



TIME TO VIRAL SUPPRESSION AFTER ART INITIATION : TRANSGENDER WOMEN vs OTHER PWH. Results from the ANRS CO4 FHDH cohort.



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<https://anrs-co4.fhdh.fr>

INTRODUCTION

Previous cross-sectional studies have highlighted lower rates of viral suppression in **transgender women (TW)** compared to other people with HIV (PWH). However, few longitudinal studies have been conducted (none in Europe), and none have specifically compared **the time to reach viral suppression (VL<50cp/mL) after starting antiretroviral therapy (ART)** between TW living with HIV and other, particularly in the French context, where there is free access to HIV care and treatment for everyone.

METHODS

Data source

French Hospital Database on HIV (ANRS CO4 FHDH)

- Prospective multicentric cohort with ongoing enrollment since 1989.
- >105,000 of PWH followed in 2022 ; N= 172 hospitals in France.

Population selection

- Treatment-naïve adults with HIV-1 followed between 2013 and 2022 in FHDH who started dual/triple therapy treatment and with ≥ 2 follow-up after ART initiation, with available VL and CD4 at ART initiation.
- Exclusion : people who inject drugs and trans men.

Definitions

- Date of **viral suppression** was defined as the first of two consecutive VL <50 copies/mL after ART initiation.
- **Group x origin** : Men who have sex with men (MSM), other cis men, cis women and TW by origin (France, Latin America, Other).

Statistical analysis

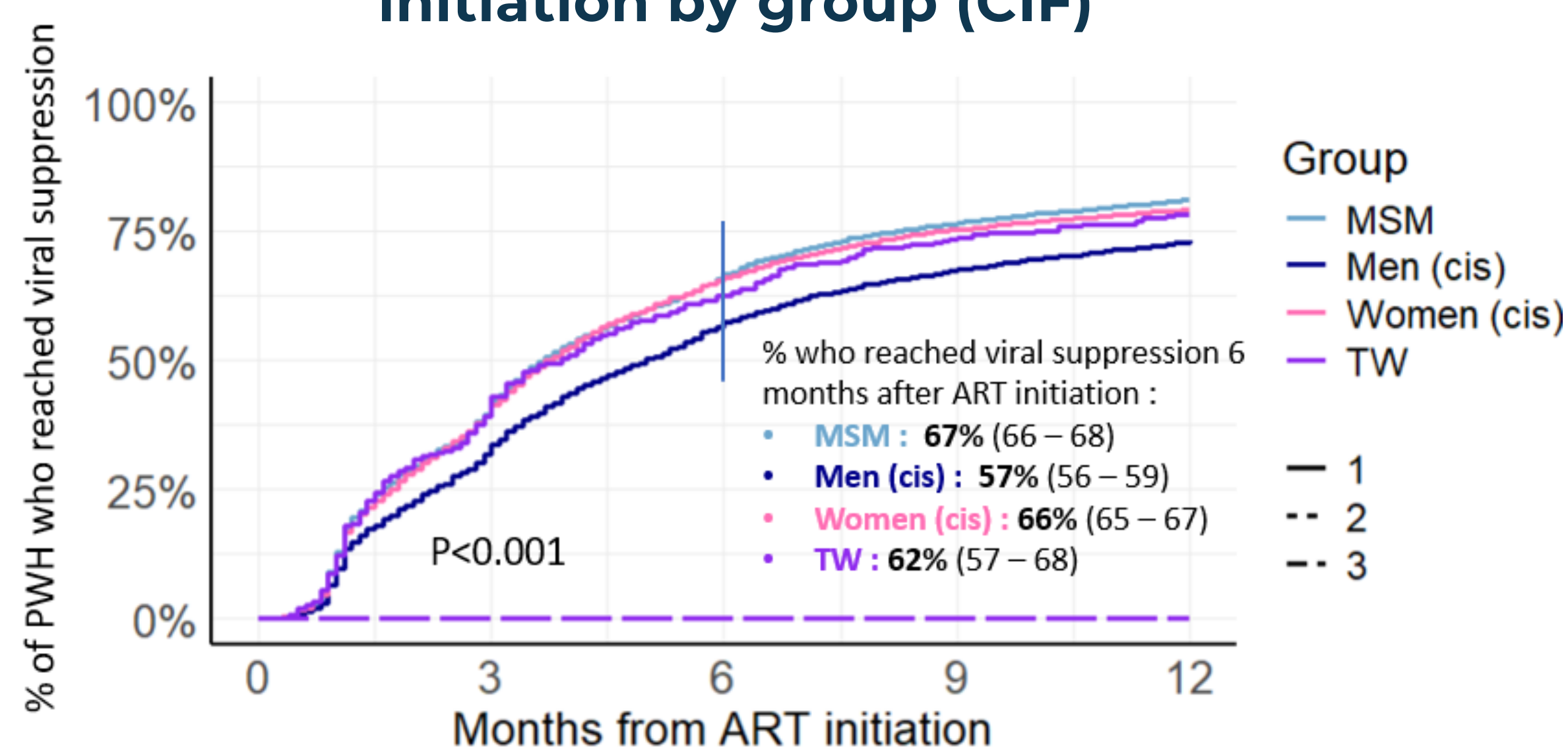
- Cumulative Incidence function (CIF)
- Fine and Gray model was used to estimate **factors associated with viral suppression** :
- Adjusted for **group x origin**, age, region of enrollment, time between diagnosis and enrollment, time between enrollment and ART initiation, year of ART initiation, first type of cART (dual/triple therapy), and immuno-virological status at ART initiation (VL and CD4).
- Competitive risks were : death and lost to follow-up (absence of follow-up data >18 months before 31/12/2022, study last update).

