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Obstetrics and gynecology emergency services during the coronavirus disease 2019 pandemic



OBJECTIVE: During the coronavirus disease 2019 (COVID-19) pandemic, the entirety of clinical assistance in Italy has been reorganized to minimize the risk of infection. In addition, people have been forbidden to leave their homes except for strictly necessary reasons. These reasons, together with women's perception of the high risk of COVID-19 in hospitals, led to a substantial drop in the number of patients presenting themselves to emergency department (ED) services. In Italy, emergency services and most healthcare services are free of charge for everyone. Therefore, we decided to evaluate the number of women self-referring to the obstetrics and gynecology (OB-GYN) ED triage and the percentage of admission before and during the COVID-19 pandemic.

STUDY DESIGN: This was a retrospective study conducted at S.Orsola-Malpighi University Hospital of Bologna (a tertiary center with 2900 deliveries each year) during the following 2 periods: March 1 to 31, 2020, in the middle of the COVID-19 pandemic and after Italian authorities adopted restrictive measures, compared with a control period before the COVID-19 pandemic (March 1–31, 2019) (Figure). Patients were divided into the following 3 groups: gynecologic patients, pregnant women up to 16 weeks, and pregnant women ≥ 16 weeks. The primary outcome was the number of hospitalized patients in the 2 study periods. Secondary outcomes were the reasons for and the proportion admitted of the total number of women seeking ED services. For each category, we identified different possible reasons for admission to OB-GYN ED, as reported in the Table. This was a clinical audit of fully anonymized data, and we judged it to fit the definition of a quality improvement study.¹ Differences between 2020 and 2019 were assessed with z-tests. Exact Poisson confidence intervals were estimated by using the upper and lower bounds for Poisson-distributed counts.

RESULTS: A total of 972 women self-referred to our OB-GYN ED during March 2019. During March 2020, the total number of OB-GYN self-referrals was 484, indicating a 50.2% reduction ($P < .001$), likely because of the COVID-19 pandemic. Overall, the number of patients admitted to the hospital was lower in 2020, but analyzing the proportion of women being hospitalized over the number of accesses, the hospitalization rate was significantly higher during the COVID-19 pandemic (226/484, 46.7% vs 367/972, 37.7% in 2019; $P < .001$), suggesting that during the COVID-19 pandemic, women are going to hospital for more serious problems than in previous years.

When the 3 groups were compared separately, the proportion of inpatient admissions was significantly lower in 2020 than in 2019 only in the category of pregnant women ≥ 16 weeks (64.6% vs 55.8% in 2019; $P = .025$). Conversely, no significant difference was observed in the other 2 groups. Results are reported in the Table.

CONCLUSION: The significant reduction in OB-GYN ED accesses observed during the COVID-19 pandemic represents the indirect evidence of the probably inappropriate use of emergency services under normal circumstances by women, going to ED just to obtain a clinical evaluation or an ultrasound quickly, with consequent higher healthcare costs. However, we want to stress the possibility that people's fear of COVID-19 might lead to critical situations owing to important delays in seeking medical care, even if apparently this was not the case in our population. The main strength of this study is that this is the only type of ED in which it is possible to conduct this kind of analysis, because it is not affected by the higher number of patients with COVID-19 infection seeking emergency services. We noted that the only cause of OB-GYN ED referral that increased in March 2020 compared with 2019 is high blood pressure in pregnancy; this might be an indirect sign of higher stress rates among pregnant women. ■

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TABLE

Numbers and details of patients self-referring to OB-GYN ED during March 2019 and March 2020, with hospitalization rates. After reporting the total number of self-referrals, further analysis were made dividing patients in three categories: gynecological patients, obstetrical patients <16 weeks and obstetrical patients >16 weeks

