Kế hoạch mang thai cho các cặp vợ chồng hiếm muộn trong mùa covid

TS.BS LÊ THỊ MINH CHÂU

TRƯỞNG KHOA HIẾM MUỘN BV TỪ DŨ

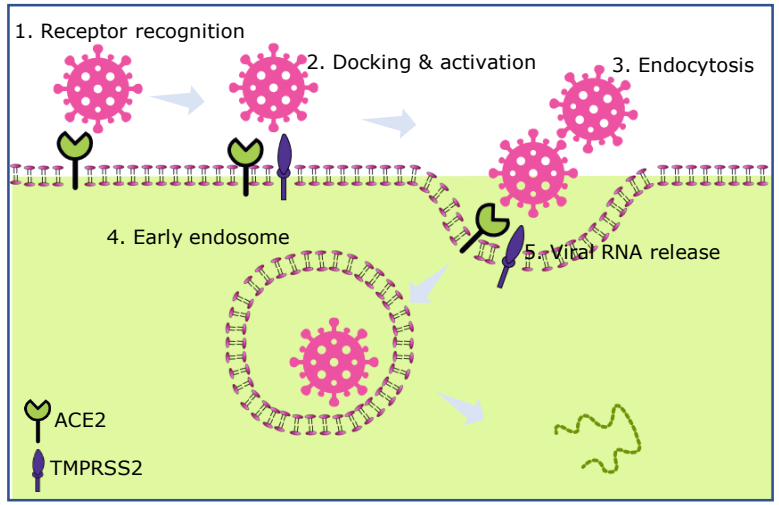
FER-SYM-21-10-2021-03

Đại dịch COVID-19

- Đại dịch coronavirus 2019 (COVID-19) bắt đầu từ những ca viêm phổi ở Wuhan, tỉnh Hubei, Trung Quốc
- WHO công bố đại dịch toàn thế giới 11/3/2020

Chứng cứ ghi nhận

- Tình trạng nhiễm trên toàn thế giới đến 8.2021: 217 triệu[1]
- Tỉ lệ tử vong trên toàn thế giới đến 8.2021: 4.45 triệu[1]
- Xâm nhập tế bào qua protein mũi nhọn và thụ thể ACE2 [2]
- Thụ thể ACE2 hiện diện trong hệ hống sinh sản người phụ nữ [3]



Effects of SARS-CoV-2 on human reproduction[3]

Female	Pregnant woman	Male
▶ Existence of virus . Ovary . Uterus	▶ Existence of virus (require more case reports) . Amniotic fluid . Placenta	▶ Existence of virus (controversial) . Testis . Semen
▶ ACE2 expression . Ovary . Uterus . Vagina	▶ ACE2 expression . Preimplantation embryos . Follicles . Endometrium . Extravillous trophoblast cells . Syncytial trophoblast cells	▶ ACE2 expression • Testis ▶ Impaired sperm quality

1. Infection and death rates https://www.worldometers.info/coronavirus/. Accessed August 2021.
2. Mihalopoulos M, et al. Eur Urol Focus. 2020;6:1086-96;
3. Yang M, et al. J Mol Cell Biol. 2021;mjab025.

ACE2, angiotensin-converting enzyme

Vertical transmission of coronavirus disease 2019: a systematic review and meta-analysis

Alexander M. Kotlyar, MD; Olga Grechukhina, MD; Alice Chen, BS; Shota Popkhadze, MD; Alyssa Grimshaw, MSLIS; Oded Tal, PhD; Hugh S. Taylor, MD; Reshef Tal, MD, PhD

Key findings

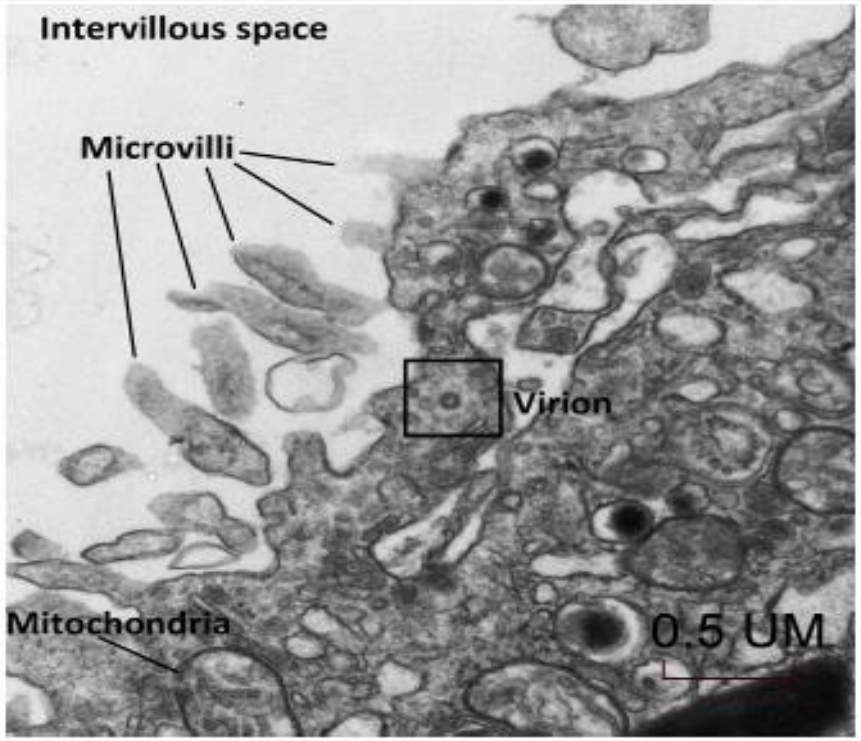
The vertical transmission of COVID-19 in the third trimester is approximately 3.2% (22/936) by infant nasopharyngeal swab testing, with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) RNA positivity in other test sites ranging from 0% (0/51) in amniotic fluid and urine (0/17), 3.6% (1/28) in the cord blood, 7.7% (2/26) by placental sample analysis, 9.7% (3/31) by rectal or anal swab, and 3.7% (3/81) by serology.

