

**Regimi antiretrovirali,
“U Status” e
forgiveness: quale
importanza nel 2021?**

Giordano Madeddu
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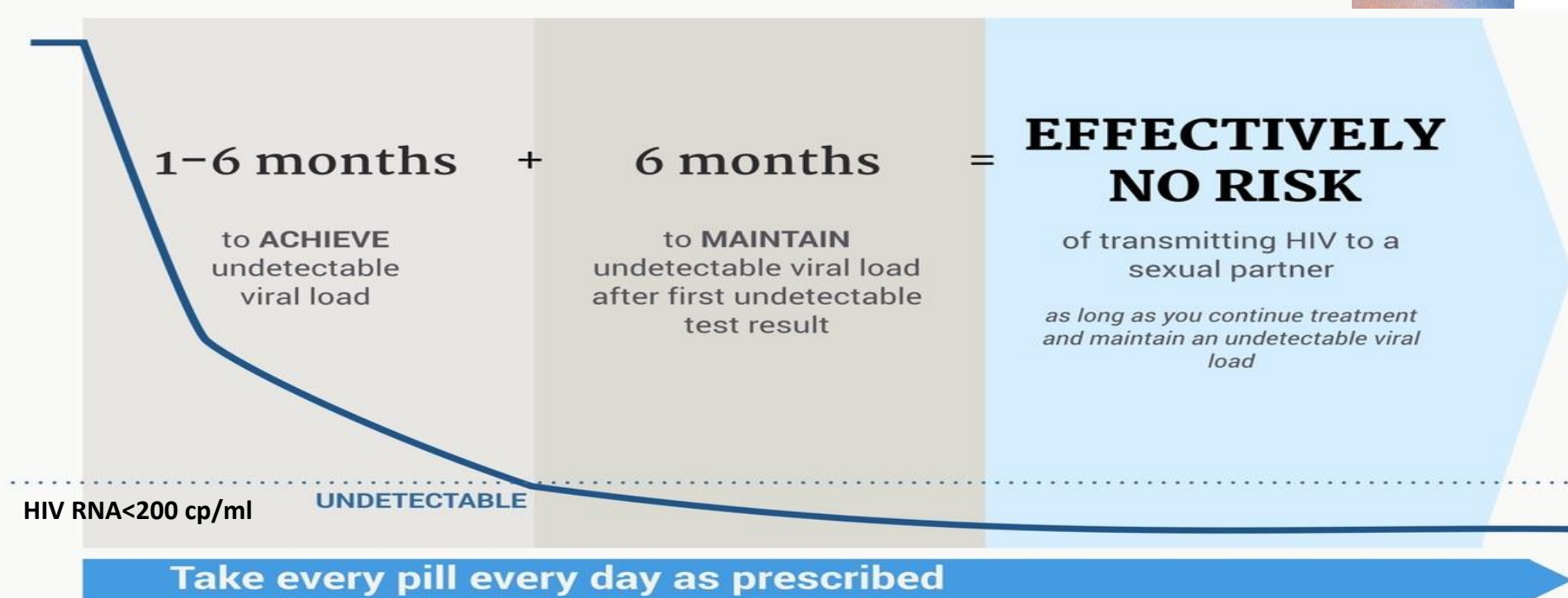


**CONVEGNO
VIRTUAL
EDITION**
7-8 Giugno 2021

U=U definition: the campaigning



CONVEGNO
VIRTUAL
EDITION
7-8 Giugno 2021



National Institute of
Allergy and
Infectious Diseases

UNDETECTABLE = UNTRANSMITTABLE



Prevention Access Campaign



www.uequalsu.org
#UequalsU

HIV & Coinfections

6th ICONA FOUNDATION MEETING

ROME January 27-28, 2020 UNAHOTELS Decò Roma



Implementation of U=U in the ICONA Cohort

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Fondazione Icona
ITALIAN COHORT NAIVE ANTIRETROVIRALS
Conceived by Professor Mauro Moroni



Background

- Back in 1994 an Italian study demonstrated a 50% reduction in HIV transmission among sero-discordant heterosexual couples when the HIV-infected partner was treated with Zidovudine ^[1].
- In 2008 The Swiss Cohort statement “an HIV-infected individual without additional sexual transmitted disease (STD) and on an anti-retroviral therapy (ART) with completely suppressed viremia is sexually non-infectious” ^[2].
- More recently, in 2011, a large randomized trial (HPTN-052) showed with striking evidence that early ART is able to dramatically reduce HIV linked transmissions by 96% ^[3].
- Moreover, between 2010 and 2019 two large observational studies (Partner and Opposites Attract) showed no linked HIV transmission in serodiscordant couples when the HIV-infected partner is undetectable ^[4-6].

1. Musicco M, *et al.* Antiretroviral treatment of men infected with human immunodeficiency virus type 1 reduces the incidence of heterosexual transmission. *Arch Intern Med* 1994. 2. Les personnes séropositives ne souffrant d'aucune autre MST et suivant un traitement antirétroviral efficace ne transmettent pas le VIH par voie sexuelle. *Bull des Médecins Suisses* 2008. 3. Cohen MS, *et al.* Prevention of HIV-1 infection with early antiretroviral therapy. *N Engl J Med* 2011. 4. Rodger AJ, *et al.* Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *JAMA - J Am Med Assoc* 2016. 5. Rodger AJ, *et al.* Risk of HIV transmission through condomless sex in MSM couples with suppressive ART: The PARTNER2 Study extended results in gay men. *AIDS* 2018. 6. Bavinton BR, *et al.* Viral suppression and HIV transmission in serodiscordant male couples: an international, prospective, observational, cohort study. *Lancet HIV* 2018.

