6-year retention and immunological response to ART by gender, IeDEA West Africa

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Abstract #1015

Background

- Gender differences were previously reported in sub-Saharan Africa for retention and immunological response to antiretroviral therapy (ART), but follow up was usually limited to the first 2-3 years after ART initiation.
- West Africa is among the regions of the world with the least well-performing ART programs.

Objective

- To evaluate gender differences on retention and immunological response in the 6 years following ART initiation in West African adults.

Methods

Data collection :

- Data routinely collected from IeDEA West Africa collaboration clinics and laboratory records, database developed and managed in Abidjan (ANRS site) and Bordeaux (Inserm 1219).

Population:

- All patients of the IeDEA West Africa collaboration who initiated ART between 2002 and 2014 and had a baseline T-CD4+ lymphocyte measurement.

Statistical analysis:

- Cumulative incidence of retention failure was estimated by Kaplan Meier Method.
- A logistic regression analysis assessed the risk of no follow-up after ART initiation;
- Survival analyses with Cox models assessed the risk of 6-year retention failure (defined as either dead or lost-to-follow-up). Year 2-3 and 5-6 were pooled to comply with proportional hazards assumption.
- The evolution of the immunological response by gender was investigated by linear mixed models

Results

Retention failure

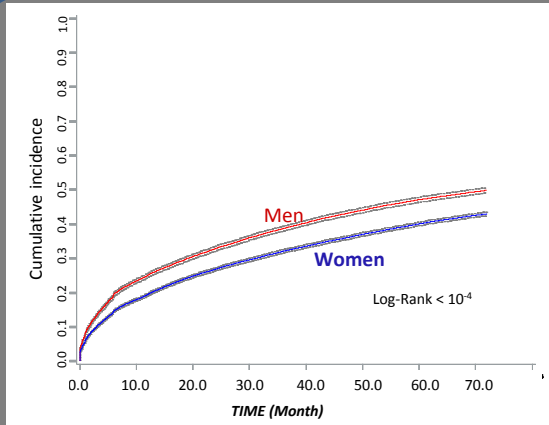


Figure 1. Cumulative incidence of retention failure by gender in the 6 years following ART initiation

- A total of 49,677 patients (66.2% women) contributed 197,953 person-years of follow-up after ART initiation in 16 clinics in 9 countries.
- At ART initiation men were older than women (median age 40.8 years vs. 34.0 years) and had a lower median CD4 count (140/µl vs. 184/µl).

Table 1. Risk of retention failure after ART initiation according to gender

	No follow-up	Year 1	Years 2 to 4	Years 5 and 6
	aOR* [CI95%]	aHR* [CI95%]	aHR* [CI95%]	aHR* [CI95%]
Gender				
Men	**1.22[1.12;1.33]**	**1.22[1.17;1.28]**	**1.11[1.05;1.18]**	**0.95[0.87;1.04]**
Women	Ref	Ref	Ref	Ref
Year of ART initiation				
<2006	Ref	Ref	Ref	Ref
2006-2010	1.57[1.34 ;1.83]	1.15[1.08;1.21]	1.28[1.20;1.37]	2.20[1.99;2.43]
2011-2014	3.51[2.99;4.13]	1.50[1.40;1.61]	2.27[2.08;2.47]	

- Frequencies of No follow-up : 4.2% in men vs. 3.3% in women
- Very High retention failure with important increase in the 6 first months. Probability of retention failure was:
  - At 12 month : 25% for men vs. 19% for women
  - At 72 month : 50% for men vs. 43% for women
- Increased risk of no follow-up in men after starting treatment
- Increased retention failure in men compared to women up to 4 years following ART initiation but no difference thereafter

Retention failure

Immunological response

Table 2. Average gain of CD4-T cells by gender and gain difference in the 6 years following ART initiation

	CD4-T cells gain by month [IC 95%]	CD4-T cells gain difference by month [IC 95%]	P-value
4 first month			
Men	25.80[24.03;27.57]	Ref	0.380
Women	26.62 [24.97;28.28]	+ 0.82[-0,20;1.84]	
Month 6 to 72			
Men	2.33[02.14;02.51]	Ref	<0.0001
Women	3.48[03.31;03.65]	+ 1.15[1.02;1.29]	

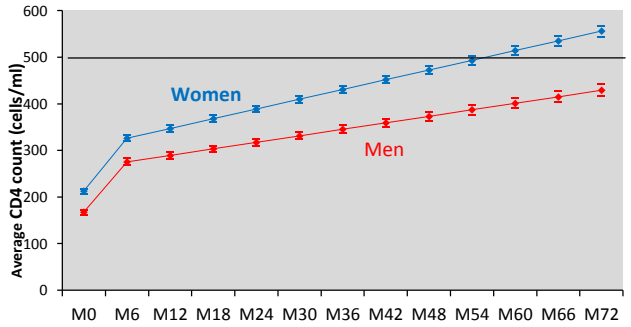


Figure 2. Evolution of the average number of CD4 (95%CI) by gender in the 6 years following ART initiation

- The gain of CD4-T cells was more important in the 4 first month for men and women (25.8 vs 26.6 cells/month) and lower (2.3 vs 3.5 cells/month) from month 5.
- This gain was significantly more important in women (+ 1.5 cells/month) from the fifth month
- CD4 count at baseline was lower among men
- The evolution of the immunological response was similar in both sex during the 4 first months of follow-up and Immunological response was better for women from month 5 up to M72
- Men did not reach the 5OO CD4 threshold

Immunological response

Conclusion

- **Better retention and immunological response achieved by women**
- **Gender difference on retention may disappear from the fifth year**
- **The growing number of patients in ART programs may jeopardize retention**

Need for improving HIV care programs with innovative interventions targeting gender-related factors