



Predictors of Adherence in Youth with HIV Enrolled in a Prospective Longitudinal Follow-Up Study of a Randomized Advance Care Planning Intervention

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Background

- Antiretroviral adherence was assessed within a prospective, longitudinal, randomized controlled trial (RCT) of a FAmily-CEntered (FACE) advance care planning intervention in youth living with HIV/AIDS (YLWHA)
- Study Aims intended to evaluate the roles of depression, anxiety, general emotional functioning, and decisional conflict as predictors of adherence as an outcome.



Methods

- Youth with HIV/AIDS aged 14 through 20 years
- Enrolled as a dyad with a parent/guardian (if youth <18 years) or selected proxy >18 years
- Youth seen at 1 of 5 urban hospital-based clinics
- Study visits:
 - Screening
 - Baseline
 - Randomized to 3 intervention or control sessions
 - 4 follow-up visits (3, 6, 12 & 18 months)
- Exclusion Criteria: youth and/or proxy with moderate to severe depression, suicidal/homicidal ideation, active psychosis, or HIV dementia at screening were excluded.



Methods (cont.)

- HIV health data were abstracted from medical records.
- Using an intent-to-treat design, adolescent/proxy dyads were randomized to the FACE-ACP intervention or the Healthy Living Control (HLC) condition.

	FACE-ACP Intervention	Healthy Living Control
Session 1	Lyon FACE Advance Care Planning Survey ©	Adapted Barkley Developmental History
Session 2	Respecting Choices Interview ®	Safety Tips (AAP's Bright Future)
Session 3	Five Wishes ©	Nutrition Tips