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¹University of Sassari, Sassari, Italy; ²University College London, London, UK; ³Catholic University of the Sacred Heart, Rome, Italy; ⁴Azienda Ospedaliera Papa Giovanni XXIII, Bergamo, Italy; ⁵University of Milan, Milan, Italy; ⁶Lazzaro Spallanzani National Institute for Infectious Diseases, Rome, Italy; ⁷University of Bari, Bari, Italy.

✓ 8,241 PLWH were included in the study for a total of 12,670,888 PDFU. Median age was 39 (IQR 31,47), 20% were female. The majority of participants have acquired HIV infection through sexual contacts (45.9% MSM and 38.5% heterosexuals). During follow-up 617 patients have spent ≤ 90% of the time with a VL ≤ 200 copies/ml, losing the U=U status.

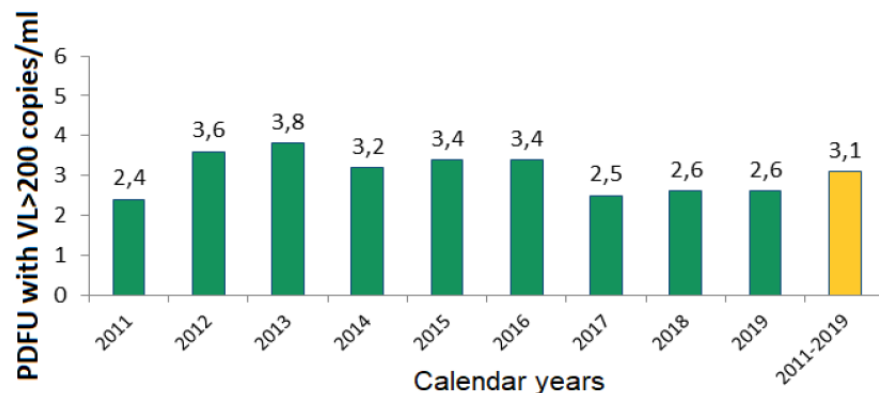


Figure 2. Person day follow up (PDFU) with VL > 200 copies/ml by calendar year of follow-up.

Table 3. Multivariate logistic regression estimates of factors associated with losing U=U status.					
Factor	Unadjusted		Adjusted*		Type III p-value
	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value	
Gender					
Female vs. Male	2.26 (1.89, 2.69)	<.001	1.55 (1.20, 2.00)	<.001	
Mode of HIV Transmission					<.001
PWID vs. MSM	3.68 (2.86, 4.72)	<.001	2.50 (1.80, 3.46)	<.001	
PWID vs. Heterosexual	2.09 (1.72, 2.54)	<.001	1.43 (1.10, 1.87)	0.009	
PWID vs. Other/Unknown	1.77 (1.24, 2.53)	0.002	1.67 (1.07, 2.60)	0.017	
Nationality					
Foreign-born vs. Italian	1.36 (1.14, 1.63)	<.001	1.42 (1.12, 1.80)	0.004	
Employment, n (%)					<.001
Unemployed vs. Employed	2.14 (1.70, 2.70)	<.001	1.46 (1.13, 1.89)	0.004	
Previous virological failure, n					<.001
1-3 vs. 0	2.02 (1.50, 2.73)	<.001	1.84 (1.22, 2.76)	0.003	
>3 vs. 0	3.52 (2.64, 4.69)	<.001	2.85 (1.84, 4.44)	<.001	

- *Multivariable model includes all variables selected by backward selection that were retained with a p-value less than 0.3 level. Also adjusted for age, AIDS diagnosis, HBsAg/HCV status, duration of ART, anchor drug used, geographical region, diabetes, smoking, use of statins/lowering blood pressure drugs, glucose and prior STDs. PWID: people who inject drugs; MSM: men who have sex with men.
- ✓ Our population of PLWH meeting the definition of U=U at December 2010 maintained this status for 97% of the following 10 years of observation and the proportion showed a trend for a further increase in recent years.
 - ✓ We also identified a **small subset of more fragile individuals**, including females, PWID, unemployed and foreign-born, at higher risk of not maintaining the U=U status.
 - ✓ Taken together our results from a “real life” setting reinforce the validity of the U=U message in real world settings and the promotion of related campaigns

Time spent with HIV-RNA ≤ 200 copies/ml in a cohort of people with HIV during the U=U era

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AIDS 2021, 35:1103–1112

U status definition: the patient

We define a participant in the ICONA cohort as having achieved a stable 'U status' when her/his HIV RNA was ≤ 200 copies/mL for more than 6 months

