Aging with HIV Infection: Understanding Its Challenges in Ghanaian Patients

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Introduction

- An estimated 36.9 million individuals have HIV worldwide
- Nearly 70% of those individuals live in Sub-Saharan Africa
- Treatment with antiretroviral therapy (ART) has allowed individuals diagnosed with HIV to live longer and achieve a normal life expectancy
- In light of this, the world's HIV population is aging and with this comes a host of challenges related to long term ART treatment compounded with consequences of normal aging

Study Objectives

- The aim of the study is to characterize the baseline challenges that HIV-infected Ghanaian patients face as they age
- Goals for this study:
  1. Assess the challenges that older (≥50 years) HIV-infected infected face
  2. Investigate challenges that younger (<50 years) HIV-infected individuals have
  3. Compare the older and younger groups to better understand age as a factor of well-being in HIV-infected patients.

Methods

- We conducted a six-week cross-sectional study of adult HIV-infected Ghanaian patients who are currently being treated with ART
- We recruited participants at the HIV Clinic in Komfo Anokye Teaching Hospital (KATH) in Kumasi, Ghana. (Kath is the only tertiary hospital in the Ashanti region and serves as a referral hospital for 10 other regions.)
- Inclusion criteria was adults on ART
- No specific exclusion criteria, except for patients who do not consent to be in the study (consent obtained in English or the local language of Twi)
- The Institutional Review Board of KATH approved this study
- Clinic demographics: KATH has 3,300 adults currently under ART treatment, of which 487 are above 50 years of age
- Patients were categorized into 3 groups:
  - Group A (n = 60): patients diagnosed after age 50
  - Group B (n = 65): patients who were diagnosed before age 50 but are currently over age 50
  - Group C (n = 79): patients who were diagnosed before age 50 and are still currently under age 50 at study entry
- Two forms of data collection:
  - Chart review: standardized clinical and laboratory data
  - Administration of FAHI (functional assessment of HIV Infection) questionnaire: assessed quality of life measures including physical, functional, emotional, social, and cognitive well-being
- Statistical analysis:
  - One-way ANOVA tests (at alpha = 0.05) to evaluate significant difference amongst groups for FAHI scores, comorbidities, & abnormal clinical lab values
  - Then, a post-hoc comparison using Tukey's test (at alpha = 0.05)
  - Finally, significant FAHI scores further stratified to determine which specific questions significantly differed amongst groups

Results

Table 1. Description of Population (N=204)

Age	Mean (SD)	49.9 (10.5)
Gender	Female	78%
	Male	22%
Time since HIV diagnosis (years)	Mean (SD)	9.1 (6.2)
CD4 clinical stage	AIDS (<200)	7.2%
	Immunocompromised (200-500)	30.4%
	Normal (>500)	62.4%
Log 10 plasma viral load (copies/ml)	Undetectable (<40 copies)	58.5%
	Virally Suppressed (<200 copies, exclusive of undetectable)	9.6%
	>200 copies	31.9%
Study Group	A (>50 years old, diagnosed after 50)	29%
	B (>50 years old, diagnosed before 50)	32%
	C (<50 years old)	39%
ART Type	PI History	11%
	NNRTI History	97%
	NRTI History	100%

Figure 1. Distribution of the FAHI Scores According to Study Group

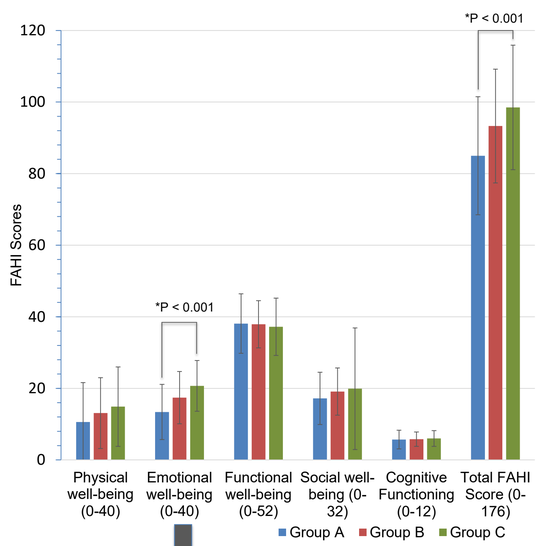


Figure 2. Clinical Profile of Study Groups

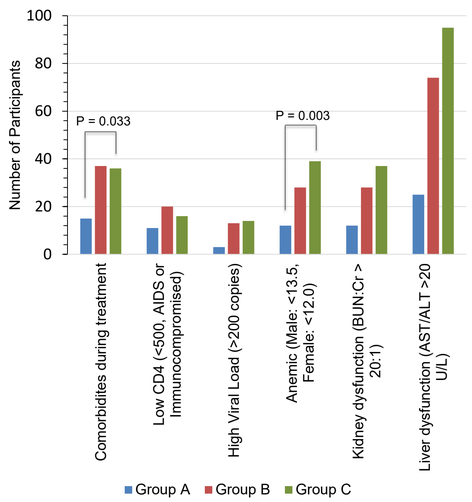
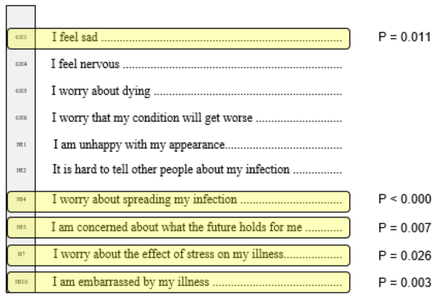


Figure 3. Emotional Well-being Subscale



*Post-hoc pairwise comparison revealed significance (P <0.05) for all groups.

Conclusions

- **Result 1**: Emotional well-being scores are significantly different amongst groups. Older patients (Group A and B) have lower scores (i.e. worse scores) in comparison to younger patients (Group C).
- **Conclusion 1**: Emotional well-being is one challenge that older HIV-infected patients face. They specifically (1) feel sad & embarrassed about their illness and (2) worry about spreading their infection, the future, & the impact of stress on their illness.
- **Result 2**: All three groups experience comorbidities and clinical lab abnormalities while on ART treatment. Rates of comorbidities and anemia is significantly lower in Group A in comparison to Group B and C.
- **Conclusion 2**: Comorbidities and anemia are not challenges that Group A faces. Thus, older patients diagnosed later in life tend have more biological health even though their emotional well-being tends to be worse.

Future Directions

- Regression studies: investigate the relationship of FAHI scores, clinical data, and time on treatment
- Comorbidity studies: Determine if comorbidity is related to HIV itself (i.e. CD4 count and viral load), ART treatment type (i.e. anemia and renal disease), or coinfection like hepatitis (i.e. the abnormal LFTs)
- Long-term goals: Future longitudinal study in aging and HIV at KATH
- Limitations:
  - Single-center study & referral bias
  - Clinical conclusions based on a preliminary chart review; more extensive chart review is in progress

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