

The Effects of Locus of Control, Social Support, and Stigma on the HIV Care Continuum in the Aging HIV-Infected Population

 Christopher Mashiak BS¹, Grace Chan PhD^{1,2}, David Steffens MD MHS^{1,2}, Lisa Chirch MD^{1,3}
¹University of Connecticut School of Medicine, Departments of Psychiatry² and Medicine³

Abstract

Locus of control (LOC), or how one perceives one's control over a situation, can affect health outcomes, including outcomes of HIV care. Our research goal was to determine how social factors such as LOC affect patients' progression through the HIV care continuum, focusing on the experiences of older HIV-infected individuals. A convenience sample of English-speaking, HIV-infected patients was surveyed at UConn Health. The survey included assessments of internal LOC (ILOC), external LOC (ELOC), social support, depression, HIV stigma, and Ryan White (RW) funding status. Outcome measures marking progress through the care continuum, including appointment history, HIV viral load, and CD4 count, were obtained from chart review. Engagement in care was defined as attendance at ≥ 2 appointments and no missed appointment in the previous year. A total of 58 subjects were enrolled from June to November 2016. The mean age was 52.4 yrs (range 24-84), 78% were ≥ 50 years old, 57% were male, and 47% received RW funding. Among older subjects, engagement in care was associated with less social support ($p=.04$). Among subjects with significant depressive symptoms, lower ILOC was associated with engagement in care ($p<.001$) and CD4 counts ≥ 350 ($p=.01$). Neither patient age nor RW funding status had significant impact with respect to study outcomes. Older HIV-infected patients had similar study outcomes compared with their younger peers. Low social support, higher ELOC, and lower ILOC were associated with better outcomes despite being associated with more depression, possibly due to increased reliance on health professionals. These measures could be useful to screen for patients who are less likely to remain in the HIV care continuum.

Background

- Despite much progress, gaps remain in the HIV care continuum and only about 30% of HIV-infected individuals reach virologic control. [1]
- The HIV-infected population continues to age, but little research focuses on the older HIV-infected population.
- LOC measures how people perceive control over events in their lives and has been used to determine success in health care.
 - People with a high ILOC feel they control events in their lives.
 - People with a high ELOC feel external forces control events in their lives.
- The purpose of our research is to determine how LOC, along with other social factors, affect patients' progression through the care continuum.
- We hypothesized that lack of social support and a higher ELOC would adversely affect retention in HIV care and subsequent virologic control.

Methods

- Convenience sample of individuals seeking care at UConn Health Infectious Disease Clinic.
- Inclusion Criteria:
 - HIV-infected
 - English speaking
- Assessments given during previously scheduled appointment:
 - Internal-External Locus of Control-4 [2]
 - Perceived Social Support-HIV [3]
 - Center for Epidemiologic Studies Depression Scale [4]
 - HIV Stigma Scale [5]

Methods

- Enrollment period from June – November 2016.
- Outcome measures extracted from chart review to assess engagement in care, viral suppression, and immune control.
- Engagement in care was defined as attending two or more appointments and missing no appointments in the previous year.
- Viral suppression was defined as two consecutive undetectable viral loads.
- Statistical analysis included χ^2 test for independence and t-test.
- Subgroup analysis was done to compare study outcomes between a younger and older (50+) age cohort and those with or without significant depressive symptoms.

Results

- 58 subjects were enrolled.
- The mean age was 52.4 years.
- Age range: 24-84 years, SD = 11.8.
- 78% were 50 years or older.
- 57% were male.
- 47% received RW funding.
- Females experienced higher rates of HIV stigma ($p=.01$).
- 36% had significant depression symptoms.
- Outcome measures:
 - 47% were engaged in care.
 - 62% reached viral suppression.
 - 74% had a CD4 count greater than 350 cells/mm³.

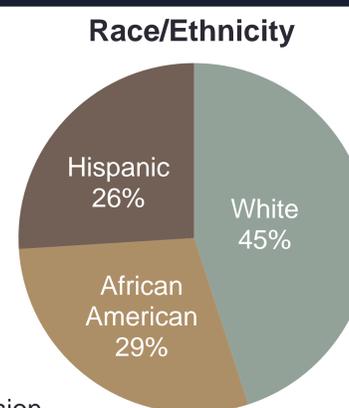


Table 1: Associations between LOC and Outcomes

		N	%	ILOC		ELOC	
				Mean	p-value	Mean	p-value
Engaged in Care	Yes	27	47	8.8	.09	5.3	.10
	No	31	53	9.4		4.5	
Viral Suppressed	Yes	36	62	9.1	.64	5.1	.07
	No	22	38	9.2		4.3	
CD4 Count (cells/μL)	≥ 350	43	74	9.0	.06	5.0	.24
	< 350	15	26	9.5		4.3	
Depressed	Yes	21	36	8.4	.02	5.5	.03
	No	37	64	9.5		4.4	

Table 2: Associations between Social Support/Stigma and Outcomes

		N	%	Social Support		HIV Stigma	
				Mean	p-value	Mean	p-value
Engaged in Care	Yes	27	47	41.7	.09	22.9	.54
	No	31	53	45.5		21.6	
Viral Suppression	Yes	36	62	44.8	.23	21.9	.72
	No	22	38	42.0		22.7	
CD4 Count (cells/μL)	≥ 350	43	74	43.1	.38	21.7	.40
	< 350	15	26	45.4		23.7	
Depressed	Yes	21	36	40.4	.02	27.3	<.001
	No	37	64	45.6		19.3	

Results

- There was no statistical difference in outcomes between age cohorts or sex.
- There was no correlation between outcomes and HIV stigma or depression.
- Among participants 50 and older, engagement in care was associated with lower social support ($p=.04$).
- Among participants with significant depressive symptoms, engagement in care and CD4 counts ≥ 350 were associated with lower ILOC ($p<.01$).
- There was no significant association between RW funding status and study assessments.
- RW funding status was not significantly associated with any study outcomes.

Conclusions

- Counter to our hypothesis, lower ILOC and higher ELOC are associated with success in care.
- Patients with less social support are more likely engaged in care.
- Age does not affect patient progression through the HIV care continuum based on study outcomes.
- Depression is significantly associated with less social support, high HIV stigma, low ILOC, and high ELOC.
- These results may demonstrate that individuals with a high ELOC are more dependent on healthcare providers, and therefore are more engaged in their care.
- Subjects receiving RW funding had similar study outcomes compared to their peers.
- RW funding status was not associated with study assessments suggesting LOC is an independent factor effecting success in study outcomes.
- Applicability of our study findings may be limited due to small sample size, selection bias, non-randomized sample, self-reported data, and single-center.
- Routine assessment of locus of control and social support may be used to identify patients who are unlikely to remain in the HIV care cascade across the spectrum of age.

References

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