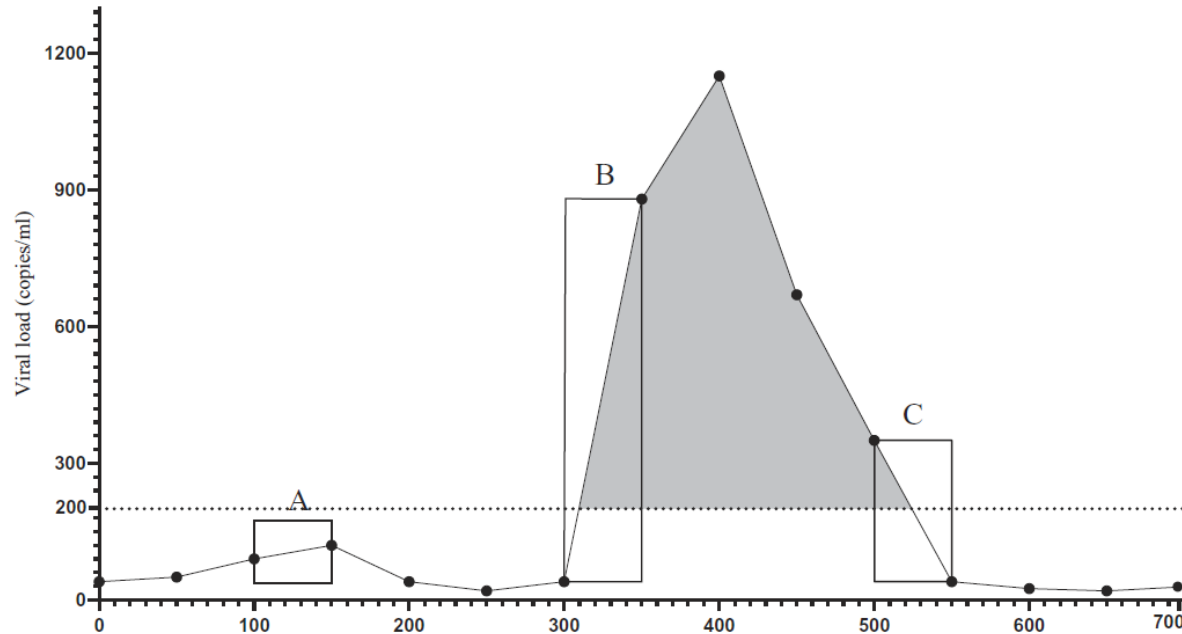


Fig. 1. Estimating person days of follow-up with viral load greater than or 200 copies/ml or less for a hypothetical participant. If both viral load measurements of a pair were 200 copies/ml or less (square A), then all intervening person-days of follow-up (PDFU) were considered to have been 200 copies/ml or less. The grey area represents the PDFU greater than 200 copies/ml. If both measurements of a pair were greater than 200 copies/ml viral load, then all intervening PDFU were considered to have been greater than 200 copies/ml. If the first viral load in the pair was 200 copies/ml or less and the second was above 200 copies/ml (square B), or vice versa (square C), we used a straight-line approximation to estimate viral loads between measurements.

Table 1. Characteristics of 8241 patients meeting the definition of U status (i.e. a HIV-RNA $\leq$ 200 copies/ml) in the ICONA cohort.

	Total (N = 8241)	90% or less time (N = 617)	More than 90% time (N = 7624)	P value ^b
Female [n (%)]	1648 (20.0%)	212 (34.4%)	1436 (18.8%)	<0.001
Age ^a (years)	39 (31–47)	39 (32–47)	39 (30–47)	0.435
Mode of HIV transmission [n (%)]				<0.001
PWID	768 (9.3%)	115 (18.6%)	653 (8.6%)	
MSM	3786 (45.9%)	173 (28.0%)	3613 (47.4%)	
Heterosexual contacts	3176 (38.5%)	289 (46.8%)	2887 (37.9%)	
Foreign-born [n (%)]	2066 (25.1%)	190 (30.8%)	1876 (24.6%)	<0.001
Education [n (%)]				<0.001
Primary school	426 (5.2%)	59 (9.6%)	367 (4.8%)	
Secondary school	1629 (19.8%)	164 (26.6%)	1465 (19.2%)	
College	2579 (31.3%)	161 (26.1%)	2418 (31.7%)	
University	1019 (12.4%)	45 (7.3%)	974 (12.8%)	
Employment [n (%)]				<0.001
Unemployed	952 (14.0%)	123 (23.5%)	829 (13.2%)	
Employed	3488 (51.4%)	226 (43.2%)	3262 (52.0%)	
Self-employed	1187 (17.5%)	69 (13.2%)	1118 (17.8%)	
HbsAg+ [n (%)]	108 (1.3%)	8 (1.3%)	100 (1.3%)	0.716
HCVAb+ [n (%)]	905 (11.0%)	128 (20.7%)	777 (10.2%)	<0.001
Diabetes [n (%)]	231 (2.8%)	26 (4.2%)	205 (2.7%)	0.027
Smoking [n (%)]	2939 (35.7%)	253 (41.0%)	2686 (35.2%)	0.004
CVD diagnosis [n (%)]	87 (1.1%)	13 (2.1%)	74 (1.0%)	0.008
Prior STDs	1862 (22.6%)	144 (23.3%)	1725 (22.6%)	<0.001
AIDS diagnosis [n (%)]	1009 (12.2%)	110 (17.8%)	899 (11.8%)	<0.001
CD4 ⁺ cell count ^a (cells/ μ l)	532 (356–730)	507 (302–698)	534 (361–733)	<0.001
CD4 ⁺ cell count nadir ^a (cells/ μ l)	300 (162–436)	264 (119–403)	302 (166–438)	<0.001
CD8 ⁺ cell count ^a (cells/ μ l)	878 (633–1198)	900 (661–1244)	874 (632–1195)	0.111
Peak viral load in follow-up ^a (log10 copies/ml)	4.52 (3.67–5.12)	4.81 (4.16–5.35)	4.49 (3.63–5.11)	<0.001
CD4 ⁺ cell count $\leq$ 200 (cells/ μ l) [n (%)]	824 (10.0%)	94 (15.2%)	730 (9.6%)	<0.001
Time from HIV diagnosis ^a months	15 (7–65)	31 (9–115)	14 (7–61)	<0.001
Follow-up time ^a (months)	45 (21–78)	58 (30–82)	44 (20–78)	<0.001
No previous VF [n (%)]				<0.001
1–3	429 (5.2%)	54 (8.8%)	375 (4.9%)	
3+	324 (3.9%)	65 (10.5%)	259 (3.4%)	

ART, antiretroviral therapy; CVD, cardiovascular disease; PWID, people who inject drug; STDs, sexual transmitted diseases; VF, virologic failure.

^aMedian (IQR).

^bChi-square or Mann–Whitney *U* test as appropriate.

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^aMedian (IQR).

