during the past week did you spend time with someone who does not live with you?”

Resilience: “I am not easily discouraged by failure.”

Optimism: “In unclear times I usually expect the best.”

Life Satisfaction: “I am satisfied with my life.”

Personal Mastery: “I can do just about anything I really set my mind to do.”

Geriatric Morale: “As I get older, things are better than I thought they would be.”

Religiosity: “I find strength and comfort in my religion.” – n.s.

Post Traumatic Growth: “I changed my priorities about what is important in life.” – n.s.
AIM 3: Psychological Factors

- **GRIT**
  - HIV x SA Group:
    - HIV+ non SA: 3.32
    - HIV+ SA: 3.58
    - HIV- non SA: 3.69
    - HIV- SA: 3.64

- **Social Support**
  - HIV x SA Group:
    - HIV+ non SA: 8.17
    - HIV+ SA: 9.24
    - HIV- non SA: 9.19
    - HIV- SA: 9.05

- **Resilience**
  - HIV x SA Group:
    - HIV+ non SA: 25.98
    - HIV+ SA: 30.38
    - HIV- non SA: 31.48
    - HIV- SA: 32.59

This image illustrates the comparison of psychological factors (GRIT, Social Support, Resilience) across different groups: HIV+ non SA, HIV+ SA, HIV- non SA, and HIV- SA.
AIM 3: Psychological Factors

**Optimism**

- HIV+ non SA: 20.34
- HIV+ SA: 21.64
- HIV- non SA: 22.71
- HIV- SA: 24.56

**Life Satisfaction**

- HIV+ non SA: 18.5
- HIV+ SA: 20.1
- HIV- non SA: 21.9
- HIV- SA: 23.2

**Personal Mastery**

- HIV+ non SA: 20.1
- HIV+ SA: 21.7
- HIV- non SA: 22.7
- HIV- SA: 23.4

**Geriatric Morale**

- HIV+ non SA: 3.66
- HIV+ SA: 3.86
- HIV- non SA: 4.04
- HIV- SA: 2.33
AIM 3: Health-Related Quality of Life

For positive psychological factors and health-related quality of life, HIV+ non-SA participants had significantly (p’s < 0.05) poorer scores than HIV+ SA, HIV- SA, and HIV-non-SA groups.
Conclusions & Future Directions

- Almost 4 of 10 of older HIV+ persons meet research-defined criteria for SA
- Self-ratings of SA consistent with research-defined SA criteria in HIV+ persons
- Suggests that HIV+ non-SA have worse QoL
- Majority of positive psychological factors associated with SA (7/9); direction of the associations suggests that these factors may be particularly protective for HIV+ SA persons
- Future research is warranted with HIV+ persons of all ages to better understand: 1) course of SA, 2) predictors of SA, and 3) if interventions to achieve SA in HIV are possible and effective
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