A Prospective Multi-site Cohort Study of Pre-ART Losses and ART Refusal in South Africa

POSTER 1014

Ingrid T. Katz[1,2,3] Janan Dietrich,[4] Laura M. Bogart,[3,5] Dominick Leone,[1,6] Ingrid Courtney,[7] Gugu Tshabalala,[4] Garrett M. Fitzmaurice,[1,3,8,9] Glenda Gray,[4,10] Catherine Orrell,[7] David R. Bansberg[2,3]

[1]Brigham and Women's Hospital, Boston MA; [2]Center for Global Health, Massachusetts General Hospital, Boston, MA; [3]Harvard Medical School, Boston, MA,; [4]Perinatal HIV Research Unit, Faculty of Health Sciences, University of Witwatersrand, Johannesburg, South Africa; [5]Boston Children's Hospital, Boston, MA; [6]School of Public Health, Boston University School of Medicine, Boston, MA[7]Desmond Tutu HIV Foundation, University of Cape Town Medical School, Cape Town, South Africa; [8]Department of Biostatistics, Harvard School of Public Health, Boston, MA [9]McLean Hospital, Belmont, MA; [10]Office of the President, South Africa Medical research Council, Western Cape, South Africa

INTRODUCTION

- The provision and widespread availability of ART has transformed the South African HIV epidemic over the past decade, yet only half of all people living with HIV (PLWH) are on ART.
- Failure to initiate ART is a significant barrier to population-level viral suppression.
- We undertook this study to quantify losses in pre-ART care from presentation for voluntary counseling and testing (VCT) through three months post-VCT among adults at two urban testing centers in South Africa in a modern era of widespread treatment availability.

METHODS

STUDY DESIGN

- A prospective cohort analysis

SETTING

- Two urban testing centers in Gugulethu and Soweto Townships, South Africa

OBJECTIVE

- To quantify pre-ART losses and determine rates and correlates of ART refusal over a 3 month period

PARTICIPANTS

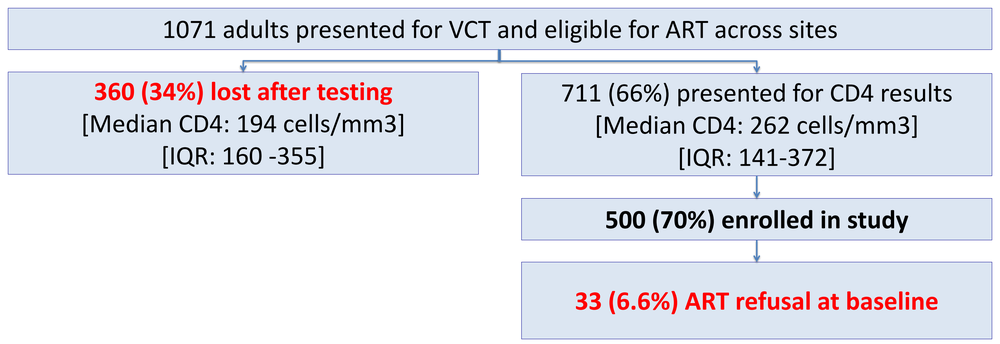
- We prospectively surveyed 500 HIV-infected ART-eligible adults who presented for VCT between July 2014-July 2015 over a 3 month period post-VCT.
- Exclusion Criteria: Pregnant woman and children

DATA COLLECTION AND ANALYSIS

- Trained interviewers administered a structured questionnaire to participants to understand psychosocial, clinical and structural factors associated with ART refusal at baseline.
- Bivariate analyses were performed to identify factors associated with ART refusal. All covariates with $p<0.2$ were included in a multivariable model. The model was further stratified by social support based on our prior qualitative findings.

RESULTS

Figure 1: Rates of Early Loss and ART refusal in PLWH Presenting for Testing



- Baseline characteristics of the cohort: Median age: 35 years-old; Gender: 63% women; Unemployed: 57% ; Education: 76% had not completed high-school.
- Multivariable analyses showed **association of fatalism with ART refusal (AOR: 1.16, p=0.02)**
- Exploratory stratified analyses found that **high social support attenuated the association of fatalism with ART refusal** (**Table 1**)
- At three months post-VCT: **1.3% of those enrolled died prior to ART initiation, and 14.9% reported no ART initiation**

Table 1: Impact of Social Support on Association of Fatalism with ART Refusal

	Low Social Support N=133		High Social Support N=350	
Variable	**Adjusted Odds Ratio**	**95% CI**	**Adjusted Odds Ratio**	**95% CI**
Age ≥ 35 (Median 35 years)	1.47	0.35—6.30	1.20	0.47—3.07
Baseline CD4 <350 (Median 244 cells/mm^3)	1.00	0.21—4.72	1.31	0.39—4.34
Less than high school education (76% high school incomplete)	1.66	0.25—11.22	1.08	0.29—3.97
Female gender (63% female)	1.10	0.22—5.44	0.96	0.36—2.53
Denial	0.77	0.50—1.19	1.16	0.90—1.49
Stigma	1.31	0.86—1.98	1.14	0.88—1.47
Fatalism	1.40	1.05—1.86	1.12	0.96—1.30

CONCLUSION

- Among 1000 HIV-infected, ART-eligible individuals presenting for VCT at two sites in SA, one-third did not return for their CD4 count.
- Of the 500 ART-eligible individuals enrolled in our cohort, nearly 7% initially refused ART at baseline.
- Among those tracked for three months, 16% died or had yet to initiate ART.
- Having a fatalistic worldview (lacking in agency to alter HIV progression and death) is associated with a higher odds of refusing ART at baseline.
- However, social support appears to modify the effect of fatalism on ART refusal.
- Future interventions should be designed to focus on decreasing gaps in pre-ART care and addressing fatalistic beliefs while optimizing social support.

REFERENCES

1. **Katz IT**, Dietrich J, Tshabalala G, Essien T, Rough K, Wright AA, Bangsberg DR, Gray GE, Ware NC. Understanding treatment refusal among adults lpresenting for HIV –testing in Soweto, South Africa: a qualitative study. AIDS Behav. 2015 Apr;19(4):704-14.
2. **Katz IT,** Bangsberg DR. Cascade of Refusal – What Does it Mean for the Future of Treatment as Prevention in Sub-Saharan Africa? Current HIV/AIDS Reports. *In Press.*
3. Joint United Nations Programme on HIV/AIDS (UNIADS). The gap report. Geneva, Switzerland; 2014.
4. Mayosi BM, Lawn JE, van Niekerk A, Bradshaw D, Abdool Karim SS, Coovadia HM*, et al.* Health in South Africa: changes and challenges since 2009. *Lancet* 2012,**380**:2029-2043.

ACKNOWLEDGMENTS

We would like to acknowledge the assistance of Regina Panda and Holly Zanoni in their contributions to data collection and data management (respectively) and all the participants for their contribution to this research.