^bChi-square or Mann-Whitney *U* test as appropriate.

Table 2. Distribution of person-days of follow-up according to time spent in viral load categories and risk factors.

Variables	HIV-RNA category (copies/ml)			P value
	≤200	>200	% >200	
Gender				<0.001
Male	26856	671.8	2.4	
Female	7034	393.2	5.3	
Age				0.091
46+	12345	361.0	2.8	
18–45	21371	698.5	3.2	
Mode of HIV transmission				<0.001
MSM	14529	259.4	1.8	
Heterosexuals	13629	480.1	3.4	
PWID	1972	97.9	4.7	
Foreign-born				<0.001
No	28835	777.2	2.6	
Yes	5055	287.7	5.4	
Employment				<0.001
Self-employed	5306	126.5	2.3	
Employed	15847	443.6	2.7	
Unemployed	3449	198.1	5.4	
No. previous VF				<0.001
0	29262	809.6	2.7	
1–3	2644	122.7	4.4	
>3	1985	132.6	6.3	

PWID, people who inject drug; VF, virologic failure.

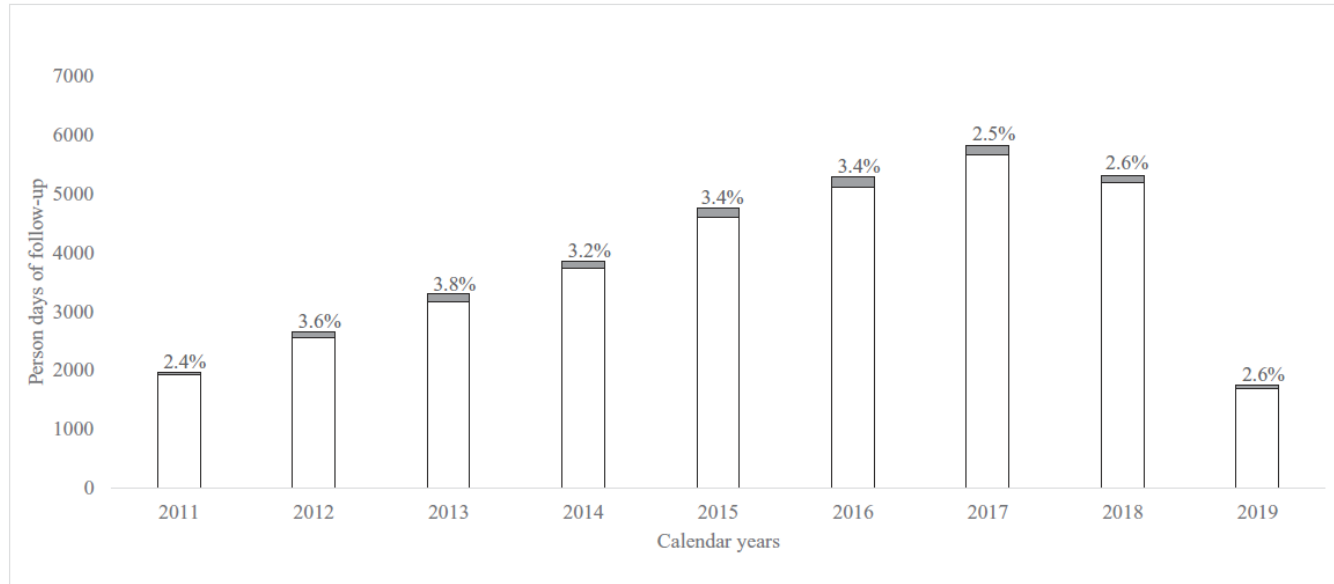


Fig. 3. Person-days of follow-up with viral load greater than 200 copies/ml by calendar year of follow-up. The grey area represents the PDFU with HIV-RNA greater than 200 copies/ml. PDFU, Person-days of follow-up.

Factors associated with losing «U status»