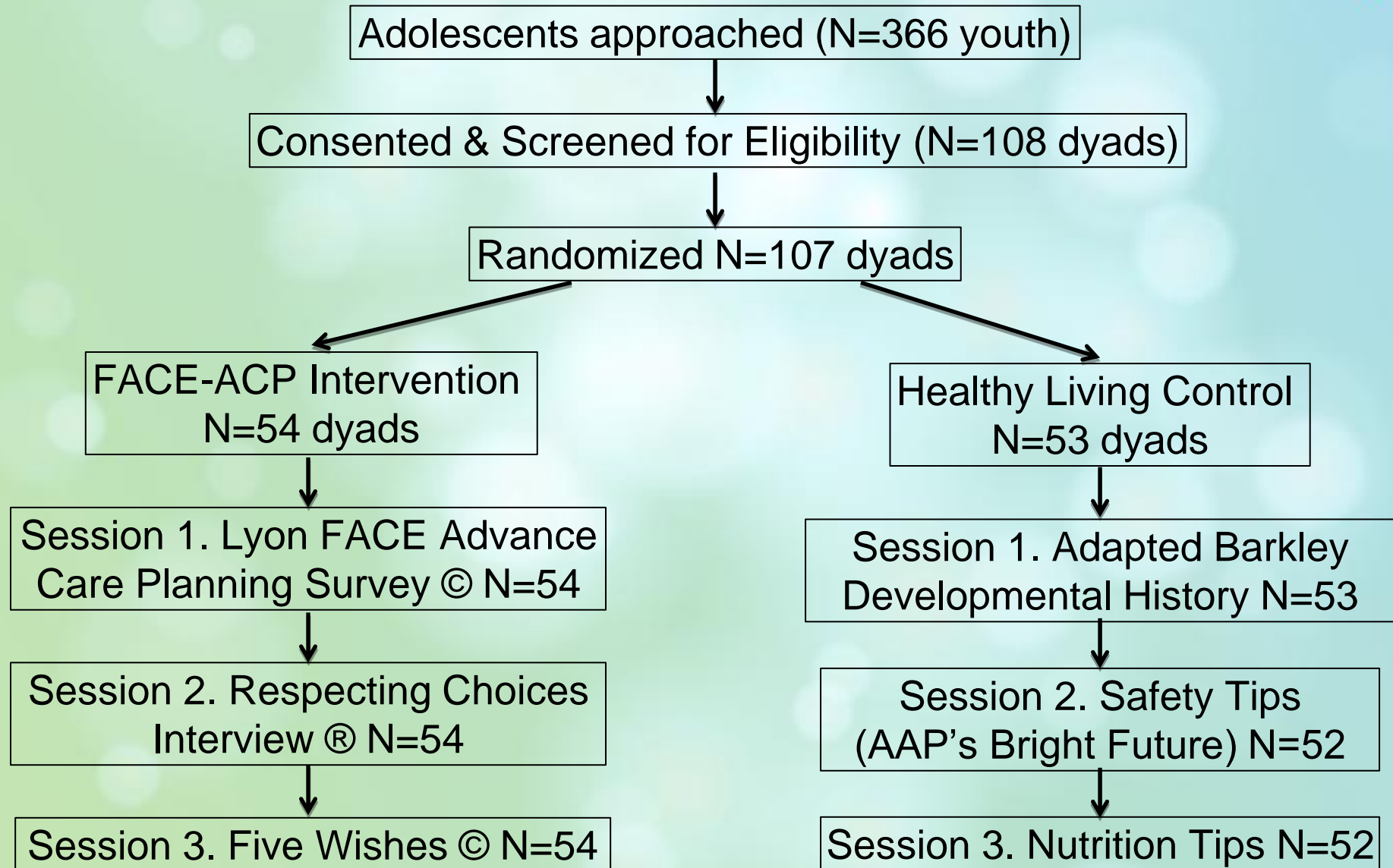


Measures

- Visual Analogue Scale (VAS, Walsh, et al., 2002) - youth estimate of adherence in past month, linear scale of 0-100.
- BDI-II (Beck, 1996) – 21-item self-report depression screener; score range 0-63; score <14 minimal symptom range.
- BAI (Beck, 1987) – 21-item self-report anxiety screener; score range 0-63; total score <9 minimal symptom range
- PedsQL, Generic, v4.0 (Varni, et al., 2001) – Emotional Functioning Scale; score range 0-100, higher score = better functioning.
- Decisional Conflict Scale (O’Conner, 1995) – assesses amount of conflict one experiences regarding end-of-life decisions.



Consort Diagram





Statistical Analyses

- Youth baseline depression, anxiety, emotional functioning, and decisional conflict were examined as predictors of adherence (VAS) which are presented herein.
- In addition to descriptive statistics, analyses included linear and logistic regression
- Analyses were run using SAS v9.2 (Cary, NC)



Youth Participants on ARVs

Demographic and HIV Health Characteristics (n=94)

Demographic	n (%)
Age in years M (SD)	17.7 (1.9)
Biological Sex (male)	51 (54.3%)
Sexual Orientation	
heterosexual	68 (72.3)
gay/lesbian	15 (16.0)
bisexual	9 (9.6)
Black Race	87 (94.6)
Ethnicity (Hispanic)	7 (7.5)
Education	
< high school	51 (54.8)
high school	31 (33.3)
some college	11 (11.83)
full time student	60 (63.8)

HIV Characteristics	n (%)
Route of HIV Infection	
Perinatal	72 (76.6)
Behavioral	20 (21.3)
Unknown	2 (2.1)
Hx of Opportunistic Infection	35 (38.5)
CDC Class C status	27 (28.7)
Undetectable VL (UVL<400)	58 (61.7)
VAS Adherence (M(SD))	76.1 (29.0)
VAS Adherence $\geq 90\%$	48 (51.1)
Years Known HIV Dx (M(SD))	5.8 (4.2)
Age Learned HIV Dx (M(SD))	12.2 (3.8)