Table 1. Characteristics of PWH followed in the ANRS CO4 FHDH between 2013 and 2022

N= 26 522	TW N= 301	MSM N= 11 546	Other men (cis) N= 6851	Women (cis) N= 7824	P-value*
At inclusion in FHDH :					
Age	31 (27 – 37)	34 (27 – 44)	41 (33 – 51)	35 (29 – 44)	<.0001
Geographic origin					<.0001
France	66 (21.9)	9061 (78.5)	2961 (43.2)	1832 (23.4)	
Latin America	195 (64.8)	418 (3.6)	185 (2.7)	194 (2.5)	
Africa	17 (5.6)	1032 (8.9)	2846 (41.5)	4940 (63.1)	
Other	23 (7.6)	1035 (9.0)	859 (12.5)	858 (11.0)	
Included in Paris region	199 (66.1)	4174 (36.2)	2893 (42.2)	3502 (44.8)	<.0001
Year of inclusion (median)	2017	2016	2016	2016	<.0001
Sexual HIV acquisition with a man	299 (99.3)	11546 (100)	0**	7258 (93.1)	
At ART initiation :					
Starting triple therapy	232 (77.1)	9388 (81.3)	5595 (81.7)	6819 (87.2)	<.0001
Status					<.0001
<200/mm ³ CD4 or AIDS	57 (18.9)	1750 (15.2)	2535 (37.0)	2276 (29.1)	
200-350/mm ³ CD4	58 (19.3)	1895 (16.4)	1473 (21.5)	1825 (23.3)	
>350/mm ³ CD4 or primary infection	186 (61.8)	7901 (68.4)	2843 (41.5)	3723 (47.6)	
CD4/mm ³	404 (253 – 568)	436 (285 – 603)	290 (130 – 465)	332 (179 – 510)	<.0001
HIV RNA cp/mL					<.0001
[50 - 5 000]	43 (14.3)	1502 (13.0)	937 (13.7)	1870 (23.9)	
[5 000 – 100 000]	135 (44.9)	5491 (47.6)	2875 (42.0)	3611 (46.2)	
≥100 000	123 (40.9)	4553 (39.4)	3039 (44.4)	2343 (29.9)	
Follow-up (fwup) :					
Starting ART ≤15 days after inclusion	140 (46.5)	5486 (47.5)	3012 (44.0)	3540 (45.2)	<.0001
Duration of fwup after cART initiation (years)	4 (2 – 7)	6 (3 – 8)	5 (3 – 8)	5 (3 – 8)	<.0001
Under cART at last fwup	300 (99.7)	11 225 (97.2)	6580 (96.0)	7602 (97.2)	<.0001
HIV RNA <50 cp/mL at last fwup	256 (85.0)	10 522 (91.1)	5779 (84.4)	6678 (85.4)	<.0001