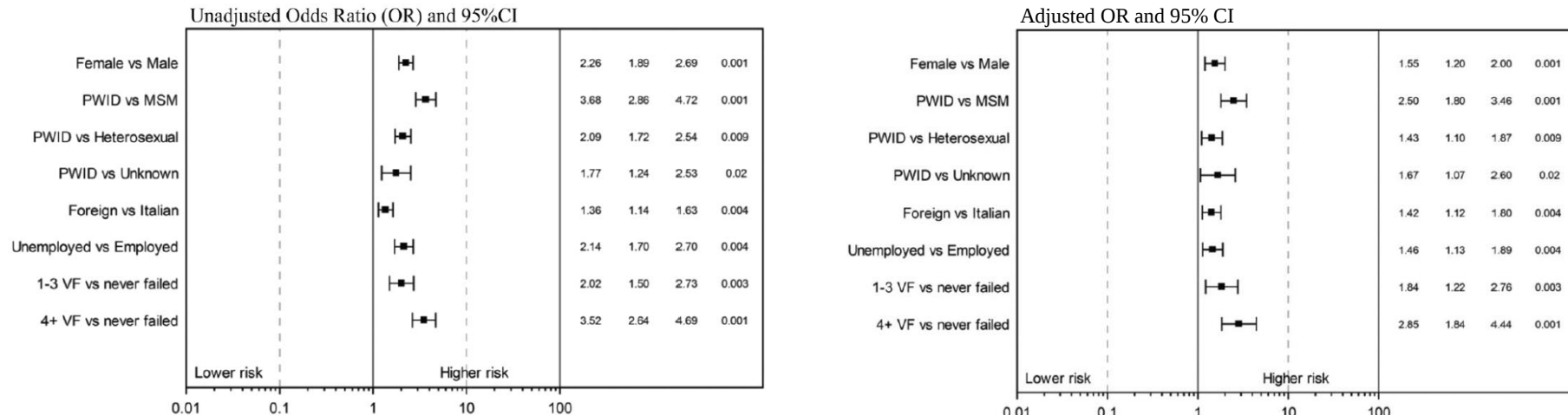
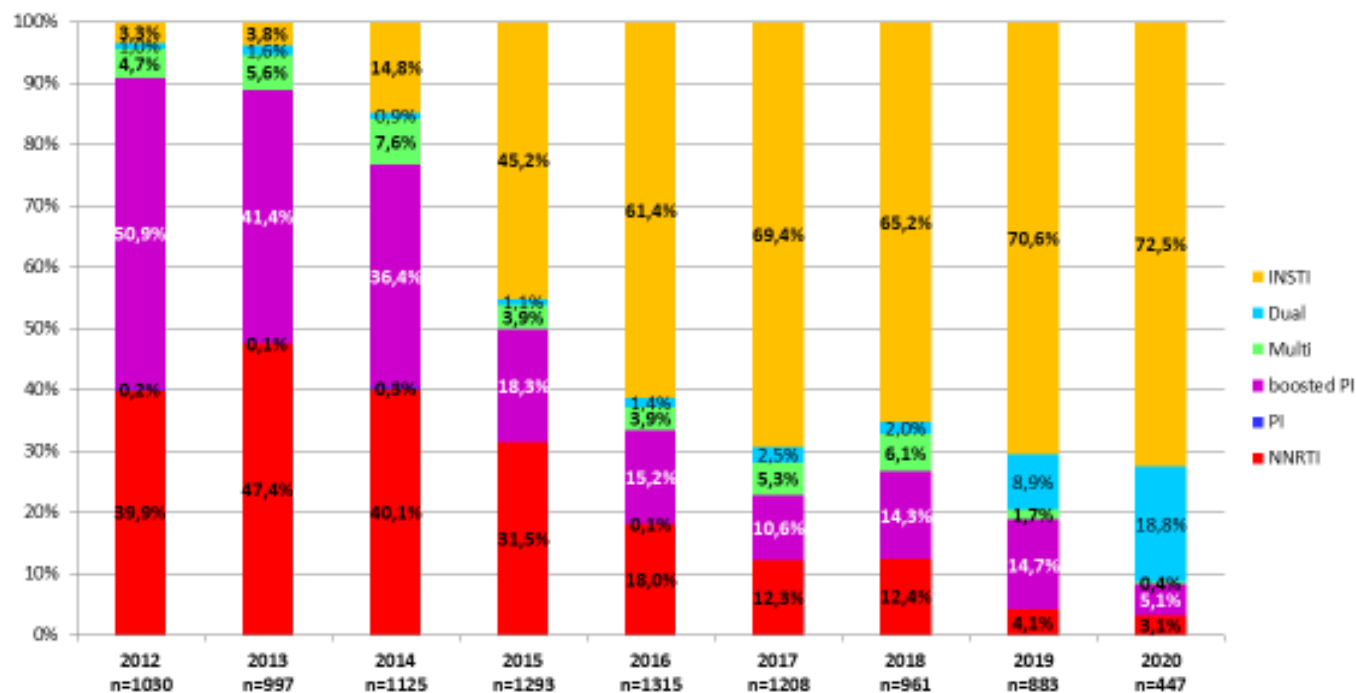


Fig. 2. Forrest plot of multivariable logistic regression estimates of factors associated with losing 'U status'. Multivariable model includes all variables selected by backward selection that were retained with a *P* value less than 0.3 level. Also adjusted for age, AIDS diagnosis, HBsAg/hepatitis C virus (HCV) status, duration of antiretroviral therapy (ART), anchor drug used, geographical region, diabetes, smoking, use of statins/lowering blood pressure drugs, glucose, and prior sexually transmitted diseases. PWID, people who inject drugs; VF: virological failure.

Conclusions

- ✓ In conclusion, our data show an ecological correlation between the introduction of the U=U campaign and a scenario of unfrequent episodes of viral load greater than 200 copies/ml over a long period of time with a further trend toward a decrease after the launch of the campaign.
- ✓ U=U is an essential but straightforward campaign founded on scientific evidence. It has already successfully influenced public opinion, reducing the stigma in PWH and consequently improving their quality of life.
- ✓ Nevertheless, our and previous studies also show that more efforts need to be made to encourage clinicians to introduce this message during routine visits. Our data are useful to identify subpopulations (e.g. women and foreign-born) who may particularly benefit from targeted interventions.

Proportion of usage of different ART classes as third drug in first line regimen according to calendar year of starting



Forgiveness: definition

The term '**forgiveness**' is being used to describe the ability of a regimen to achieve and sustain viral suppression, despite suboptimal adherence. A variety of pharmacological, viral and host properties determine the level of forgiveness of any specific regimen.

After Diagnosis, Don't Wait to Treat!

- ART timing
 - “Test and treat”: immediate evaluation and ART offer^[1]
 - Rapid ART initiation: within 7 days of diagnosis^[2]

DHHS^[3]

- Initiate ART immediately (or as soon as possible) after HIV diagnosis

IAS-USA^[4]

- Start ART as soon as possible, including immediately after diagnosis, if patient is ready

1. Abdool Karim. NEJM. 2019;381:286. 2. Mateo-Urdiales. Cochrane Database Syst Rev. 2019;2019:CD012962. 3. DHHS Guidelines. December 2019. 4. Saag. JAMA. 2018;320:379.

Rapid ART: What cART?

