



Loss of follow-up among HIV infected female sex workers receiving ARV in Dakar, Senegal

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Introduction

In sub-Saharan Africa and specifically in Senegal, services for human immunodeficiency virus (HIV) care and treatment have expanded rapidly over the past decade and with the provision of antiretroviral therapy (ART) to most HIV infected persons in need of treatment. Despite demonstrable health gains among enrollees, however, clinicians in many programs in the region are now reporting substantial patient attrition.

Studies conducted in resource limited settings have shown loss of follow-up rates as high as 40% after 2 years [1, 2, 3, 4]. The risk factors and patient-level and program-level characteristics associated with loss of follow-up have received little attention in our context.

A better understanding of the significance and determinants of reasons of loss of follow-up and key potential related outcomes measures such as death would assist program evaluation and provide basis for future interventions.

Objectives:

- To estimate the rate of HIV-infected patients who are loss to follow-up in the Dakar region among Female Sex Workers (FSWs).
- To study the risk factors associated with being "lost to follow-up" among HIV-infected FSWS



Figure 1. The Laboratory of Bacteriology and Virology (LBV) at Le Dantec Hospital. The lab work for IHS are performed at LBV

Materials and methods

Subjects:

- This was a longitudinal cohort study of HIV infected female sex workers receiving antiretroviral drugs at the "Institut d'Hygiene Social" (IHS) of Dakar, Senegal.
- The IHS site serves primarily female commercial sex workers, a well-characterized high risk population that has been followed for over 15 years.



Figure 2. Dated photograph of the IHS Clinics

Measurements:

- Outcomes:
 - Loss of follow-up (LFU) was defined as any patient who missed a study visit and could not be contacted for 6 consecutive months or has died after being lost for ≥ 6 months.
 - Death.
- Covariates such as age, ethnicity, CD4 count at entry or HIV-1 vs. HIV-2 type infections were taken into account.

Statistics:

- Cox Regression models were used to assess the relationship between the outcome variables and age, ethnicity, CD4 count at entry or HIV-1 vs. HIV-2 type and duration of loss of follow-up.
- Associations were examined at a $P < 0.05$ significance level (2-sided test).
- Statistical analyses were performed using SAS software (version 9.1; SAS Institute, Cary, NC).

Results

Records of 74 HIV infected female sex workers receiving antiretroviral treatment, and followed at the IHS from April 2001 to August 2008 were reviewed. Among those 61 had non-missing visit attendance data and were included in these analysis

Overall, 15 patients (20.3%) died and 42 (57%) were lost during an average follow-up period of 26 months (SD = 18.9).

The mean age of patients was 46.6 years old (SD = 7.8) and the mean CD4 count at entry was 215 (SD = 68.6).

The median follow-up period was 23 months (min = 0 months - max = 72 months)

Among the 13 patients who died, approx. 70%(69.2%) are lost to follow-up

Table 1 Predictors of loss to follow-up using Cox regression models

Variable	Exp (Beta)	95% CI	P-value
CD4 Count			
≥ 250	1		0.510
< 250	1.25	(0.64 – 2.42)	
Age	0.99	(0.96 – 1.03)	0.653
Ethnicity			
Wolof	1		
Sérére	0.82	(0.34 – 2.01)	0.857
Fulani/Toucouleur/Peulh	0.75	(0.28 – 2.00)	
Other	0.70	(0.28 – 1.74)	
HIV Type			
HIV-1	1		
HIV-2	0.86	(0.32 – 2.23)	0.951
HIV-1/2	0.85	(0.20 – 3.58)	

- Using Cox Regression models, we did not find a significant relationship between age, ethnicity, CD4 count at entry or HIV-1 vs. HIV-2 type and loss of follow-up.

- However, longer duration of loss of follow-up, lower CD4 count at entry and HIV-1 type (versus HIV1-2) were all significantly associated with death in this cohort

Conclusions

The LFU rate was very high (>50%) among HIV infected FSWS on ARV in the Dakar region in Senegal; with a median follow-up period of 23 months.

These findings indicate the need to obtain better longitudinal follow-up data for optimal assessment of the reasons for loss-of follow up among HIV infected female sex workers receiving ARV in Senegal.

The significant association between longer duration of loss-of follow and death highlights also the need to address this issue and to plan for future related interventions in this population.

Literature cited

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