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for delivery. In some cases, symptomatic patients with a diagnosis of COVID-19 (2.8%) were admitted for obstetrical indications and only had mild respiratory disease. In all, 50 nonpregnant females (15.1%, 50 of 332) and 8 pregnant females (9.8%, 8 of 82) were admitted to the ICU for worsening respiratory status, with no statistically significant difference ($P=.22$). ICU admissions by age group are presented in the [Table](#).

CONCLUSION: Among hospitalized women who received a diagnosis of COVID-19, pregnant women were not at an increased risk for ICU admission compared with nonpregnant women. This finding is consistent with the overall lower hospital admission rate of pregnant women with COVID-19 that we previously reported.⁵ Pregnant women are considered to be at a greater risk of severe morbidity and mortality from other respiratory infections such as influenza.⁶ Admission to the ICU signifies a more severe course of disease. Therefore, our findings are reassuring and indicate that pregnant women with COVID-19 may not experience more severe disease progression than nonpregnant women. ■

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Universal severe acute respiratory syndrome coronavirus 2 testing of pregnant women admitted for delivery in 2 Italian regions



BACKGROUND: Since the early days of the coronavirus disease 2019 (COVID-19) pandemic, substantial undocumented infection has been thought to contribute to the dissemination of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2),¹ with estimated percentages of undocumented infections of 72%–90%.^{1–3}

Italy has been the first western country to be massively hit by the pandemic. On March 11, the Italian government ordered the country lockdown, which is still in place as of this writing. This led to a flattening and eventually a reduction of the pandemic curve.

Starting by the end of March, several hospitals have begun universal SARS-CoV-2 screening in all admitted patients. Women admitted for delivery represent a peculiar population and a unique source of information, because

they come to hospitals independent of illness and of their own decision. They can therefore provide useful estimates of the circulation of the virus in the general population, despite a possible different social behavior, especially near delivery.

OBJECTIVE: This study aimed to estimate the “true” SARS-CoV-2 infection rate among women admitted for delivery and estimate the burden of undocumented infections in this population.

METHODS: We studied 2 neighboring Italian regions, North of Tuscany and Liguria, both considered at medium risk of infection compared with the Northern regions. All 6 hospitals of Azienda USL “Toscana Nord Ovest” (ATNO, Tuscany) and

Gaslini Children's Hospital (Genoa, Liguria) began SARS-CoV-2 screening between March 26, 2020, and April 1, 2020, by nasopharyngeal swab (real-time reverse transcription polymerase chain reaction).

Informed consent was obtained from all women.

RESULTS: Up to April 19, 2020, 533 women were admitted for delivery (ATNO, 344; Gaslini, 189). Of these, 3 from ATNO received positive results (1 only had anosmia and 2 were asymptomatic): all gave birth without clinical problems for the mother and the neonate. The estimated prevalence in this sample was 0.56% (3/533; 95% confidence interval, 0.19–1.64). During the study period, the overall prevalence of positive cases reported by the Italian COVID-19 Surveillance System in women aged 20–39 years in Tuscany was 0.094%.⁴

From these data, we can estimate that 83% (51–94) of infections were unreported, that is, the real prevalence risk of the general population of women of this age is 6 (2–11) times the rate found in women tested for clinical reasons.

CONCLUSION: Our estimated risk of undocumented infection in pregnant women, obtained in a population at a “steady state” for virus circulation and during a country lockdown, confirmed earlier estimates of about 4–9 undetected cases to 1 case detected because of symptoms.

Interestingly, these ratios were confirmed even in completely different settings like hospitals in New York,^{4,5} where both the prevalence of infection at delivery among asymptomatic women who would not be otherwise tested (13.5%⁵ and 13%⁶) and baseline risk in the population (1.4%) are more than 1 order of magnitude greater than in Tuscany. The small number of positive cases in our sample does not allow a precise estimate, but the substantial stability of the ratio of undocumented to documented infections in different populations and using different methodologies^{1–3,5,6} suggests that these results are generalizable. We concur that a strategy of universal testing in all pregnant women admitted for delivery is warranted to control further spread of the virus⁶ and, above all, to protect the women themselves, their newborns, and the healthcare staff against the infection. ■

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