

Abstract 109

Title: Covid-19 seroprevalence in HIV-infected and non-infected residents of a Long-Term Care Facility (LTCF) in New Jersey (NJ).

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Background:

SARS-CoV-2 has caused a large spectrum of symptoms and outcomes based on age, gender, health status and other as yet-unknown characteristics. Little is known about SARS-CoV-2 antibody development in HIV-infected individuals.

The objective of this study is to compare the SARS-CoV-2 seroprevalence in HIV-infected (HIV+) and non-infected (HIV-) residents of a LTCF in NJ and to identify factors which may influence the development of antibody.

SARS-CoV-2 PCR testing was performed on all residents periodically, from April to December 2020.

Methods:

This is a Cross-sectional descriptive study comparing SARS-Cov-2 seroprevalence in HIV+ and HIV- residents of a LTCF. After the IRB approval, subjects were consented, blood samples were collected and serology tests on SARS-CoV-2's N (Nucleocapsid) and S (Spike) proteins were conducted (Nov-Dec 2020) at the NJ Department of Health, Public Health and Environmental Laboratories. Seropositivity was defined as positive to either S or a combined N/S protein assay.

Medical records reviewed for age, sex, race/ethnicity, HIV status, CD4+ count, history of Covid-19 and history of symptoms consistent with Covid-19 prior to PCR testing.

Results:

Of 61 residents, 56 consented. 1 subject died before the blood sampling and we were unable to sample 2.

	Total	GENDER		AGE (Mean)	RACE/ETHNICITY			PCR+	AB+	CD4+ <200
		M	F		Black	Hispanic	White			
HIV-	25	16(46%)	9(36%)	59	10(40%)	11(44%)	4(16%)	6(24%)	9(36%)	N/A
HIV+	28	19(68%)	9(32%)	53	18(64%)	6(22%)	4(14%)	2(7%)	5(18%)	10(36%)

5 of 28 (18%) HIV+ vs. 9 of 25 (36%) HIV- residents had positive antibody for SARS-CoV-2. (Pvalue= 0.134). All with PCR+ history, had positive serology.

Conclusions:

Seropositivity prevalence was lower in HIV+ than HIV- residents, although the difference was not statistically significant perhaps due to the small population. Factors influencing SARS-CoV-2 infection were not examined in this study and further studies with larger cohorts are needed to investigate them.