What does this add to what is known?

There is evidence of SARS-CoV-2 vertical transmission when the infection occurs in the third trimester of pregnancy.

FIGURE 2

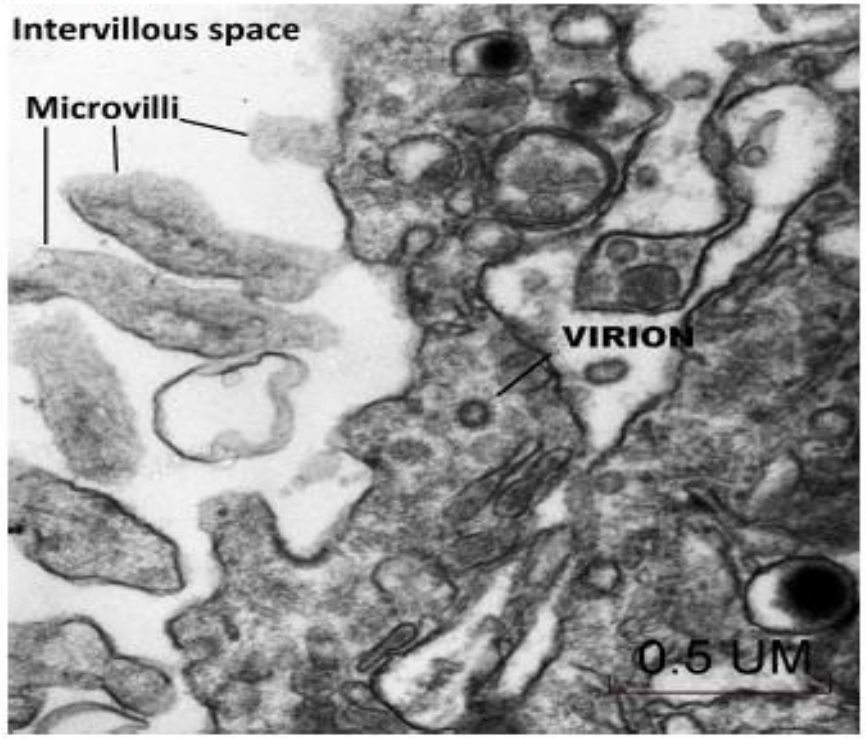
Transmission electron microscopy of a visible single virion invading a syncytiotrophoblast (30,000×)



Algarroba. Visualization of SARS-CoV-2 invading the human placenta using electron microscopy. Am J Obstet Gynecol 2020.

