

# FEARS AND PERCEPTION OF THE RISK OF INFECTION WITH SARS-CoV-2 IN A COHORT OF HIV+ SUBJECTS ON ANTIRETROVIRAL TREATMENT IN AN OUTPATIENT CLINIC IN SICILY

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## Introduction

During the last Winter a new coronavirus pathogen for humans was identified in China and it quickly spread around the world causing more than 31 million infections and almost one million of deaths. From the beginning of pandemic people referring any immune-depression were considered to be at high risk of possible complications due to SARS-CoV-2 infection. In particular, patients with HIV infection were bemused about contrasting information regarding their possible higher susceptibility to coronavirus superinfection or a lower risk due to the use of some antiretroviral drugs, as protease inhibitors, initially included in treatment schemes for a promising potential antiviral activity.

On March 24<sup>th</sup>, 2020, World Health Organization (WHO) released a Question and Answer (Q&A) on COVID-19 and HIV and antiretroviral drugs, aiming to give some answer to the more frequent question that in these days everywhere were formulated by People Living With HIV/AIDS (PLWHAs).

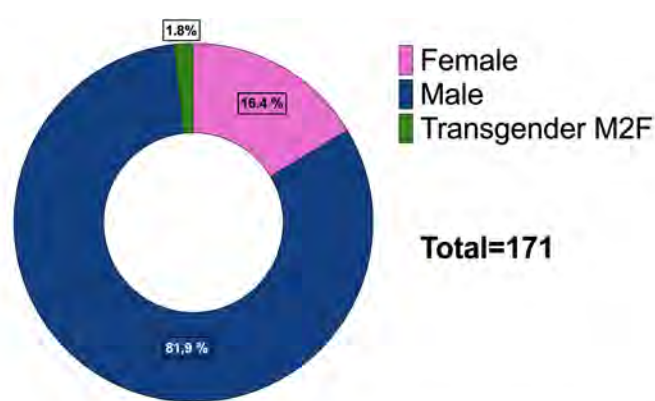


Figure 1. We collected data about 171 patients, of which 16.4% were female, 81.9% were male and 1.8% were transgender.

## Study Design and Methods

- PLWHAs accessing our outpatient clinic to take their pill supply were asked to fill a brief questionnaire composed by 6 multiple-choice (1 to 10 points) questions.
- Questions were aimed to investigate the fear for their health concerning:
  - HIV infection;
  - Possible SARS-CoV-2 infection;
  - Correlation of HIV-infection with a possible higher risk of SARS-CoV-2 infection;
  - Worst prognosis in case of COVID-19;
  - Decreased access to HIV-drugs;
- We also analyzed several parameters related to the HIV infection (CD4+ cell count, plasma HIV-RNA)
- Statistical analysis was performed with SPSS for Windows v. 26.0, graphs were realized with GraphPad Prism 8 for MacOS.

## Results

- We collected data about 171 patients. Twenty-eight of them (16.4%) were female, 140 (81.9%) male and 3 (1.8%) transgender M2F (figure 1).
- Median age was 49.5 years (interquartile range, IQR, 39.25-57.00).
- Median CD4<sup>+</sup> cell count was 649 cells/mm<sup>3</sup> (IQR 522-858);
- More than 50% of the patients had undetectable plasma HIV-RNA;
- Median time from HIV-infection diagnosis was 147 months (IQR 62-275).
- Forty-two patients (24.6%) were interviewed by phone, while 129 (75.4%) were interviewed live.
- Ninety-six patients (56.1%) came from out of Catania while 75 (43.9%) lived in Catania.

### Question 1: I am afraid that my life is in danger because of HIV

- 42 patients (24.6%) answered that they do not feel that their lives are in danger because of HIV (figure 2).

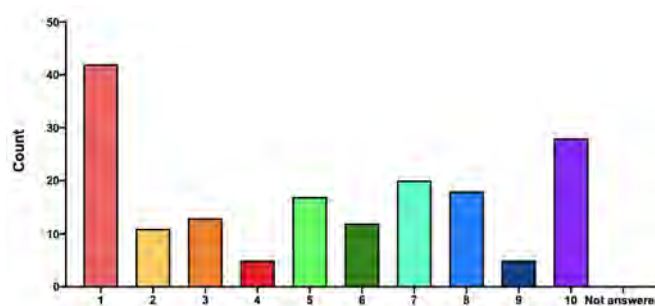


Figure 2. I am afraid that my life is in danger because of HIV. 24.6% of the patients answered they do not feel in danger because of HIV. On the other hand, 16.4% feel that they are afraid for their lives because of HIV.

### Question 2: I am afraid that my life is in danger because of SARS-CoV-2

- 36 patients (21.1%) answered that they are afraid their lives are in danger because of HIV (figure 3).