EACS, IAS-USA

If ART initiated before resistance available, a high genetic barrier drug is recommended (boosted PI, dolutegravir or bictegravir)

DHHS

If start ARV before resistance available, recommended regimens:
boosted darunavir or dolutegravir + a
tenofovir/emtricitabine

EACS Society. Guidelines, Version 10.0, November 2019 [online]. Available at: http://www.eacsociety.org/files/2018_guidelines-9.1-english.pdf Last accessed: May 2019. 2. DHHS guidelines [online]. Available at: aidsinfo.nih.gov/guidelines. Last accessed: May 2019.



BHIVA interim ART guidelines COVID-19

Suggested first-line ART algorithm if investigations/follow-up restricted

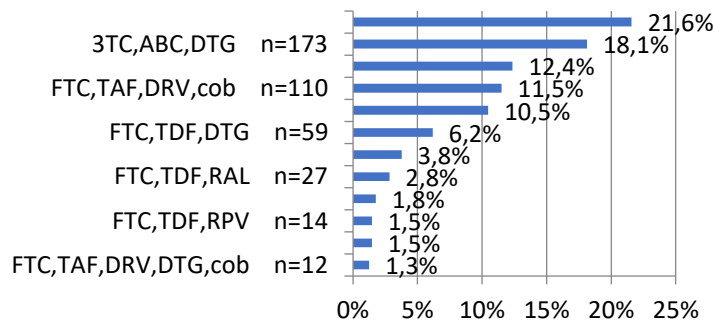
- ART options should still be discussed and, where necessary, tailored according to patient needs and requirements.

o Recommended:

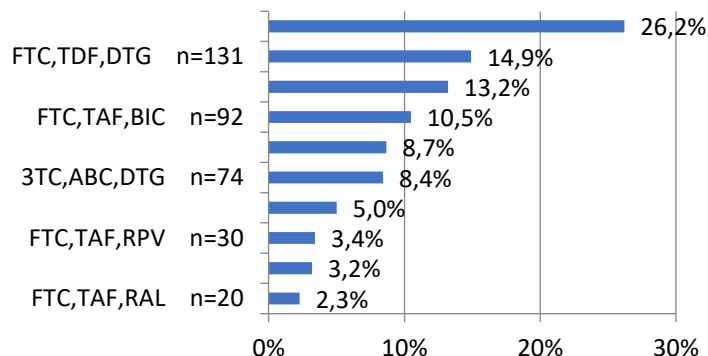
bictegravir/tenofovir/afafenamide/emtricitabine

Distribution of most frequent first line regimens in patients starting ART from 2018 to 2020

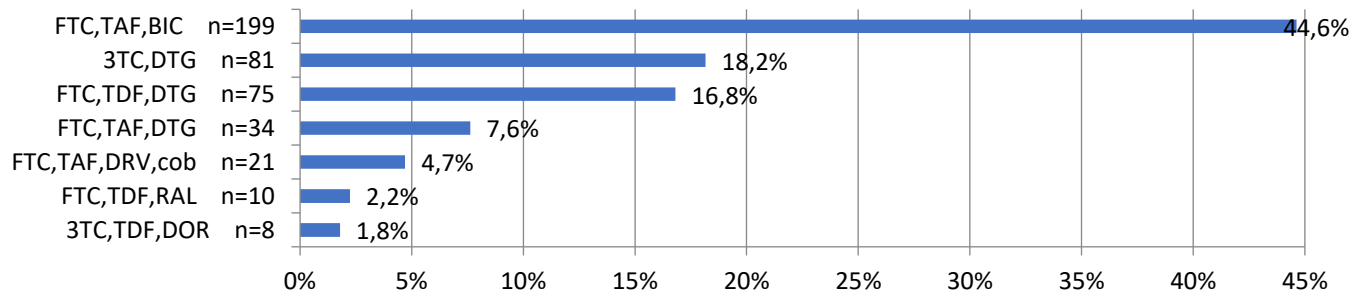
2018, n=955



2019, n=878



2020, n=446



Antiretroviral adherence for adolescents growing up with HIV: understanding real life, drug delivery and forgiveness

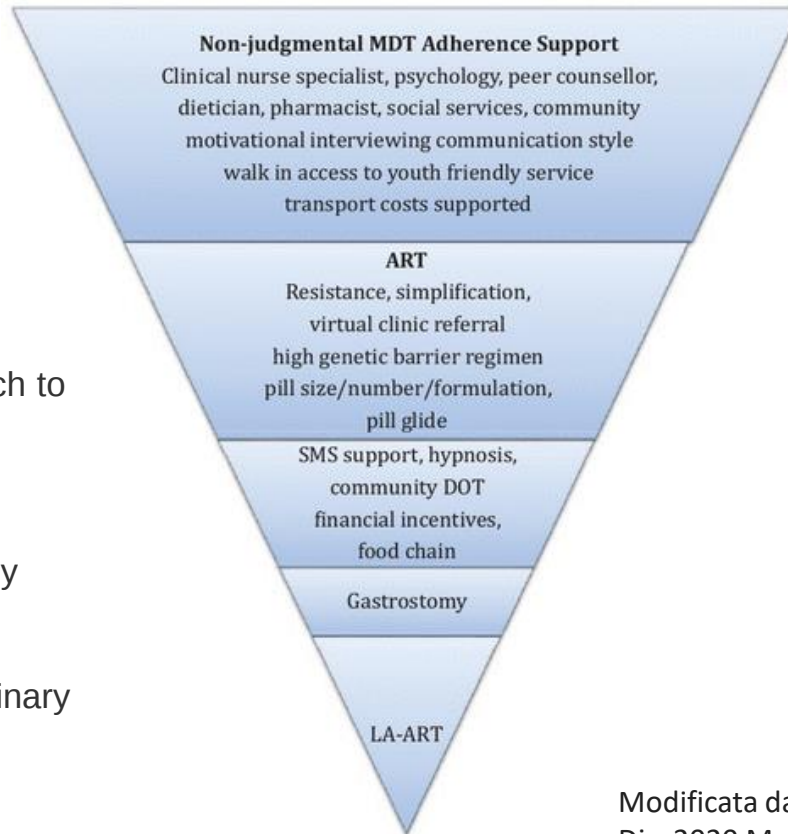
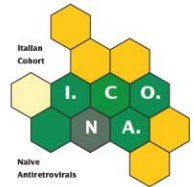


Figure 1. 900 Clinic schematic approach to individualised patient support with established poor adherence to ART. ART, antiretroviral therapy; DOT, directly observed therapy; LA-ART, long acting antiretroviral therapy; MDT, multidisciplinary team; SMS, short message service.