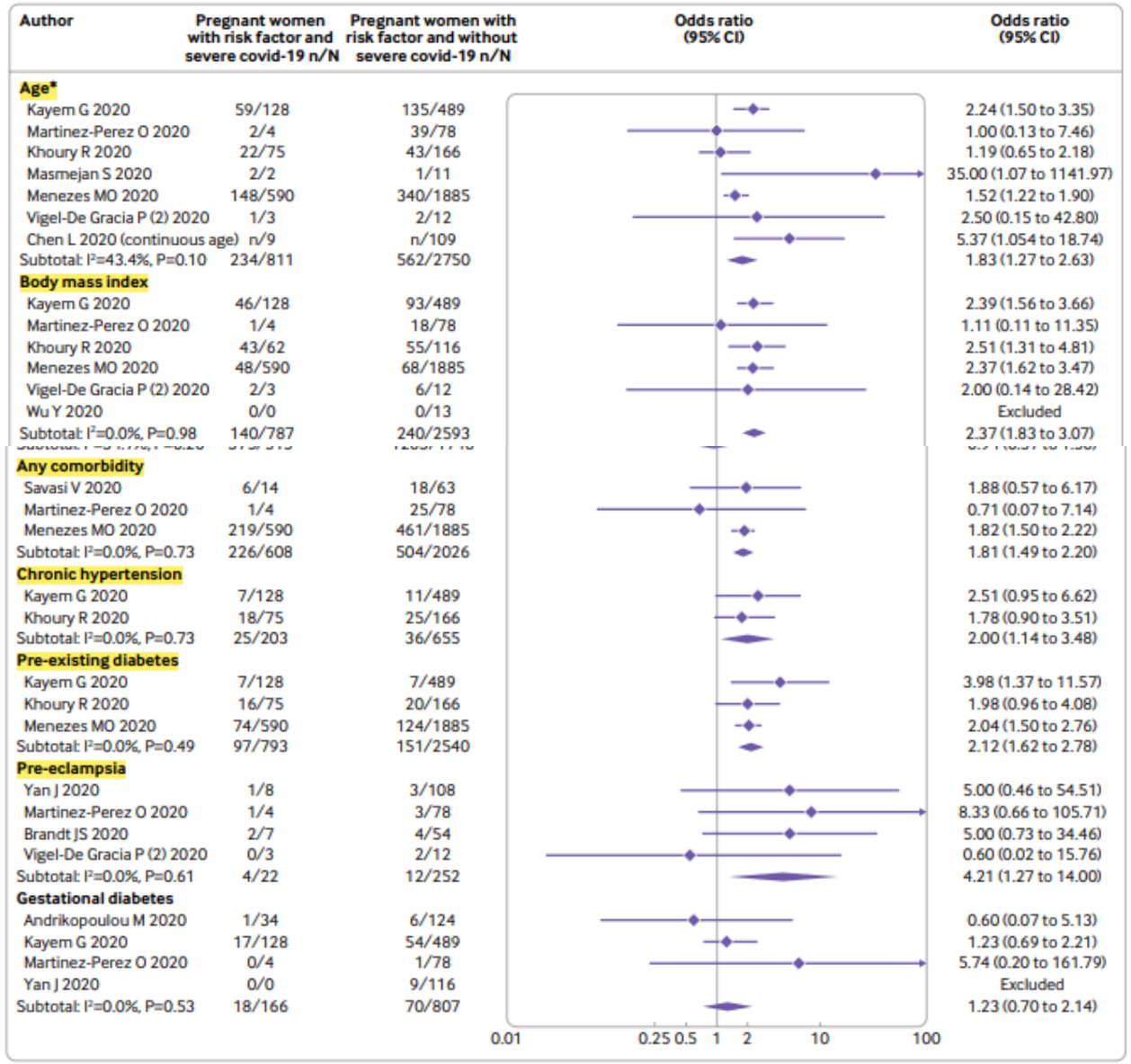
FIGURE 3

Transmission electron microscopy of a visible single virion invading a syncytiotrophoblast at a higher magnification (50,000×)



Algarroba. Visualization of SARS-CoV-2 invading the human placenta using electron microscopy. Am J Obstet Gynecol 2020.

Algarroba et al., AJOG, 2020



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John Allotey, BMJ, 2020

Research

JAMA Pediatrics | Original Investigation

Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without COVID-19 Infection

The INTERCOVID Multinational Cohort Study

IMPORTANCE Detailed information about the association of COVID-19 with outcomes in pregnant individuals compared with not-infected pregnant individuals is much needed.

OBJECTIVE To evaluate the risks associated with COVID-19 in pregnancy on maternal and neonatal outcomes compared with not-infected, concomitant pregnant individuals.

DESIGN, SETTING, AND PARTICIPANTS In this cohort study that took place from March to October 2020, involving 43 institutions in 18 countries, 2 unmatched, consecutive, not-infected women were concomitantly enrolled immediately after each infected woman was identified, at any stage of pregnancy or delivery, and at the same level of care to minimize bias. Women and neonates were followed up until hospital discharge.

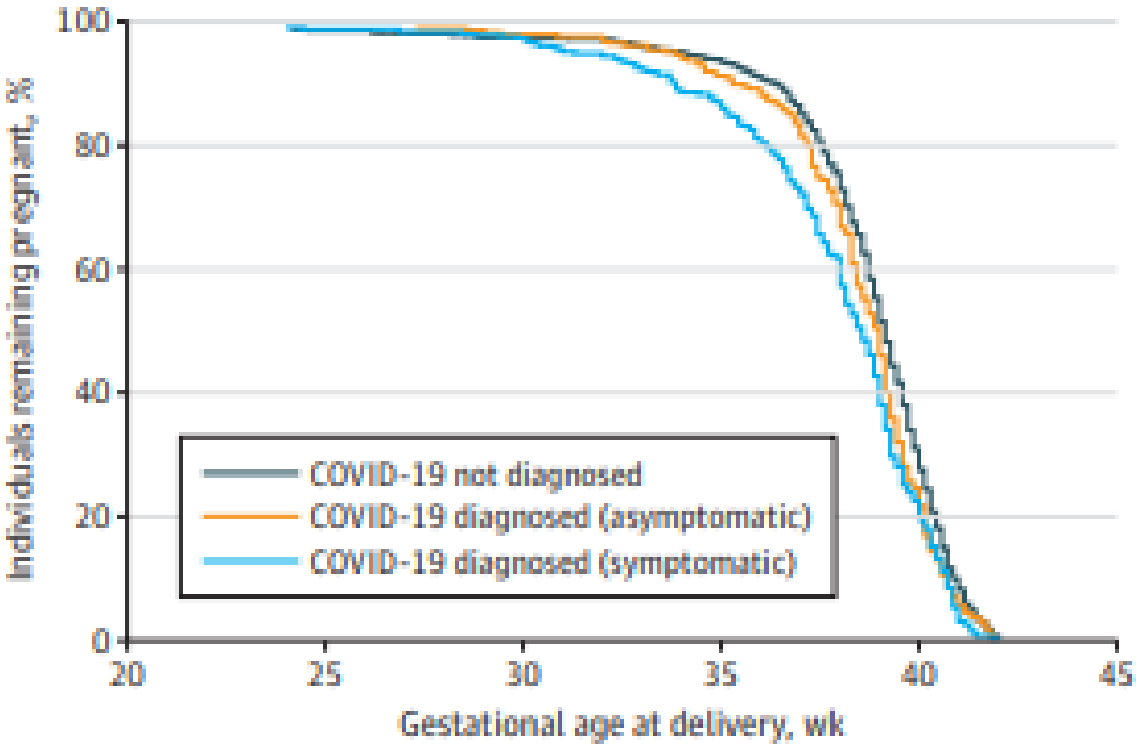
Table 1. Pregnancy Complications, Perinatal Events, and Neonatal Morbidities Among Women With and Without COVID-19 Diagnosis and Their Newborns

