Impact of COVID-19 pandemic on sexually transmitted infections: Indian experience

Dear Editor,

The COVID-19 pandemic has significantly impacted sexual healthcare services globally. In India too, human resources were diverted from the Sexually Transmitted Infections (STI) programs to pandemic management. In addition, there were lockdowns, travel restrictions, poor accessibility of healthcare facilities. We studied the impact of the COVID-19 pandemic on the incidence of STIs at a tertiary centre in India.

Trends of various STIs from the monthly data of new patients attending our STI/HIV (Human Immunodeficiency Virus) clinic from January 2018 to December 2022 were analysed. The pandemic significantly impaired our clinic services during 2020 and 2021. Data from two years preceding the pandemic (2018, 2019) were compared with the two pandemic years (2020, 2021), and the data for 2019 with 2022 using the paired t-test to assess post-pandemic recovery. The yearly proportion of overall and individual STIs was analysed with univariate linear regression to spot any consistent trend.

The number of new patients with STIs is shown in Table 1. Genital warts, vaginal discharge, and syphilis were the most common STIs. The number of new patients during the pandemic period reduced to 80 (17.9%) in 2020 and to 228 (51.1%) in 2021, compared to 446 in the pre-pandemic year 2019 ($p < 0.001$). However, after adjusting for reduced overall new cases, there was no significant change in the proportion of overall STI cases ($p = 0.71$) and individual STI cases except for latent syphilis, which consistently increased from 9.4% in 2018 to 29.4% in 2022 ($p = 0.011$) and symptomatic syphilis which decreased from 18.8% in 2018 to 11.4% in 2022 ($p = 0.007$). The incidence of STIs in absolute numbers and the proportion of overall cases returned to the pre-pandemic levels in 2022 ($n = 511/34400$, $p = 0.2$).

Before the pandemic, there was a resurgence in STIs worldwide. Syphilis, genital herpes, gonorrhoea, and chlamydia have risen in the US in the last decade.[1] Factors like changing behaviour, increased riskier sexual activities, etc., were responsible for this increase. Significantly decreased absolute numbers of various STIs compared to the expected numbers during the pandemic have been reported in the national data of the US,[2] UK,[3] and other European countries.[4] This might represent under-testing/under-reporting due to affected STI services and reduced acquisition and transmission due to behavioural changes. Some mathematical models state that the impact of sexual behavioural changes due to the pandemic might last for lesser time than the impact of STI service reduction.[3] During the pandemic, the impact on STIs was uncertain, with some speculating a transient decrease but no lasting impact. The unique strength of this study was a long post-pandemic period to assess long-term impact. Rebound after the pandemic and recovery to the post-pandemic levels, as seen in our study, has been reported from a few other centres, albeit with shorter post-pandemic duration for analysis.[2,4,5] The resurgence of syphilis is most worrisome. It has shown a 74% increase from 2017 to 2022, including a 203% increase in congenital syphilis in the US.[2] It continued to increase in absolute numbers unabated by the reduced testing during the pandemic in the US[2] and UK.[5] Similar findings were seen in tertiary centre data from India, Italy, and Serbia.[6] Significant increase in latent syphilis cases after the pandemic in continuation with the previous trend,[7] as seen in our study, could result from the impact of services earlier in the pandemic when these cases could have been missed. Various factors like partial treatment of symptomatic syphilis from chemists and private clinics with poor reporting, better screening of latent syphilis in government STI clinics and

Table 1: The pattern of Sexually Transmitted Infections (STIs) during pre- and post-COVID-19 pandemic

Year	Proportion of cases of STIs out of total new cases	Genital warts	Vaginal discharge	Syphilis	Latent syphilis	Genital herpes	PID	Urethral discharge
2018	394/32965 (1.2%)	105 (26.6%)	104 (26.4%)	74 (18.8%)	37 (9.4%)	17 (4.3%)	30 (7.6%)	17 (4.3%)
2019	446/33026 (1.4%)	142 (31.8%)	97 (21.7%)	82 (18.4%)	55 (12.3%)	21 (4.7%)	33 (7.4%)	13 (2.9%)
2020	110/10613 (1.0%)	41 (37.3%)	27 (24.5%)	16 (14.5%)	15 (13.6%)	4 (3.6%)	4 (3.6%)	0 (0.0%)
2021	228/19936 (1.1%)	62 (27.2%)	54 (23.7%)	32 (14.0%)	56 (24.6%)	6 (2.6%)	8 (3.5%)	7 (3.1%)
2022	511/34400 (1.5%)	125 (24.5%)	76 (14.9%)	58 (11.4%)	150 (29.4%)	41 (8.0%)	42 (8.2%)	19 (3.7%)

PID: Pelvic inflammatory disease; STI: Sexually transmitted infections

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blood banks with better and stringent reporting, etc., might be responsible for this shift from symptomatic to asymptomatic syphilis reported in the tertiary referral study centres.[7]

In conclusion, as the total number of patients attending the dermatology outpatient centre and the STI clinic decreased during the pandemic, the number of patients with STIs also decreased proportionately. The proportion of patients with different STIs also did not change significantly during the pandemic except for those with syphilis. The resurgence of syphilis and latent syphilis continues unabated in the long run, which warrants enhanced national and global commitment to control it.

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