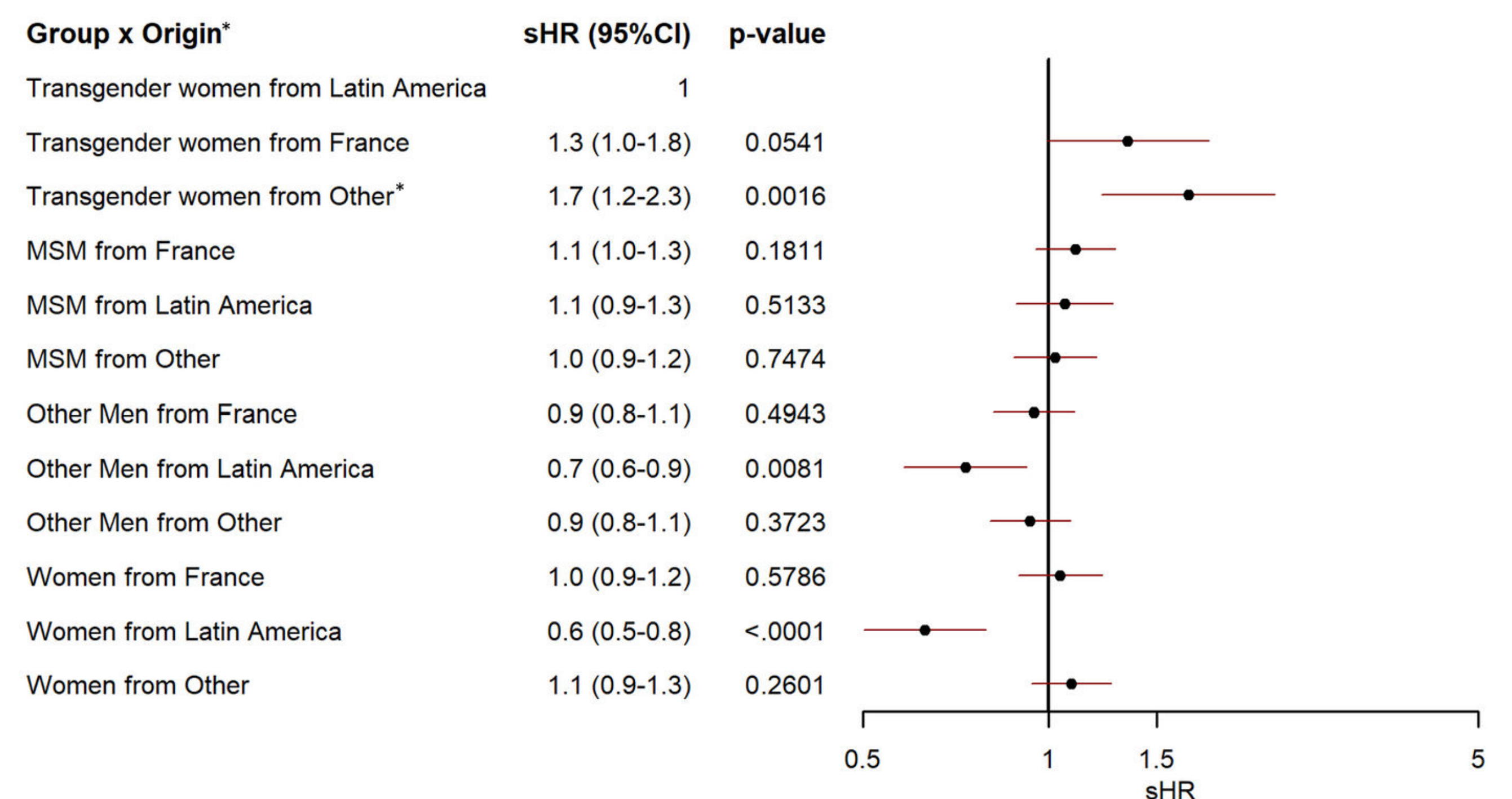
N (%) ; median (Q25 – Q75). *Chi square or Kruskal-Wallis tests. **Among other men, 5,738 (83.6%) acquired HIV through heterosexual relationships.

Figure 1. Time to viral suppression after treatment initiation by group (CIF)



RESULTS

Figure 2. Adjusted Sub-distribution Hazard Ratios (sHR) for viral suppression by Group x Geographic Origin



*from the multivariable Fine and Gray model, adjusted for age, region of enrollment, immuno-virological status, first type of treatment, year of ART initiation, time between diagnosis and enrollment, time between enrollment and ART initiation).

*Other : other countries/region in the world than France or Latin America.

Among 26,522 PWH included in the study, about **1.1%** (N=301) were **TW**. About 65% were from Latin America, 22% from France and 13% from other countries. Median time in months to reach viral suppression (VS) were : 4 months for MSM, TW and women (cis) and 5 months for Other men (cis).

On multivariable model (figure 2), compared to **TW** from Latin America (ref):

- **TW** from France and other countries were more likely to reach VS **(+30% and 70% respectively)**
- No difference with MSM (regardless of geographic origin)
- Men (cis) and women (cis) from Latin America were less likely to reach VS **(-10% and -40% respectively)**

CONCLUSION

This study highlights the complex interaction between gender and geographic origin, showing that being a **TW** is not directly associated to lower viral suppression. In settings with fair access to care, such as in the French universal healthcare system, **transgender women achieve virological success as well as other PWH**. In contrast, geographic origin, particularly being from Latin America, appears to be associated with a higher risk of not achieving viral suppression. These findings underscore the importance of considering both gender and geographic origin when developing strategies to optimize HIV treatment outcomes.

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