Characteristic	No. (%)		Relative risk (95% CI)
	Women with COVID-19 diagnosis (n = 706)	Women without COVID-19 diagnosis (n = 1424)	
Maternal morbidity and mortality index[a]	225 (31.9)	296 (20.8)	1.54 (1.33 to 1.78)[b]
Vaginal bleeding	44 (6.2)	87 (6.1)	1.02 (0.72 to 1.46)
Pregnancy-induced hypertension	58 (8.2)	80 (5.6)	1.46 (1.05 to 2.02)
Preeclampsia/eclampsia/HELLP	59 (8.4)	63 (4.4)	1.76 (1.27 to 2.43)[b]
Hemoglobin level <10 g/dL at >27 wk gestation	130 (18.4)	228 (16.0)	1.15 (0.91 to 1.45)
Preterm labor	52 (7.4)	88 (6.2)	1.20 (0.86 to 1.68)
Infections requiring antibiotics	25 (3.6)	16 (1.1)	3.38 (1.63 to 7.01)
Admitted to ICU	59 (8.4)	23 (1.6)	5.04 (3.13 to 8.10)
Time in ICU, mean (SD), d	7.3 (7.8)	2.0 (1.7)	3.73 (2.37 to 5.86)[c]
Referred for higher dependency care	6 (0.9)	1 (0.1)	6.07 (1.23 to 30.01)
Maternal death	11 (1.6)	1 (0.1)	22.26 (2.88 to 172.11)
Fetal distress	87 (12.3)	120 (8.4)	1.70 (1.06 to 2.75)[b]
Spontaneous initiation of labor	333 (47.2)	793 (55.7)	0.85 (0.77 to 0.93)
Induced labor	157 (22.3)	320 (22.5)	0.99 (0.84 to 1.18)
Cesarean delivery	346 (49.0)	547 (38.4)	1.28 (1.16 to 1.40)[b]
Prelabor rupture of membranes	114 (16.1)	262 (18.4)	0.87 (0.71 to 1.07)
Gestational age at birth, mean (SD), wk	37.9 (3.3)	38.5 (3.1)	−0.61 (−0.90 to −0.32)[d]
Preterm birth (<37 wk gestation)	159 (22.5)	194 (13.6)	1.59 (1.30 to 1.94)[e]
Spontaneous preterm birth	27 (3.8)	66 (4.6)	0.81 (0.52 to 1.27)
Medically indicated preterm birth	133 (18.8)	127 (8.9)	1.97 (1.56 to 2.51)[e]
Birth weight, mean (SD), kg	2.96 (0.70)	3.07 (0.68)	−0.11 (−0.18 to −0.04)[d]
Male	353 (50.0)	749 (52.6)	0.95 (0.87 to 1.04)
Female	353 (50.0)	675 (47.6)	1.06 (0.96 to 1.16)
Low birth weight (<2500 g)	145 (20.5)	181 (12.7)	1.58 (1.29 to 1.94)[b]
Small for gestational age (<10th centile)[f]	97 (13.7)	181 (12.7)	1.03 (0.81 to 1.31)
Exclusive breastfeeding at discharge	378 (53.5)	953 (66.9)	0.80 (0.74 to 0.87)
Any breastfeeding at discharge	588 (83.3)	1290 (90.6)	0.92 (0.88 to 0.96)
SNMI[g]	44 (6.2)	33 (2.3)	2.66 (1.69 to 4.18)[b]
Severe perinatal morbidity and mortality index[h]	120 (17.0)	113 (7.9)	2.14 (1.66 to 2.75)[b]

Abbreviations: HELLP, hemolysis, elevated liver enzymes, low platelet count; ICU, intensive care unit; SNMI, severe neonatal morbidity index.

[e] Models for preterm birth adjusted for history of preterm birth, country, month entering study, maternal age, and history of maternal morbidity (including

Figure. Gestational Age at Delivery Among Women With COVID-19 Diagnosis, With and Without Symptoms, and Women Without COVID-19 Diagnosis



No. at risk

COVID-19 not diagnosed	1391	1381	1371	1359	1318	1131	435	11
COVID-19 diagnosed (asymptomatic)	284	283	280	276	261	214	70	0
COVID-19 diagnosed (symptomatic)	407	403	399	382	355	267	92	1

- 12.1% of neonates born to test-positive women: tested positive
- Subgroup of cesarean delivery: mother/neonate positive: 72.2%
- SARS-CoV-2 has not been isolated from breastmilk
  - Breastfeeding: not associated with any increase in the rate of test positive neonates

Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study

Christine M Salvatore, Jin-Young Han, Karen P Acker, Priyanka Tiwari, Jenny Jin, Michael Brandler, Carla Cangemi, Laurie Gordon, Aimee Parow, Jennifer DiPace, Patricia DeLaMora**

Findings Of 1481 deliveries, 116 (8%) mothers tested positive for SARS-CoV-2; 120 neonates were identified. All neonates were tested at 24 h of life and none were positive for SARS-CoV-2. 82 (68%) neonates completed follow-up at day 5–7 of life. Of the 82 neonates, 68 (83%) roomed in with the mothers. All mothers were allowed to breastfeed; at 5–7 days of life, 64 (78%) were still breastfeeding. 79 (96%) of 82 neonates had a repeat PCR at 5–7 days of life, which was negative in all; 72 (88%) neonates were also tested at 14 days of life and none were positive. None of the neonates had symptoms of COVID-19.

Interpretation Our data suggest that perinatal transmission of COVID-19 is unlikely to occur if correct hygiene precautions are undertaken, and that allowing neonates to room in with their mothers and direct breastfeeding are safe procedures when paired with effective parental education of infant protective strategies.

Front. Med.
https://doi.org/10.1007/s11684-020-0772-y

RESEARCH ARTICLE

Clinical characteristics of 19 neonates born to mothers with COVID-19

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Chứng cứ về HTSS và Covid-19

TABLE 1

Clinical presentation of SARS-CoV-2 infection in the study participants.

	All patients (n = 1,347)			IVF patients (n = 74)		
	IVF pregnancies 74 (5.4)	Spontaneous pregnancies 1,273 (94.6)	*P* value	Own oocyte 38 (51.4)	Donor oocyte 36 (48.6)	*P* value
Asymptomatic	32 (43.2)	656 (51.5)	.166	18 (47.4)	14 (38.9)	.462
Symptomatic	42 (56.8)	617 (48.5)		20 (52.6)	22 (61.1)	
Mild-moderate symptoms	33/42 (78.5)	434/617 (70.3)	.256	16/20 (80.0)	17/22 (77.3)	.000
Pneumonia	9/42 (21.5)	183/617 (29.7)		4/20 (20.0)	5/22 (22.7)	
Pneumonia	6/9 (66.7)	160/183 (87.4)	.106	4/4 (100.0)	2/5 (40.0)	.167
Complicated pneumonia [a]/ shock	3/9 (33.3)	23/183 (12.6)		0/4 (0.0)	3/5 (60.0)	

Note: Data shown as number (percent of total). IVF = in vitro fertilization.

