The Impact of "Treatment for All" on Early Gaps in ART – A Multisite Cohort Study (poster 1139)

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META

Introduction

- The provision and widespread availability of ART has transformed the HIV epidemic across Sub-Saharan Africa over the past decade, resulting in an increased life expectancy of over 10 years.
- Despite this, treatment gaps remain (up to 44% of adults living with HIV in South Africa are not on ART and up to 33% in Uganda).
- We undertook this study to evaluate the impact of early vs. late treatment initiation on early gaps in ART usage South Africa and Uganda, and identified clinical and psychosocial predictors of losses.

Methods

STUDY DESIGN AND SETTING

- This research was part of the **Measuring Early Treatment Adherence (META)** study examining ART adherence in early versus late stage HIV disease, with sites in south-western Uganda (UG) and Cape Town, South Africa (SA) (NCT02419066)
- All participants were initiating ART and received tenofovir/FTC/efavirenz
- Sites: Cape Town, SA and Mbarara, UG
- Adherence was monitored in real-time (Wisepill)

PARTICIPANTS IN THE PRIMARY STUDY were enrolled into 3 groups:

- **Early HIV disease**: men and non-pregnant women with WHO stage 1 disease and a CD4>350 cells/mm3
- **Pregnant women:** pregnant women with WHO stage 1 disease and a CD4>350 cells/mm^3
- **Late HIV disease**: Men and non-pregnant women with WHO stage 3 or 4 disease or CD4 cells count <200 cells/mm^3

PROCEDURES

- Socio-behavioral questionnaires and HIV RNA levels were performed at 0, 6 and 12 months
- Early gaps were defined as ≥30 consecutive days without evidence of adherence in the first 6 months of ART

ANALYSIS

- For this sub-study, we excluded pregnant women
- Compared groups using chi-square to identify potentially confounding covariates, and logistic regression models were used to estimate predictors of early gaps in ART usage, adjusting for age, gender, employment, education and marital status.

Results

Enrolled 904 people living with HIV (PLWH)

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868 (96%) had 6 month adherence data

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670 (77%) were eligible for this analysis

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92 (14%) Early Gaps ART Use
Median time to early gap of 80 days (IQR: 45-102)
SA (n=71) UG (n=21)

Adjusted Analyses

- Restricted to SA given limited numbers of early gaps among participants in UG
- Adults living with HIV in South Africa who initiated ART with CD4<200 had double the odds of early gaps in treatment (aOR=2.0, 95%CI: 1.0-4.0)
- People who coped through denial were also at higher odds of early losses (aOR=1.2, 95%CI: 1.0-1.4)
- Education provided a protective effect against early losses (aOR=0.4, 95%CI: 0.2-0.8)
- There was no significant difference across age, gender, marital status or employment
- Those with early gaps were more likely to have detectable viremia across sites (OR:6.3, p=0.001 in UG vs. OR:2.6, p=0.008 in SA).

Table 1: Adjusted Analyses of Factors Associated with Early Gaps among South African participants living with HIV

Variable	Adjusted Odds Ratio	95% CI	P-value
Cohort			
Early	Ref	--	
Late	2.0	1.0, 4.0	.03
Age	1.0	1.0, 1.0	7.6
Female Sex	1.0	0.5, 1.9	0.96
High School			
Never Completed	Ref	--	--
Completed High School	0.4	0.2, 0.8	0.01
Married or Living Together	0.7	0.3, 1.5	0.31
Employed	0.8	0.4, 1.5	0.42
Started ART because Feel sick	1.6	0.8, 3.2	0.16
Coping through Denial	1.2	1.0, 1.4	0.3

Limitations

- Adherence monitoring may have influenced behavior
- Device non-use may account for some non-adherence
- Experiences may vary in the future and with long-term ART use

Conclusions

- Despite global efforts to promote early and enduring treatment, early gaps in ART persist, resulting in higher odds of detectable viremia.
- These gaps remain significant for key vulnerable populations, specifically those who present late to care, who lack educational opportunities, and who use denial to cope.
- Early research shows that capitalizing on resilience resources, focused on decreasing maladaptive coping strategies (e.g., denial) may provide a feasible approach to maximizing ART-based HIV treatment strategies in this vulnerable population.

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