Depression and treatment outcomes among Tanzanian adults initiating HAART

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Abstract

Background: Depressive symptoms are common among HIV-infected individuals; however, data on the association of depression with mortality, morbidity, and CD4 T-cell reconstitution are lacking for individuals initiating HAART in sub-Saharan Africa.

Methods: Depressive symptoms and social support were assessed at ART initiation for 2,134 HIV-infected adult men and women enrolled in a trial of multivitamins in Dar es Salaam, Tanzania conducted during 2006–2010. Symptoms comparable with major depressive disorder were defined based on a modified and validated Hopkins Symptom Checklist (HSCL-25). Participants were prospectively followed at monthly clinic visits for a median of 20.6 months

Results: At HAART initiation 53% of Tanzanian men (343 of 647) and 59% of women (859 of 1,487) reported symptoms consistent with major depressive disorder. Significant independent risk factors for depression at HAART initiation included female sex, being single, WHO stage IV disease, smoking, low levels of social support, and lack of HIV status disclosure. After multivariate adjustment individuals with depression had 1.82 (95% CI: 1.24-2.66; p<0.01) times the hazard of death as compared to individuals not reporting depressive symptoms. Depression was also associated with increased risk of >10% weight loss (HR: 1.29; 95% CI: 1.00-1.66; p=0.049).

Conclusions: Due to both the high prevalence and high risk of adverse treatment outcomes associated with depression providing effective psychosocial interventions may have a large population-level impact on reducing mortality and improving quality of life for adults initiating HAART in sub-Saharan Africa.

Study Population

- 1,487 HIV-infected women and 647 HIV-infected men initiating HAART in Dar es Salaam Tanzania during 2006-2010.

Outcome Assessment

- Prospective follow-up at monthly clinic visits for median of 20.6 months

Depression Assessment

- Validated Hopkins Symptoms Checklist (HSCL-25) assessed at HAART initiation
- Social support scale based on the Duke University– University of North Carolina Functional Social Support Questionnaire also administered

Statistics

- Proportional hazards models used to analyze association of depression with incident mortality and morbidities
- Change in CD4 T-cell count analyzed with generalized estimating equations (GEEs)

Results

Table 1. Prevalence of symptoms consistent with major depression at HAART initiation for HIV-infected Tanzanian adults stratified by sex

Males	Females
343 / 647 (53.0%)	859 / 1487 (58.7%)

Table 2. Significant risk factors for symptoms consistent with major depression at HAART initiation

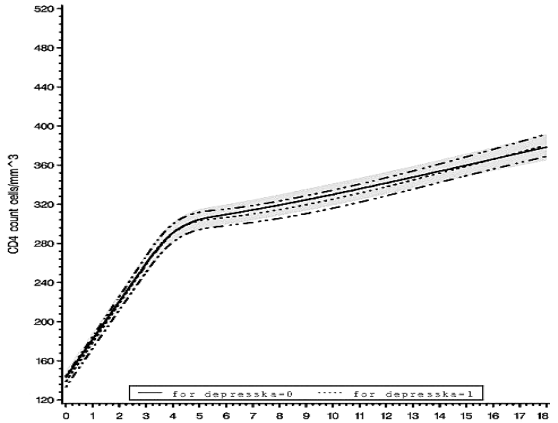
	Multivariate adjusted relative risk for depression (95% CI)	p-value
Female sex	1.13 (1.03-1.23)	<0.01
Marital status		
Married	Reference	
Single	1.13 (1.01-1.26)	0.03
Widow	1.04 (0.94-1.15)	0.47
Divorce	1.00 (0.91-1.11)	0.94
WHO HIV Stage		
I/II	Reference	
III	1.10 (0.99-1.21)	0.07
IV	1.19 (1.04-1.35)	0.01
District of clinic		
Illala	Reference	
Temeke	1.18 (1.07-1.29)	<0.01
Kinondoni	1.06 (0.96-1.17)	0.22
Current Smoker	1.21 (1.05-1.39)	<0.01
Social Support		
High Support	Reference	
Medium Support	1.28 (1.18-1.38)	<0.01
Low Support	1.46 (1.27-1.68)	<0.01
HIV disclosure		
Told at least 1 person	Reference	
Has told no one HIV status	1.14 (0.99-1.30)	0.05

Table 3. Association of depression at HAART initiation with risk of mortality and morbidity outcomes in first 2 years of follow-up

Outcome	Adjusted[1] Relative Risk (95% CI)	p-value
Mortality	**1.82 (95% CI: 1.24-2.66)**	**<0.01**
Pulmonary TB	0.93 (95% CI 0.64-1.34)	0.69
Pneumonia	1.31 (95% CI:0.98-1.30)	0.08
Persistent Diarrhea	1.06 (95% CI: 0.69-1.64)	0.80
Oral candidiasis	**1.50 (95% CI 1.15-1.96)**	**<0.01**
>10% weight loss	**1.29 (95% CI: 1.00-1.66)**	**0.049**

*Adjusted for sex age, education, marital status, CD4 count, WHO HIV stage, HAART regimen, BMI, alcohol use, smoking, social support, disclosure of HIV status at initiation, wealth quintile as determined by assets, district, and randomized multivitamin regimen

Figure 1. No association of depression at HAART initiation with CD4 T-cell reconstitution



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