[a] With intensive care unit admission and/or mechanical ventilation and/or septic shock.

Engels Calvo. SARS-CoV-2 infection in in vitro fertilization pregnancies. Fertil Steril 2021.

FER-SYM-21-10-2021-03

Calvo et al., Ferstert, 2021

Baseline and pregnancy characteristics of the study participants.

	All patients (n = 1,347)			IVF patients (n = 74)		
	IVF pregnancies (n = 74)	Spontaneous pregnancies (n = 1,273)	*P* value	Own oocyte (n = 38)	Donor oocyte (n = 36)	*P* value
Maternal characteristics:						
Maternal age (years; mean/ range)	39.6 (31–49)	31.7 (18–46)	<.001[a]	37.2 (31–47)	42.0 (32–49)	<.001[b]
18–24	0 (0.0)	183/1,262 (14.5)	<.001[a]	0 (0.0)	0 (0.0)	<.001[b]
25–34	10 (13.5)	623/1,262 (49.4)		8 (21.1)	2 (5.6)	
35–49	64 (86.5)	456/1,262 (36.1)		30 (78.9)	34 (94.4)	
Ethnicity			<.001[a]			.260
White European	66 (89.2)	719/1,270 (56.6)		32 (84.2)	34 (94.4)	
Latino Americans	2 (2.7)	372/1,270 (29.3)		2 (5.3)	0 (0.0)	
Arab	4 (5.4)	106/1,270 (8.3)		2 (5.3)	2 (5.6)	
Asian nonhispanic	2 (2.7)	38/1,270 (3.0)		2 (5.3)	0 (0.0)	
Black nonhispanic	0 (0.0)	35/1,270 (2.8)		0 (0.0)	0 (0.0)	
Rh +	58/72 (80.6)	1088/1,217 (89.4)	.020[a]	30/37 (81.1)	28/35 (80.0)	.908
Nuliparous	39 (52.7)	477/1,259 (37.9)	.011[a]	19 (50.0)	20 (55.6)	.632
Smoking[c]	7/72 (9.7)	124/1,218 (10.2)	.900	4/36 (11.1)	3 (8.3)	1.000
Maternal comorbidities:						
Obesity (BMI>30 kg/m^2)	13/73 (17.8)	232/1,233 (18.8)	.830	6/37 (16.2)	7 (19.4)	.719
Cardiovascular comorbidities						
Chronic cardiopathy	0/73 (0.0)	15/1,243 (1.2)	1.000	0 (0.0)	0 (0.0)	—
Pregestational hypertension	1/73 (1.4)	18/1,231 (1.5)	1.000	0/37 (0.0)	1 (2.8)	.493
Pulmonary comorbidities						
Chronic pulmonary disease	0 (0.0)	3/1,242 (0.2)	1.000	0 (0.0)	0 (0.0)	—
Asthma	2/72 (2.8)	50/1,240 (4.0)	1.000	1/37 (2.7)	1/35 (2.9)	1.000
Hematologic comorbidities						
Chronic hematologic disease	2/73 (2.7)	19/1,239 (1.5)	.328	0 (0.0)	2/35 (5.7)	.226
Thrombophilia	8 (10.8)	17/1,236 (1.4)	<.001[a]	3 (7.9)	5 (13.9)	.474
Antiphospholipid syndrome	2/72 (2.8)	5/1,236 (0.4)	.052	1/36 (2.8)	1 (2.8)	1.000
Chronic kidney disease	1/72 (1.4)	4/1,241 (0.3)	.246	0/37 (0.0)	1/35 (2.9)	.486
Moderate-severe chronic hepatic disease	0/71 (0.0)	2/1,236 (0.2)	1.000	0 (0.0)	0 (0.0)	—
Rheumatologic chronic disease	2 (2.7)	9/1,240 (0.7)	.124	1 (2.6)	1 (2.8)	1.000
Diabetes mellitus	2 (2.7)	24 (1.9)	.650	2 (5.3)	0 (0.0)	.494
Depressive syndrome	2/73 (2.7)	13/1,229 (1.1)	.204	2 (5.3)	0/35 (0.0)	.494
Current pregnancy characteristics:						
Multiple gestation	6 (8.1)	19 (1.5)	.002[a]	3 (7.9)	3 (8.3)	1.000
Hemoglobin <10 g/dL	2 (2.7)	58/1,234 (4.7)	.575	1/37 (2.7)	1 (2.8)	1.000
Platelets <100,000/μL	1/71 (1.4)	11/1,222 (0.9)	.494	0/37 (0.0)	1 (2.8)	.493
Pregnancy-related hypertensive disorders	11 (14.9)	39 (3.1)	<.001[a]	1 (2.6)	10 (27.8)	.002[b]
Gestational diabetes	10 (13.5)	87/1,235 (7.0)	.039[a]	6 (15.8)	4 (11.1)	.737
Intrauterine growth restriction	3/71 (4.2)	45/1,219 (3.7)	.744	0/36 (0.0)	3/35 (8.6)	.115
High risk of preeclampsia in screening	12/63 (19.0)	57/1,086 (5.2)	<.001[a]	2/31 (6.5)	10/32 (31.3)	.012[b]

Note: Data shown as number (percentage of total) unless otherwise indicated. BMI = body mass index; IVF = in vitro fertilization.

[a] *P*< .05, IVF vs. spontaneous pregnancy.