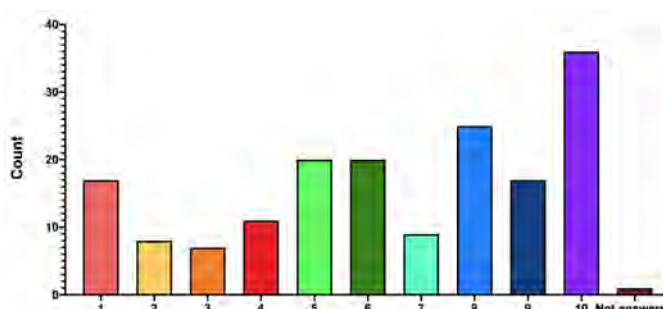


Figure 3. I am afraid that my life is in danger because of SARS-CoV-2. 9.9% of the patients answered they do not feel in danger because of SARS-CoV-2. On the other hand, 21.1% feel that they are afraid for their lives because of SARS-CoV-2. This marks a deep difference between PLWHAs perception of the risk of HIV infection and SARS-CoV-2 infection.

### Question 3: I am afraid of running out of ARV drugs because of COVID-19

- 31 patients (18.1%) answered that they are afraid of this possibility, highlighting how the lockdown and the fact that infectious diseases units were at the front line of the COVID-19 battle altered the perception of the attending doctor availability (figure 4).

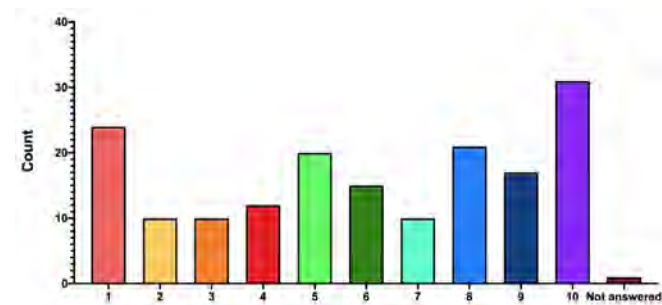


Figure 4. I am afraid of running out of ARV drugs because of COVID-19. 14.0% of the patients answered they are not afraid of running out of pills, while 18.1% answered they are, in fact, afraid of running out of pills.

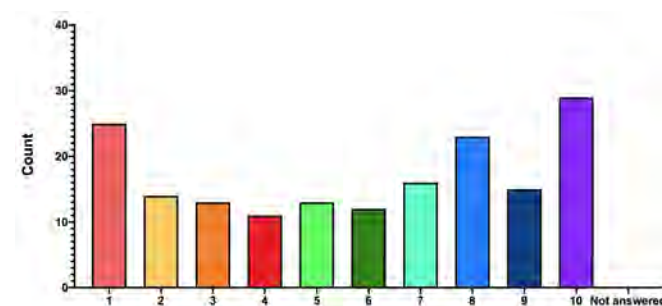


Figure 5. I think that HIV infection expose me to a higher risk to be infected with SARS-CoV-2. 14.8% of the patients answered that they are not afraid of being more exposed to SARS-CoV-2 because of HIV; on the other hand, 17.0% of the patients think they are more exposed to SARS-CoV-2 because of HIV.

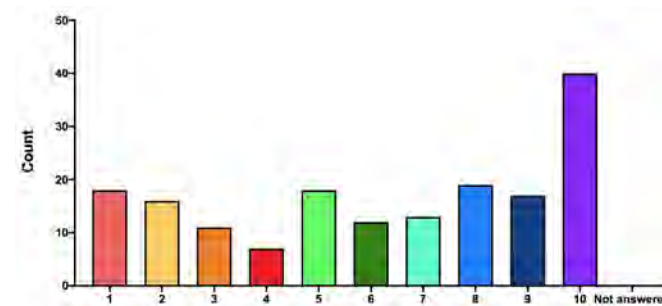


Figure 6. I think that I might develop a severe COVID-19 syndrome. The vast majority of the patients (22.8%) think that they are more at risk of developing a severe COVID-19 syndrome because of their HIV infection.

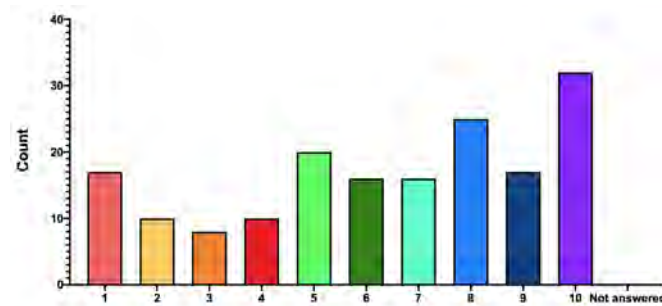


Figure 7. I think that by going to the outpatient clinic for the refill I might have a higher risk of being infected with SARS-CoV-2. Unfortunately, 32 patients (18.7%) feel that they are not safe from the infection at the outpatient clinic.

- Mean result for question 1 was 5.2 (std dev  $\pm$  3.3), while mean result for question 2 was 6.4 (std dev  $\pm$  3.0). The difference between the two results is statistically significant ( $p = 0.0005$ ), meaning that during lockdown PLWHAs were more afraid because of COVID-19 than because of HIV.

## Conclusion

- Lockdown came with a lot of consequences. Among them, decreased access to cure for everyone except those suffering from COVID-19 and other emergencies. This led to an increased fear for someone's health. In particular, PLWHAs were more afraid for their own health because of the consequences of the lockdown or a potential SARS-CoV-2 infection than because of HIV infection. On the bright side, this means that PLWHAs trust their ARVs therapies and attending infectious diseases doctors.