HOSPITALIZATIONS AND MORTALITY DIFFER BY GENDER AMONG LONGTERM ART PATIENTS IN UGANDA

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Background

- Many studies have shown that male ART patients are at higher risk for mortality
- Much of this mortality excess is believed to be due to late diagnosis or poor adherence to therapy
- We conducted an analysis to determine if differences in health-seeking behaviour may explain gender disparities in mortality **among long-term survivors** receiving antiretroviral therapy (ART) in rural Uganda

Methods

- From June 2012 to September 2013, we enrolled patients receiving a first-line ART regimen for at least four years without previous viral load (VL) testing in Jinja, Uganda.
- We measured HIV VL at study entry and switched participants to second-line therapy, if VL was ≥1000 copies/mL on two measurements, three months apart
- All participants were followed for three years.
- We collected clinical and behavioral data at enrollment and every six months.
- We used Cox proportional hazards modeling to examine factors associated with hospitalization and mortality until September 2016.

Among long-term ART patients, ***females*** were ***3X more likely to be hospitalized*** than men, but ***male mortality was 4X higher.***
Facilitating care for acute medical problems ***may improve survival*** among men

Table 1: Cox proportional hazards modeling of factors associated with time to mortality

List of clinical factors		Univariate HR (95% CI)	p value	Multivariate HR (95% CI)	p value
PVL at enrollment	**< 1000 copies/mL**	1.00	0.227	1.00	0.762
	≥1000 copies/mL	1.79 (0.69,4.63)		1.18 (0.40,3.47)	
Age at enrollment (per year increase)		1.06 (1.01,1.12)	0.014	1.07 (1.01, 1.13)	0.013
Gender	**Female**	1.00	<0.001	1.00	0.037
	Male	4.64 (1.98,10.87)		2.57 (1.06,6.23)	
Education	**No education/do not know**	1.00			
	Some/completed primary school	1.11 (0.30,4.11)	0.874		
	Some/completed high school	1.66 (0.46,6.05)	0.439		
Marital Status	**Divorced/separated/ widowed/ single**	1.00	0.506		
	Legally married	0.69 (0.23,2.05)			
Adherence (time-updated)	**No missed doses**	1.00	0.495		
	Any missed doses	1.71 (0.37,7.99)			
BMI (time-updated) per unit increase		0.85 (0.74,0.98)	0.027		
CD4 count (time-updated, per 100 cell increment)		0.66 (0.52,0.83)	0.002	0.67 (0.52,0.88)	0.004
Time on ARV (per year)		0.83 (0.59,1.17)	0.301		
Ever Hospitalized (yes vs. no)		0.22(0.03-1.63)	0.138		

Results

- We enrolled 616 participants or whom 75.3% were female.
- The median age was 44 years (interquartile range [IQR]39-50 years), the median duration of ART was 6 years (IQR 5-7 years) and the median CD4 count at enrollment was 523 cells/μL (IQR 362- 707).
- Of these, 113 (18.3%) had VLs≥1000 copies/mL at enrollment.
- Participants were followed for a median of 2.8 years (IQR 2.6-3.2) years during which hospitalizations occurred in 101 participants (7% of men vs. 20% of women; p<0.001).
- A total of 22 (3.6%) deaths occurred; 9% of men vs. 2% of women (p <0.001).
- Participants who were hospitalized had a lower risk of mortality in the univariate analysis (HR=0.22; 95% CI 0.03-1.63), but it was not statistically significant (p=0.138) and was not included in the final model.
- In the multivariate model, mortality was associated with age (adjusted hazard ratio (AHR) = 1.07 per year increase; 95% CI 1.01-1. 13), male gender (AHR = 2.57; 95% CI 1.06-6.23) and time-updated CD4 counts (AHR = 0.67 per 100 cell increment; 95% CI 0.52-0.88).
- Virologic failure at enrollment was not associated with mortality (AHR = 1.18; 95% CI 0.40 - 3.47).

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