[b] *P*< .05, donor vs. own oocyte

Calvo et al., Ferstert, 2021

TABLE 3

Perinatal and neonatal data of the study participants.

	All patients (n = 1,347)				IVF patients: N = 74		
	IVF pregnancies (n = 74)	Spontaneous pregnancies (n = 1,273)	Adjusted *P* value	aOR (95% CI)	Own oocyte N = 38	Donor oocytes N = 36	Adjusted *P* value
Perinatal outcomes							
Gestational age at delivery (weeks + days; mean/ range)	38+1 (26–41)	38+5 (23–42)	.152 [b]		38+6 (26–41)	37+2 (27–41)	.013 [a,b]
Onset of labor							
Programmed C-section	10 (13.5)	132 (10.4)			6 (15.8)	4 (11.1)	
Spontaneous	23 (31.1)	676 (53.1)	.227 [c]		13 (34.2)	10 (27.8)	.514 [c]
Induced	41 (55.4)	465 (36.5)	.321 [c]		19 (50.0)	22 (61.1)	.161 [c]
Type of delivery							
Vaginal	20 (27.0)	812 (63.8)			10 (26.3)	10 (27.8)	
Operative vaginal	13 (17.6)	129 (10.1)	<.001 [a,d]	3.89 (1.83–8.26)	9 (23.7)	4 (11.1)	.197 [d]
Cesarean	41 (55.4)	332 (26.1)	<.001 [a,d]	4.25 (2.40–7.54)	19 (50.0)	22 (61.1)	.499 [d]
Reason for Cesarean							
Before labor [e]	9/41 (22.0)	115/332 (34.6)			6/19 (31.6)	3/22 (16.3)	
Induction failure	23/41 (56.1)	107/332 (32.2)			8/19 (42.1)	15/22 (68.2)	
During 1st and 2nd stage of labor	6/41 (14.6)	86/332 (25.9)			5/19 (26.39)	1/22 (4.5)	
Severe COVID-19	3/41 (7.3)	24/332 (7.2)			0/19 (0.0)	3/22 (13.6)	
Preterm deliveries (<37 weeks of gestational age)	12 (16.2)	137 (10.8)	.221		2 (5.3)	10 (27.8)	.004[a]
Spontaneous delivery	6/12 (50.0)	72/137 (52.6)			2/2 (100.0)	4/10 (40.0)	
Iatrogenic delivery	6/12 (50.0)	65/137 (47.4)			0/2 (0.0)	6/10 (60.0)	
PROM	15 (20.3)	194 (15.2)	.534		8 (21.1)	7 (19.4)	.517
PPROM	4 (5.4)	33 (2.6)	.424		1 (2.6)	3 (8.3)	.132
Medical complications							
Thromboembolic events:	2 (2.7)	12 (0.9)	.354		1 (2.6)	1 (2.8)	.970
Deep venous thrombosis	2 (2.7)	5 (0.4)	.129		1 (2.6)	1 (2.8)	.970
Pulmonary embolism	1 (1.4)	9 (0.7)	.624		1 (2.6)	0 (0.0)	.998
Admitted to ICU [f]	6 (8.1)	30 (2.4)	.014[a]	3.62 (1.20–9.69)	1 (2.6)	5 (13.9)	.114
Invasive ventilation	3 (4.1)	14 (1.1)	.021[a]	5.64 (1.11–23.14)	0 (0.0)	3 (8.3)	.996
Obstetric complications							
Hemorrhagic events	5 (6.8)	66 (5.2)	.879		3 (7.9)	2 (5.6)	.233
Abruptio placentae	0 (0.0)	12 (0.9)	.991		0 (0.0)	0 (0.0)	—
Postpartum hemorrhage	5 (6.8)	56 (4.4)	.768		3 (7.9)	2 (5.6)	.233
Disseminated intravascular coagulation	2 (2.7)	2 (0.2)	.048[a]		0 (0.0)	2 (5.6)	.997
Gestational hypertensive disorders	12 (16.2)	57 (4.5)	<.001[a]	5.31 (2.45–10.93)	4 (10.5)	8 (22.2)	.060
Moderate preeclampsia	8 (10.8)	33 (2.6)	<.001[a]	5.90 (2.27–14.14)	4 (10.5)	4 (11.1)	.353
Severe preeclampsia	4 (5.4)	24 (1.9)	.030[a]	3.72 (1.00–11.30)	0 (0.0)	4 (11.1)	.996
Stillbirth	0 (0.0)	10 (0.8)	.991		0 (0.0)	0 (0.0)	—
Maternal mortality	0 (0.0)	2 (0.2)	.998		0 (0.0)	0 (0.0)	—
Neonatal data							
Apgar 5 score <7	1 (1.4)	12/1,253 (1.0)	.554		1 (2.6)	0 (0.0)	.998
Umbilical artery pH <7.10	1 (1.8)	33/1,018 (3.2)	.532		1/29 (3.4)	0/28 (0.0)	.998
Admitted in NICU	10 (13.5)	127 (10.0)	.289		3 (7.9)	7 (19.4)	.417
Neonatal mortality	1 (1.4)	5 (0.4)	.050		1 (2.6)	0 (0.0)	.998

FER-SYM-21-10-2021-03

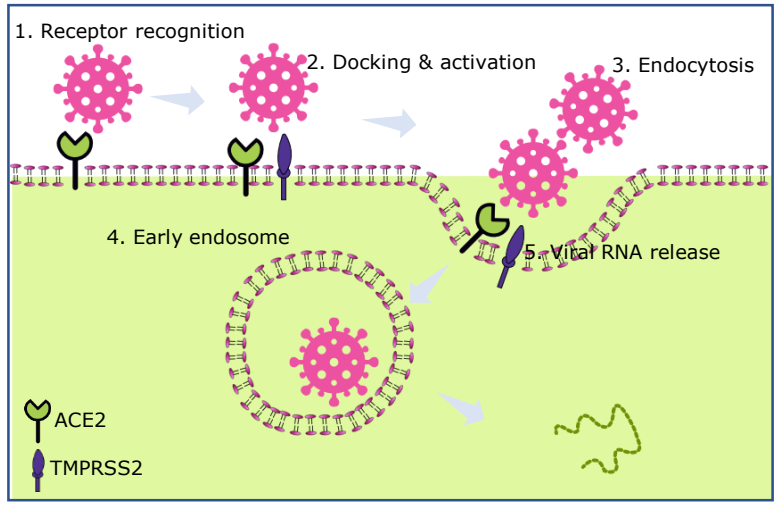
Calvo et al., Ferstert, 2021

Could ovarian reserve be affected after SARS-CoV-2 infection?

