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Background

Lockdown, as a strategy to control SARS-CoV2 pandemic, has been implemented in several countries including Italy. Modena HIV Clinic shut down from 24th February to 4th May, 2020. The aim of the present study was to assess the prevalence of SARS-CoV2 positive serology among people living with HIV (PLWH) and to investigate the impact of the pandemic on HIV virological control in this population.

Materials and Methods

SARS-CoV2 serological assays were performed in PLWH attending Modena HIV Clinic after 4th May 2020, as part of HIV follow up which includes HIV viral load and CD4+ assessment as well. HIV virological blips were defined as HIV RNA >40 cp/ml after two consecutive undetectable HIV RNA in previous assays. Serological tests of the general population were obtained from local Hospital laboratory. A descriptive analysis was done to address differences between groups: continuous variables were compared using non-parametric analysis (Mann Whitney), while categorical variables were compared using Chi-square test. The level of statistical significance was set for p-value less than 0.05. Multivariate analysis was performed using stepwise logistic regression method.

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Results

Until 17th June, 2020 a total of 52072 serological assays were obtained from 30286 people (Table 1). Four hundred ninety-six (1.6%) were performed in PLWH, thus the 28.7% (496/1733) of the whole Modena HIV cohort was tested. SARS-CoV2 serological tests were positive in 1577 people (5.2%), 17 (3.4%) in PLWH and 1560 (5.2%) in HIV-negative people, respectively (p value=0.072; Chi square test). Figure 1 shows SARS-COV2 seropositivity stratification by age.

Regarding logistic multivariate analysis, age (OR 1.007; 95%CI 1.004-1.010; p<0.001) and foreign nationality (OR 1.070; 95%CI 1.181-1.591; p<0.001) were the only determinants for being SARS-CoV2 seropositive, while HIV serological status was not associated (OR 0.627, 95%CI 0.385-1.021; p=0.061). Table 2 shows the main characteristics of PLWH stratifying them between SARS-CoV2 seropositive and SARS-CoV2 seronegative, highlighting nationality as the only significant determinant.

Virological blips were observed in 3.7% (15/406) of patients in cART. One patient stopped treatment and the remaining had virological blips <1000 cp/ml (range 41-225 cp/ml); none of them was SARS-CoV2 positive.

Characteristics	HIV-negative Population		PLWH		Total	p
	Num 29790	% 98.5	Num 496	% 1.5	Num 30286	
Sex	Female 18042	60.6	156	31.5	18198	<0.001
	Male 11748	39.4	340	68.5	12088	
Age *	49	37.59	54	47.59	49 (37.59)	<0.001
Nationality	Italian 26544	89.1	419	84.1	26963	0.001
	Foreigner 3246	10.9	77	15.5	3323	
SARS-CoV2 status	Negative 1560	94.8	479	96.6	28709	0.072
	Positive	5.2	17	3.4	1577	

Table 1: Baseline characteristics. Age is expressed as median (IQR)

Conclusions

Our data show no statistically significant difference in SARS-CoV2 seroprevalence between HIV-positive and HIV-negative people. Still, the increase in viral blips is worrisome, as it may reflect decreased adherence to cART or difficult drug supplying due to lockdown.

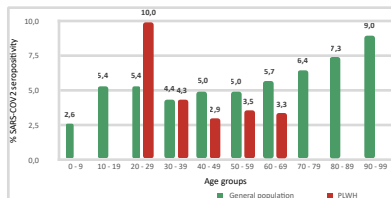


Figure 1: SARS-CoV2 seropositivity frequency for age groups

Characteristics	SARS-CoV2 negative		SARS-CoV2 positive		Total	p
	Num	%	Num	%		
Sex	Female 148	30.9	8	47.1	156	0.158
	Male 331	69.1	9	52.9	340	
Age	54	47.59	54	45.57		0.537
Nationality	Italian 409	85.4	10	58.8	419	0.003
	Foreigner 70	14.6	7	41.02	77	
AID5	93/479	19.4	4/17	23.5	97/496	0.674
CD4+	682	504-914	651	505-1016		0.695
HIV-RNA BLD (<540)	437/479	96.7	15/17	88.2	452/496	0.669
HAART	INSTI 216/222	97.3	6/222	2.7	0.183	
	IP 64/69	92.8	5/69	7.2		
	NNRTI 145/148	98.0	3/148	2.0		
	Other 54/57	94.7	3/57	5.3		

Table 2: PLWH characteristics