U=U status in people living with HIV after switching to dual antiretroviral therapy: results from the ICONA Cohort

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Fondazione Icona
ITALIAN COHORT NAIVE ANTIRETROVIRALS
Conceived by Professor Mauro Moroni





Background



- Scientific evidence shows that no HIV transmission occurs in sero-discordant couples when the HIV-infected partner is undetectable (U), defined as HIV-RNA < 200 copies/mL for > 6 months [1-5].
- Data from the ICONA cohort showed that nearly 97% of PDFU in patients receiving cART who reached the U status (HIV-RNA ≤ 200 copies/mL for > 6 months) as of December 2010 were spent with a HIV-RNA ≤ 200 copies/ml [6].
- Being women, unemployed, PWID and previous > 3 virological failures has been found to be significant predictors of losing the “U status” [6].
- Few data on the risk of losing the “U status” after switching to dual therapy (DT) in real life are available.



1. Les personnes séropositives ne souffrant d'aucune autre MST et suivant un traitement antirétroviral efficace ne transmettent pas le VIH par voie sexuelle. *Bull des Médecins Suisses* 2008. 2. Cohen MS, *et al.* Prevention of HIV-1 infection with early antiretroviral therapy. *N Engl J Med* 2011. 3. Rodger AJ, *et al.* Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *JAMA - J Am Med Assoc* 2016. 4. Rodger AJ, *et al.* Risk of HIV transmission through condomless sex in MSM couples with suppressive ART: The PARTNER2 Study extended results in gay men. *AIDS* 2018. 5. Bavinton BR, *et al.* Viral suppression and HIV transmission in serodiscordant male couples: an international, prospective, observational, cohort study. *Lancet HIV* 2018. 6. Madeddu G, *et al.* Time spent with viral loads ≤ 200 copies/mL in a cohort of people with HIV seen for care in Italy during the U=U prevention campaign era. *AIDS*. 2021 Jan 29.





- We aimed at estimating the proportion of time in which the U-status was maintained and identifying factors associated to the risk of losing it among people with HIV (PWH) enrolled in a clinical cohort after switching to DT.





Methods



- We included participants in the ICONA cohort who had reached an undetectable status (U status, HIV-RNA ≤ 200 cp/ml for >6 months) as of January 2014 while on triple therapy and were subsequently switched to one of the following 5 DT regimens (ATV/b+3TC, DRV/b+3TC, DRVb+RPV, DTG+3TC, DTG+RPV).
- At population level, the outcome was the number of person days of follow up (PDFU) above a VL >200 cp/ml, relative to the total number of PDFU observed in follow-up.
- At individual level, a participant was defined as losing his/her U status if he/she spent $<100\%$ of his/her PDFU on observation with a VL ≤ 200 cp/mL.
- Logistic regression model was used to identify factors independently associated with the risk of losing the U status.





Results



- 856 PWH were included in the analysis. Of these, 156 (18.2%) were female, 436 (50.9%) were men who have sex with men, 319 (37.3%) heterosexuals and 59 (6.9%) people who inject drugs (PWID).
- Median number of VL in follow-up was 10 (IQR:6-14).
- Overall, during the entire follow-up, 99.3% of PDFU observed were with a $VL \leq 200$ cp/ml meaning that only 0.7% of PDFU were observed when VL was >200 cp/ml.
- The median time with $VL > 200$ cp/ml was 1.76 (IQR:0.81-3.88) person months.





Results



Table 6 Distribution of PYFU spent in dual therapy according to time spent in VL categories and calendar year of observation

	HIV-RNA category (copies/mL)		% >200	p-value
	<=200	>200		
<i>Calendar year</i>				0.897
2014	67.8	0.4	0.6	
2015	140.8	0.3	0.2	
2016	228.3	1.7	0.8	
2017	345.3	1.6	0.5	
2018	404.1	4.0	1.0	
2019	515.4	5.0	1.0	
2020	147.7	0.3	0.2	
Total	1849	13.2	0.7	



Table 3 Main characteristics of study population according to U status -100 percent definition

