

Infezioni a trasmissione sessuale durante la pandemia da COVID-19 a Genova, in Italia.

Sexually transmitted infections during the COVID-19 pandemic in Genoa, Italy.

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Dear Editor,
the Coronavirus Disease 19 (COVID-19) pandemic has had a dramatic impact on both social habits and healthcare. The effects of the pandemic, and of the control measures to contain it, on other infectious diseases are still under investigation.

We conducted a retrospective observational study with the aim of comparing the prevalence of the sexually transmitted infections (STIs) that have been diagnosed before and during the COVID-19 pandemic. Gender, age of the patients and new STIs diagnoses have been recorded. The patients visited only for follow up of a pre-existing STIs (for example for monitoring of syphilis serology or of condylomas therapy) have been included in the patients' number but not in the new STIs diagnosis number.

We used the chi-square statistic test to compare data of the two periods, considering $p < 0.05$ as significant.

We reviewed the medical records of the patients visited in the STIs outpatient clinic of the Dermatology Unit, S. Martino Hospital, Genoa, Italy, in the period between January 1st 2019 and February 29th 2020 (pre-pandemic period) and that of the patients visited between March 1st 2020 and April 1st 2021 (pandemic period). During the pre-pandemic year we visited 428 patients, 262 males (61%) and 166 females (39%), with a mean age of 41.7 (range 17-86); the number of new STIs was 375. During the pandemic period, we visited 343 patients, 227 males (66%) and 166 females

(34%), with a mean age of 41.5 (range 13-91); the number of new STIs was 322.

The most common diagnoses were: during the pre-pandemic period, anogenital condylomas (78/375, 21% of all diagnoses), syphilis (38/375, 10% of all diagnoses), bacterial vaginosis (39/375, 10% of all diagnoses); during the pandemic period anogenital condylomas (49/322, 15% of all diagnoses), high-risk Human Papillomavirus (HR-HPV) anal infections (45/322, 14% of all infections), bacterial vaginosis (39/322, 12% of all diagnosis) and syphilis (35/322, 11% of all diagnoses) (**Table 1**). As regards the most common diagnoses, anogenital condylomas were the most frequent disease recorded in both time periods with a decreasing trend in the prevalence between the pre-pandemic and the pandemic years (although not statistically significant: $p > 0.05$). Concerning syphilis, a slightly higher percentage of diagnoses in the pandemic compared to the pre-pandemic period was observed (although not statistically significant: $p > 0.05$). In both periods, diagnoses of early syphilis (mostly secondary and early latent) were more common than late syphilis.

Regarding the number of HR-HPV anal infections, there was a statistically significant two-fold increase in the pandemic period compared to the previous year (14% versus 7% of the new diagnoses; $p < 0.05$).

The Thin prep pap test method included together with HPV screening test and HR-HPV typing through polymerase chain reaction (PCR), also cytological

Table 1. The most common diagnoses during the pre-pandemic and the pandemic periods (*Absolute numbers and percentages*).

Diagnosis	Diagnoses in PRE-PANDEMIC period (no)	Diagnoses in PRE-PANDEMIC period (%)	Diagnoses in PANDEMIC period (no)	Diagnoses in PANDEMIC period (%)
Anogenital condylomas	78	21%	49	15%
Syphilis	38	10%	35	11%
Bacterial vaginosis	39	10%	39	12%
HR-HPV anal infections	27	7%	45	14%

examination, as previously described (1). As for HR-HPV anal infections, an analogous increasing trend of anal intraepithelial neoplasia (AIN) has been found (from 11% to 15% of all the new diagnoses of HR-HPV infections), with 2 low-grade and 1 high-grade AINs before the pandemic, compared with 5 low-grade and 2 high grade AINs during the pandemic.

Overall, the prevalence of STIs in our study did not significantly change between the pre-pandemic and the pandemic period. This was a surprising finding, since the social isolation measures which were enforced during the pandemic to lower the risk of SARS-CoV-2 spreading could be expected to also affect the rate of STIs. However, the results of this study suggest that the lockdown measures have had little impact on intimate relationships and risky sexual behaviors. Among the most common diagnoses, condyloma was the only one which appeared to be less frequent during the pandemic period compared with the previous year. This may be explained by the relatively benign nature of this infection, which we have frequently managed via telemedicine consultations during the pandemic, in order to limit the number of non-urgent accesses to the hospital. Unlike other acute STIs, as syphilis or HIV, condylomas may have a less limited impact on general health and on psychological well-being, and, as a result, this disease was deemed as less critical and treatable at home.

Noteworthy, we observed a significant increase in the diagnoses of HR-HPV anal infections, which almost doubled during the pandemic. This probably could be related to the greater percentage of males among the patients who visited the clinic during the pandemic, since anal HPV infections are more common among men, especially men who have sex with men (MSM) (2), who are probably more prone for STI checking.

In the literature, data about STIs during the pandemic and the pre-pandemic periods are disparate.

Except for HR-HPV infections, that was not analyzed by other authors, our findings are in line with some studies reporting an increase in acute STIs, including syphilis, in the pandemic compared to the previous periods (3-6).

However, most of these studies only observed a relatively short timeframe (one to eight months), and only considered acute infections.

On the contrary, we investigated the prevalence of STIs in a longer timeframe (one year) and included, besides acute STIs, also asymptomatic infections, such as HR HPV in genital, oral and anal sites, since these are part of our standard screening panel for STIs (1).

It appears that the COVID-19 pandemic, despite the lockdown and the obligation to social distancing, paradoxically, did not inhibit the risky behaviors. We can suppose that the higher concentration of COVID-19 related morbidity and mortality in the elderly, at least at the beginning of the pandemic, made the young adult population feel protected from SARS-CoV-2 infection. Therefore, this younger, more sexually active population cohort did not reduce their risky behaviors (at the same time, increasing the risk of SARS-CoV-2 contagion). Differently from our study, other European and extra-European authors found a decrease in some STIs during the pandemic compared with the pre-pandemic period (7-8).

The authors of such studies admitted that the reduction of the STI cases may be only apparent: it could be the result of social distancing and restrictions on mobility, which decreased the chances of patients of contracting notifiable diseases, as some STIs, or it is possible that STIs cases were underestimated owing to the lowering number of patients attending STIs centers during the pandemic. The reasons given by these authors to justify the decrease in STIs cases during the pandemic, may also be applicable to all the studies carried out in that period.

In conclusion, the recent COVID-19 pandemic has

been a unique opportunity to study the impact of strict social distancing measures on STIs. As suggested by Bonato et al. (5), the increased availability of the internet, combined with the solitude related to social isolation measures, may have encouraged patients to seek sexual encounters online.

Such interactions, once moved “offline”, are usually associated with high-risk sexual behaviors, which could explain the lack of STIs decrease that one might expect and that we reported in this study (5). Our findings suggest that the services provided by sexual health clinics should not be interrupted or reduced even in times of public health crisis. ■

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