DEPRESSION AND ANXIETY AS BARRIERS TO ART INITIATION, RETENTION IN CARE, AND TREATMENT OUTCOMES IN KWAZULU-NATAL, SOUTH AFRICA

Michael Truong,[1] Sean R. Galagan,[3] Madhura Rane,[1] Sabina Govere,[4] Mahomed-Yunus Moosa,[5]
Ann Vander Stoep,[1] Connie Celum,[2,3] Paul K. Drain[1,2,3]

1. Department of Epidemiology, School of Public Health, University of Washington, Seattle, USA.
2. Department of Medicine, School of Medicine, University of Washington, Seattle, USA
3. Department of Global Health, School of Public Health, University of Washington, Seattle, USA
4. AIDS Healthcare Foundation, Durban, South Africa
5. Department of Infectious Diseases, University of KwaZulu-Natal, Durban, South Africa

SCHOOL OF PUBLIC HEALTH
UNIVERSITY of WASHINGTON

BACKGROUND

- Mental illnesses have a high burden of disease worldwide; people living with HIV (PLHIV) are at risk of experiencing poor mental health.
- Objective was to evaluate impact of depression & anxiety on ART initiation, retention, and HIV-related outcomes in South Africa.

METHODS

- Prospective clinic-based cohort study, HIV-positive adults at from the Umlazi township of KwaZulu-Natal, South Africa (N=2,319).
- Measured depression using the Patient Health Questionnaire (PHQ-9) & anxiety using the Generalized Anxiety Disorder (GAD-7) scale before HIV testing.
- **Exposures**: depression, anxiety
- **Outcomes**: ART initiation, missed visits, missed med refills, retention in care, CD4+ count, viral load, hospitalizations & deaths.
- **Analyses**: Used univariate & multivariate logistic regression & Cox hazard analyses, adjusted for age & sex, to examine the associations between baseline depression & anxiety on outcomes over 12 months.

RESULTS

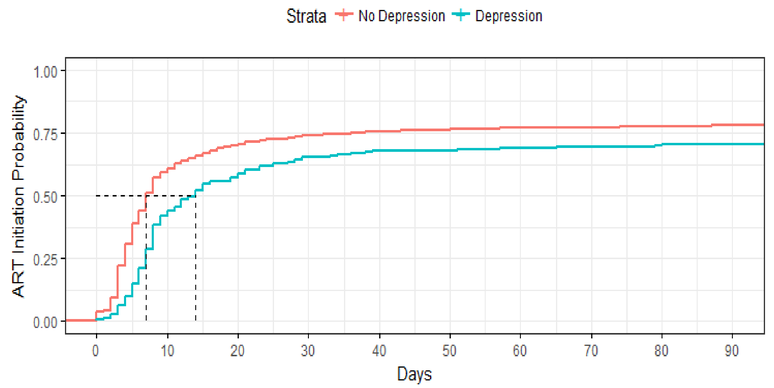
- Prevalence of depression was 12.5% (N=291), and of anxiety was 9.3% (N=216). Depression & anxiety were found to be strongly correlated (r=0.77, p <0.001).
- In adjusted models, PLHIV with depression had lower odds of initiating ART within 90 days of testing positive (adjusted odds ratio [aOR]=0.6 p<0.001) & slower ART initiation rate throughout the one-year study period (adjusted hazard ratio [aHR]=0.71 p=0.01).
- Depressed PLHIV also had lower odds of missing visits (aOR=0.51, p<0.001) but also lower odds of being retained in care at end of study (aOR=0.77, p=0.04).
- Similar findings of slower ART initiation (aHR=0.85, p=0.03) were found among PLHIV with anxiety in adjusted models.

STUDY OUTCOMES[1] BY MENTAL HEALTH STATUS

	DEPRESSION		ANXIETY	
	Odds Ratio	p	Odds Ratio	p
Linkage to care	0.6 (0.46-0.79)	<0.001	0.79 (0.58-1.08)	0.14
Missed refills	0.85 (0.59-1.23)	0.39	0.96 (0.65-1.41)	0.82
Missed visits	0.54 (0.4-0.73)	<0.001	0.65 (0.46-0.91)	0.01
Retention in care	0.77 (0.6-0.99)	0.04	0.88 (0.65-1.18)	0.38
Lost to follow up	1.18 (0.87-1.61)	0.28	0.99 (0.68-1.43)	0.95
Hospitalizations	1.19 (0.76-1.85)	0.44	1.15 (0.7-1.89)	0.58
	Hazard Ratio	p	Hazard Ratio	p
ART initiation	0.71 (0.62-0.82)	<0.001	0.85 (0.72-0.99)	0.03
	Beta Coefficient	p	Beta Coefficient	p
CD4+ count[2]	-39.64 (-57.6, -21.7)	<0.001	-35.05 (-55.6, -14.5)	<0.001
Viral load[3]	-0.13 (-0.37, 0.1)	0.26	-0.08 (-0.34, 0.19)	0.56

[1]Adjusted for age and sex.
[2]Change from baseline to last CD4+ reading.
[3]Log-transformed viral load.

ART INITIATION BY DEPRESSION STATUS



IMPLICATIONS

- Our finding in an urban township of South Africa suggest that poor mental health is a significant barrier to ART initiation and retention in HIV care.
- Thus, not only is it important to provide mental health screenings alongside HIV testing, but also more intensive follow-up may be required to ensure PLHIV initiate ART and remain engaged in HIV care.
- Integrated care models that offer mental health screening & treatment alongside usual HIV care may help work towards 90-90-90 and improve HIV-related outcomes.

ACKNOLWEDGEMENTS

We thank the women and men who participated in this study. This work was supported by the Infectious Disease Society of America, the Harvard University Center for AIDS Research [P30 AI060354], and the National Institute of Allergy and Infectious Diseases [AI108293, AI110264].