M. Cruz-Palomina, ESHRE 2021

Chứng cứ ghi nhận

- Tình trạng nhiễm trên toàn thế giới đến 8.2021: 217 triệu[1]
- Tỉ lệ tử vong trên toàn thế giới đến 8.2021: 4.45 triệu[1]
- Xâm nhập tế bào qua protein mũi nhọn và thụ thể ACE2 [2]
- Thụ thể ACE2 hiện diện trong hệ hống sinh sản người phụ nữ [3]



Effects of SARS-CoV-2 on human reproduction[3]

Female	Pregnant woman	Male
▶ Existence of virus . Ovary . Uterus	▶ Existence of virus (require more case reports) . Amniotic fluid . Placenta	▶ Existence of virus (controversial) . Testis . Semen
▶ ACE2 expression . Ovary . Uterus . Vagina	▶ ACE2 expression . Preimplantation embryos . Follicles . Endometrium . Extravillous trophoblast cells . Syncytial trophoblast cells	▶ ACE2 expression • Testis ▶ Impaired sperm quality

1. Infection and death rates https://www.worldometers.info/coronavirus/. Accessed August 2021.
2. Mihalopoulos M, et al. Eur Urol Focus. 2020;6:1086-96;
3. Yang M, et al. J Mol Cell Biol. 2021;mjab025.

ACE2, angiotensin-converting enzyme

Descriptive retrospective cross-sectional study to assess ovarian reserve impairment May–June 2020

Inclusion criteria:

- Patients with positive IgG (n = 46)
- ART
- AMH measurement before infection (< 6 months before)

Stratification by:

- AMH <1 ng/dL (low ovarian reserve, n =16)
- AMH ≥1 ng/dL (normal ovarian reserve, n = 30)

Results:

- No differences in AMH and AFC
- Further studies needed

AFC, antral follicle count; AMH, anti-Müllerian hormone;
ART, assisted reproductive technology; IgG, immunoglobulin G.

Cruz-Palomina M, et al. Presented at ESHRE 2021; O-079.

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Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons

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Table 1. Characteristics of Persons Who Identified as Pregnant in the V-safe Surveillance System and Received an mRNA Covid-19 Vaccine.*

Characteristic	Pfizer–BioNTech Vaccine	Moderna Vaccine	Total
	number (percent)		
Total	19,252 (53.9)	16,439 (46.1)	35,691 (100)
Age at first vaccine dose			
16–19 yr	23 (0.1)	36 (0.2)	59 (0.2)
20–24 yr	469 (2.4)	525 (3.2)	994 (2.8)
25–34 yr	11,913 (61.9)	9,960 (60.6)	21,873 (61.3)
35–44 yr	6,002 (31.2)	5,011 (30.5)	11,013 (30.9)
45–54 yr	845 (4.4)	907 (5.5)	1,752 (4.9)
Pregnancy status			
Pregnant at time of vaccination	16,522 (85.8)	14,365 (87.4)	30,887 (86.5)
Positive pregnancy test after vaccination	2,730 (14.2)	2,074 (12.6)	4,804 (13.5)
Race and ethnic group†			
Participants with available data	14,320	13,232	27,552
Non-Hispanic White	10,915 (76.2)	9,982 (75.4)	20,897 (75.8)
Hispanic	1,289 (9.0)	1,364 (10.3)	2,653 (9.6)
Non-Hispanic Asian	972 (6.8)	762 (5.8)	1,734 (6.3)
Non-Hispanic Black	371 (2.6)	338 (2.6)	709 (2.6)
Non-Hispanic multiple races	315 (2.2)	292 (2.2)	607 (2.2)
Non-Hispanic other race	76 (0.5)	56 (0.4)	132 (0.5)
Non-Hispanic American Indian or Alaska Native	40 (0.3)	54 (0.4)	94 (0.3)
Non-Hispanic Native Hawaiian or other Pacific Islander	33 (0.2)	31 (0.2)	64 (0.2)
Unknown race or unknown ethnic group	309 (2.2)	353 (2.7)	662 (2.4)

* Shown are the characteristics of v-safe participants 16 to 54 years of age who identified as pregnant and who received a