Characteristics at January 2014	U status		
	Not always N= 31	Always N= 825	p-value*
Gender, n(%)			
Female	8 (25.8%)	148 (17.9%)	0.266
Mode of HIV Transmission, n(%)			0.149
PWID	2 (6.5%)	57 (6.9%)	
MSM	12 (38.7%)	424 (51.4%)	
Heterosexual contacts	13 (41.9%)	306 (37.1%)	
Other/Unknown	4 (12.9%)	38 (4.6%)	
Nationality, n(%)			0.524
Not Italian	4 (12.9%)	202 (24.5%)	
AIDS diagnosis, n(%)			0.065
Yes	0 (0.0%)	82 (9.9%)	
CVD diagnosis, n(%)			0.406
Yes	0 (0.0%)	18 (2.2%)	
HBsAg, n(%)			0.774
Negative	28 (90.3%)	712 (86.3%)	
Positive	0 (0.0%)	5 (0.6%)	
Not tested	3 (9.7%)	108 (13.1%)	
HCVAb, n(%)			0.866
Negative	25 (80.6%)	670 (81.2%)	
Positive	3 (9.7%)	61 (7.4%)	
Not tested	3 (9.7%)	94 (11.4%)	
Hepatitis co-infection*, n(%)			0.693
No	25 (80.6%)	635 (77.0%)	
Yes	3 (9.7%)	66 (8.0%)	
Not tested	3 (9.7%)	124 (15.0%)	
Age, years			0.137
Median (IQR)	45 (34, 55)	41 (31, 49)	
CD4 count, cells/mm³			0.672
Median (IQR)	647 (397, 799)	640 (475, 854)	
CD4 count nadir, cells/mm³			0.029
Median (IQR)	262 (103, 413)	327 (206, 455)	
CD8 count, cells/mm³			0.107
Median (IQR)	982 (689, 1322)	868 (613, 1154)	
Peak viral load in follow-up, log₁₀ copies/mL			0.304
Median (range)	4.47 (2.45, 6.23)	4.42 (0.00, 7.04)	
Median (IQR)	4.47 (3.64, 5.47)	4.42 (3.63, 5.06)	0.052

Overall, 31 (3.6%, 95% CI:2.5-5.1%) participants spent <100% of PDFU with a VL<200 cp/ml.

Table 8 Distribution of PYFU according to time spent in dual therapy and in VL categories and risk factors

	HIV-RNA category (copies/mL)			p-value
	<=200	>200	% >200	
Gender				0.162
Male	1456	8.3	0.6	
Female	393.6	4.9	1.2	
Age				0.825
46+	965.4	7.3	0.7	
18-45	882.2	5.9	0.7	
Mode of HIV transmission				0.169
MSM	854.9	4.6	0.5	
Heterosexuals	733.2	5.4	0.7	
PWID	98.5	2.5	2.5	
Other/Unknown	162.8	0.7	0.5	
Italian nationality				0.872
Yes	1559	11.0	0.7	
No	290.0	2.3	0.8	
Employment				0.205
Self-employed	316.6	1.2	0.4	
Employed	843.1	3.4	0.4	
Unemployed	151.4	2.3	1.5	
No. previous VF				0.110
0	1599	9.0	0.6	
1-3	149.0	2.1	1.4	
>3	101.5	2.2	2.1	
Anchor class in triple at baseline				0.851
NNRTI	403.0	2.0	0.5	
PI/r	1092	8.4	0.8	
INSTI	343.8	2.6	0.8	
Total	1838	12.9	0.7	

The proportion of PDFU with VL>200 cp/ml was higher than average in females (1.2%), unemployed (1.5%), PWID (1.5%) and in people with>3 previous virological failures (VF, 2.1%) but not significantly



Table 1. Logistic regression estimates of factors associated with the risk of losing the U-status.

Factor	Unadjusted Odds ratio (95% CI)	p-value	Adjusted* Odds ratio (95% CI)	p-value	Type III p-value
Gender					
Female vs. Male	1.59 (0.70, 3.63)	0.269	1.15 (0.32, 4.15)	0.829	0.246
Mode of HIV Transmission					
PWID vs. MSM	1.24 (0.27, 5.68)	0.782	0.46 (0.05, 4.29)	0.495	
PWID vs. Heterosexual	1.50 (0.68, 3.33)	0.319	1.21 (0.39, 3.69)	0.743	
PWID vs. Other/Unknown	3.72 (1.14, 12.09)	0.029	2.98 (0.62, 14.26)	0.172	
Nationality					
Not Italian vs. Italian	0.46 (0.16, 1.32)	0.148	0.51 (0.14, 1.91)	0.320	
HCVAb					
Positive vs. Negative	1.34 (0.40, 4.54)	0.636	1.99 (0.36, 11.16)	0.433	
CD4 nadir count, cells/mm³					
per 100 higher	0.79 (0.65, 0.97)	0.023	0.86 (0.67, 1.11)	0.261	
CD8 count, cells/mm³					
per 100 higher	1.03 (0.98, 1.09)	0.247	1.10 (1.02, 1.19)	0.011	
Previous VF					0.031
1-3 vs. 0	2.01 (0.58, 6.94)	0.268	0.98 (0.19, 5.20)	0.985	
3+ vs. 0	4.47 (1.61, 12.45)	0.004	3.54 (1.08, 11.65)	0.037	
Anchor drug in triple regimen at baseline					0.062
PI/r vs. NNRTI	0.93 (0.42, 2.07)	0.867	0.50 (0.18, 1.39)	0.183	
INSTI vs. NNRTI	0.39 (0.14, 1.05)	0.062	0.54 (0.17, 1.76)	0.309	
Employment, n (%)					0.172
Unemployed vs. Employed	2.51 (0.75, 8.38)	0.135	3.43 (0.90, 13.14)	0.072	
Self-employed vs. Employed	2.10 (0.77, 5.75)	0.148	2.44 (0.83, 7.14)	0.104	
Occasional vs. Employed	4.27 (0.86, 21.06)	0.075	5.22 (0.96, 28.30)	0.055	
Retired vs. Employed	1.38 (0.17, 11.22)	0.765	2.08 (0.23, 18.46)	0.512	
House work vs. Employed	5.02 (1.01, 25.05)	0.049	5.11 (0.72, 36.25)	0.102	

At logistic regression
- higher CD8 cell count
- >3 previous VF
were independently
associated with an
increased risk of losing
the U status.





Conclusions



- In our cohort of PWH switched to DT with a $VL \leq 200$ copies/ml, the U status was maintained for $> 99\%$ of PDFU.
- Although DT use appears to be associated with a low risk of $VF > 200$ copies/ml, PWH with a high CD8 count and previous VF should be carefully monitored to minimize the risk of HIV transmission.



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