Results

Measure	Range	M (SD)	Median
VAS (Adherence)	0-100	76.1 (29.0)	90.0
BDI-II (Depression Total Score)	0-63	8.48 (7.65)	7.0
BAI (Anxiety Total Score)	0-63	4.17 (5.27)	2.0
PedsQL – General Emotional Fx	35-100	82.29 (16.4)	85.0
Decisional Conflict Scale	1-3.2	1.95 (0.49)	1.9



Results: Regression Analyses

- Contrary to expectation, when controlling for demographic and health-status characteristics, there was no effect of the following predictors on adherence:
 - Symptoms of depression ($\beta=-0.46$, $p=0.204$)
 - Symptoms of anxiety ($\beta=-0.22$, $p=0.659$)
 - General emotional functioning ($\beta=-0.18$, $p=0.328$)
 - Decisional Conflict ($\beta=-1.57$, $p=0.779$)
- *Note: There was no effect of the FC-ACP intervention on adherence (data previously reported elsewhere).*



Results: Linear Regression

- Controlling for demographic and health-status characteristics:
 - Age has a significant negative effect on adherence ($\beta=-3.2$, $p=0.041$). Older youth reported poorer adherence.
 - Heterosexual youth had poorer adherence ($\beta=25.6$, $p=0.040$).



Results: Logistic Regression

- Controlling for demographic and health-status characteristics:
 - Males had lower odds of >90% adherence than females: OR=0.34, CI₉₅[0.12,0.95], p=.040
 - Youth with UVL had higher odds of >90% adherence than youth with detectable VL: OR=9.5, CI₉₅[3.3,27.3], p<0.001



Discussion

- Contrary to expectation and prior research in youth and adults with HIV, emotional functioning, particularly depressive symptoms, did not relate to adherence. This non-significant result may be an artifact of the imposed ceiling on depressive symptoms at screening, thus limiting the range of reported symptoms; those with moderate or greater symptomatology were excluded.
- Not surprisingly, youth with UVL were more likely to be adherent. UVL was the strongest predictor of adherence in this study.



Discussion

- Increased age significantly related to poorer adherence, likely due to the higher proportion of youth enrolled with perinatal HIV who may be experiencing treatment fatigue or are transitioning medication responsibility from caregiver to youth.
- Males demonstrated poorer adherence. Proportion of males did not vary by increasing age.
- Heterosexual youth had poorer adherence than gay or bisexual youth. Why would that be?...



Discussion

	BHIV	PHIV	Other	Total
Heterosexual	5	61	2	68
Gay	11	4	0	15
Bisexual	4	5	0	9
Unknown	0	2	0	2
Total	20	72	2	94

Although there was no interaction of route of transmission and adherence, greater numbers of heterosexual youth had perinatal HIV infection. Thus, heterosexual youth by proxy may differ cognitively, as well as in the role of their caregiver in maintaining adherence; these youth also may experience treatment fatigue, potential avoidance or oppositional tendencies around medication administration, and past medical trauma resulting in refusal.



Discussion (cont.)

- Alternately, given that study participation required involvement of a proxy, gay and/or bisexual youth who enrolled were able to identify a proxy to participate with them, and thus may represent a unique subset of behaviorally infected youth who feel more supported by their selected proxy.
 - *50% of youth approached were not able to participate due to not being able to identify a proxy.*
- Youth under age 18 were required to participate with a parent/legal guardian, most of whom were perinatally infected with HIV.
- There was not a significant difference in number of gay/bisexual youth with perinatal vs. behavioral transmission.



Conclusions

- Participants demonstrated suboptimal ARV adherence as a whole, and too few youth had UVL, which remains problematic for YLWHA and potential partners, demanding further investigation.
- **Limitations:**
 - Results are subject to the inherent limitations of reliance on self-report.
 - Given the number of youth who were not able to enroll because of not being able to identify a proxy to participate as a dyad, results may not generalize to other youth with HIV.
 - Data presented herein were limited to baseline data collection and do not reflect potential trends over time.



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Thank you for your time and interest!

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