	Self-referral				Hospitalization		
	March 2019 (N = 972)	March 2020 (N = 484)	Reduction (%)	P value	March 2019 hospitalization (%)	March 2020 hospitalization (%)	P value
Total number of patients referring to OB-GYN ED							
Gynecologic	330	112	66.1	<.001	88 (26.7)	38 (33.9)	.141
Obstetrical <16 wk	242	118	51.2	<.001	56 (23.1)	24 (20.3)	.548
Obstetrical ≥16 wk	400	254	36.5	<.001	223 (55.8)	164 (64.6)	.025
Total	972	484	50.2	<.001	367/972 (37.7)	226/484 (46.7)	.001
	March 2019 N = 330 (%)	March 2020 N = 112 (%) ^a	Reduction (%) ^b	P value	March 2019 hospitalization N = 88 (%)	March 2020 hospitalization N = 38 (%) ^c	P value
Gynecologic patients							
Vaginal bleeding	85 (25.8)	26 (23.2)	69.4	<.001	17 (20)	12 (46.2)	.008
Lower abdominal pain	70 (21.2)	26 (23.2)	62.9	<.001	23 (32.9)	7 (26.9)	.577
Vulvar conditions	41 (12.4)	17 (15.2)	58.5	.004	5 (12.2)	5 (29.4)	.114
Postpartum complications	33 (10)	15 (13.4)	54.5	.013	10 (30.3)	4 (26.7)	.797
Vaginal bleeding and lower abdominal pain	20 (6.1)	14 (12.5)	30	.311	5 (25)	4 (28.6)	.816
Vaginal discharge	27 (8.2)	6 (5.4)	77.8	.001	0	0	—
Other	54 (16.4)	8 (7.1)	85.2	<.001	28 (51.9)	6 (75)	.220
	March 2019 N = 242 (%)	March 2020 N = 118 (%) ^a	Reduction (%) ^b	P value	March 2019 hospitalization N = 56 (%)	March 2020 hospitalization N = 24 (%) ^c	P value
Obstetrical patients <16 wk							
Vaginal bleeding	108 (44.6)	56 (47.5)	48.1	<.001	14 (13)	7 (12.5)	.933
Vaginal bleeding and lower abdominal pain	45 (18.6)	32 (27.1)	28.9	.140	17 (37.8)	9 (28.1)	.377
Lower abdominal pain	39 (16.1)	17 (14.4)	56.4	.017	6 (15.4)	3 (17.6)	.832
Hyperemesis	13 (5.4)	2 (1.7)	84.6	.014	7 (53.8)	0	.155
Other	37 (15.3)	11 (9.3)	70.3	<.001	12 (32.4)	5 (45.5)	.428
	March 2019 N = 400 (%)	March 2020 N = 254 (%) ^a	Reduction (%) ^b	P value	March 2019 hospitalization N = 223 (%)	March 2020 hospitalization N = 164 (%) ^c	P value
Obstetrical patients ≥16 wk							
Painful uterine contraction or labor	118 (29.5)	79 (31.1)	33	.010	96 (81.4)	56 (70.9)	.086
Leaking amniotic fluid (PROM or suspected PROM)	77 (19.3)	53 (20.9)	31.2	.050	57 (74)	49 (92.5)	.008
Lower abdominal pain (not classified as labor) (<36 wk)	50 (12.5)	31 (12.2)	38	.037	9 (18)	6 (19.4)	.879
High blood pressure	15 (3.8)	22 (8.7)	46.6	.275	12 (80)	20 (90.9)	.341

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(continued)

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Numbers and details of patients self-referring to OB-GYN ED during March 2019 and March 2020, with hospitalization rates. After reporting the total number of self-referrals, further analysis were made dividing patients in three categories: gynecological patients, obstetrical patients <16 weeks and obstetrical patients >16 weeks (continued)

	March 2019 N= 400 (%)	March 2020 N=254 (%) ^a	Reduction (%) ^b	P value	March 2019 hospitalization N= 223 (%)	March 2020 hospitalization N= 164 (%) ^c	P value
Vaginal bleeding	24 (6)	18 (7.1)	25	.361	8 (33.3)	1 (5.6)	.030
Reduced fetal movements	18 (4.5)	10 (3.9)	44.4	.153	5 (27.8)	6 (60)	.094
Other	98 (24.5)	41 (16.1)	58.2	<.001	62 (63.4)	15 (36.6)	.004

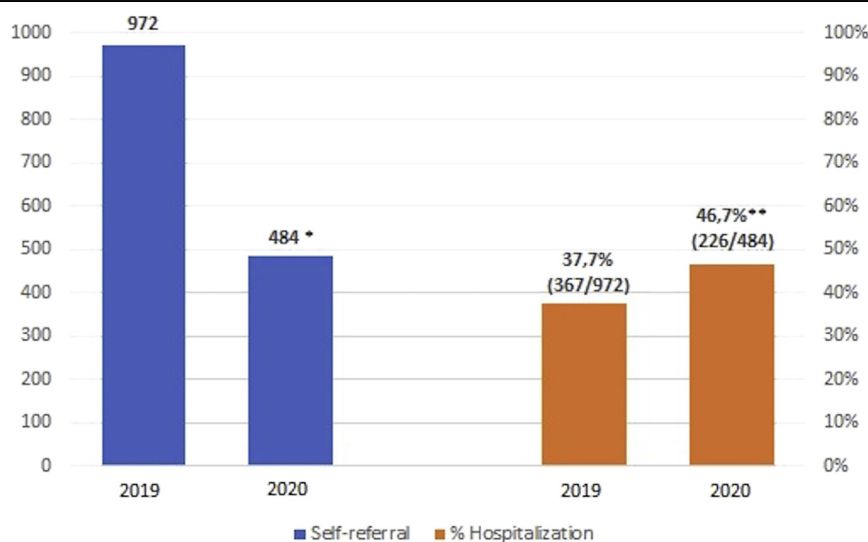
ED, emergency department; OB-GYN, obstetrics and gynecology; PROM, premature rupture of membranes.

^a Total number of patients for each category in 2020 with percentage calculated over the total number of gynecologic patients for that month; ^b reduction in percentage when compared with those in the same period in 2019; ^c percentage of patients in this category admitted to hospital over the number of access for that reason during March 2020.

Salsi. Obstetrics and gynecology emergencies during coronavirus disease 2019 pandemic. AJOG MFM 2020.

FIGURE

Number of patients admitted to ED and hospitalization rate in the 2 study periods



*50,2% decrease in self-referral.
**23,9% increase in hospitalization.

ED, emergency department.

Salsi. Obstetrics and gynecology emergencies during coronavirus disease 2019 pandemic. AJOG MFM 2020.

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