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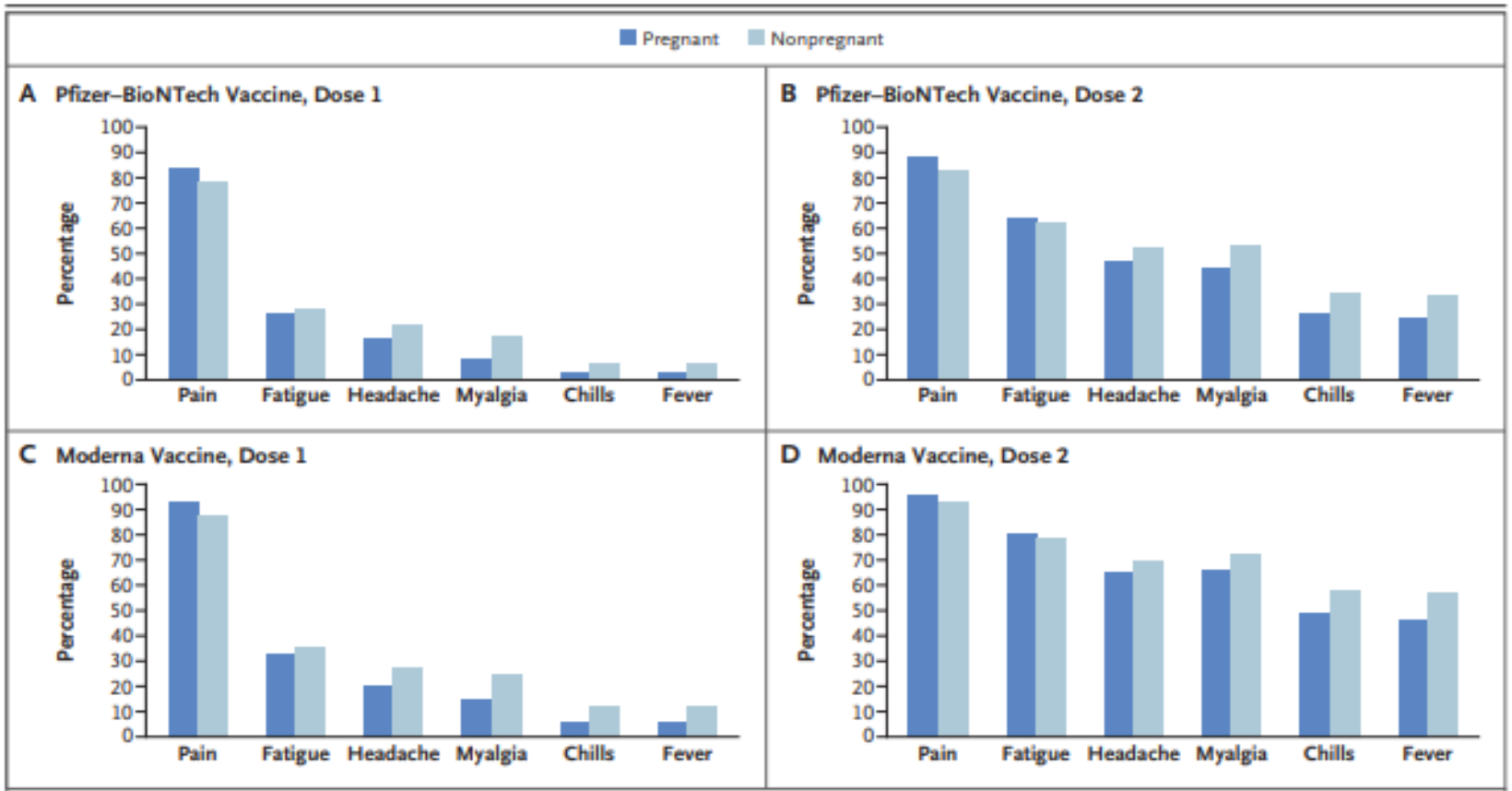

Figure 1. Most Frequent Local and Systemic Reactions Reported in the V-safe Surveillance System on the Day after mRNA Covid-19 Vaccination.

Shown are solicited reactions in pregnant persons and nonpregnant women 16 to 54 years of age who received a messenger RNA (mRNA) coronavirus disease 2019 (Covid-19) vaccine — BNT162b2 (Pfizer–BioNTech) or mRNA-1273 (Moderna) — from December 14, 2020, to February 28, 2021. The percentage of respondents was calculated among those who completed a day 1 survey, with the top events shown of injection-site pain (pain), fatigue or tiredness (fatigue), headache, muscle or body aches (myalgia), chills, and fever or felt feverish (fever).

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Table 4. Pregnancy Loss and Neonatal Outcomes in Published Studies and V-safe Pregnancy Registry Participants.

Participant-Reported Outcome	Published Incidence*	V-safe Pregnancy Registry†
	%	*no./total no. (%)*
Pregnancy loss among participants with a completed pregnancy		
Spontaneous abortion: <20 wk[15-17]	10–26	104/827 (12.6)‡
Stillbirth: ≥ 20 wk[18-20]	<1	1/725 (0.1)§
Neonatal outcome among live-born infants		
Preterm birth: <37 wk[21,22]	8–15	60/636 (9.4)¶
Small size for gestational age[23,24]‖	3.5	23/724 (3.2)
Congenital anomalies[25]**	3	16/724 (2.2)
Neonatal death[26]††	<1	0/724

OBSTETRICS

Coronavirus disease 2019 vaccine response in pregnant and lactating women: a cohort study

Kathryn J. Gray, MD, PhD; Evan A. Bordt, PhD; Caroline Atyeo, BS; Elizabeth Deriso, PhD; Babatunde Akinwunmi, MD, MPH, MMSc; Nicola Young, BA; Aranxta Medina Baez, BS; Lydia L. Shook, MD; Dana Cvrk, CNM; Kaitlyn James, PhD, MPH; Rose De Guzman, PhD; Sara Brigida, BA; Khady Diouf, MD; Ilona Goldfarb, MD, MPH; Lisa M. Bebell, MD; Lael M. Yonker, MD; Alessio Fasano, MD; S. Alireza Rabi, MD; Michal A. Elovitz, MD; Galit Alter, PhD; Andrea G. Edlow, MD, MSc

Key findings

Pregnant and lactating women elicited comparable vaccine-induced humoral immune responses with nonpregnant controls and generated higher antibody titers than those observed after severe acute respiratory syndrome coronavirus 2 infection in pregnancy. Vaccine-generated antibodies were present in umbilical cord blood and breastmilk after maternal vaccination.

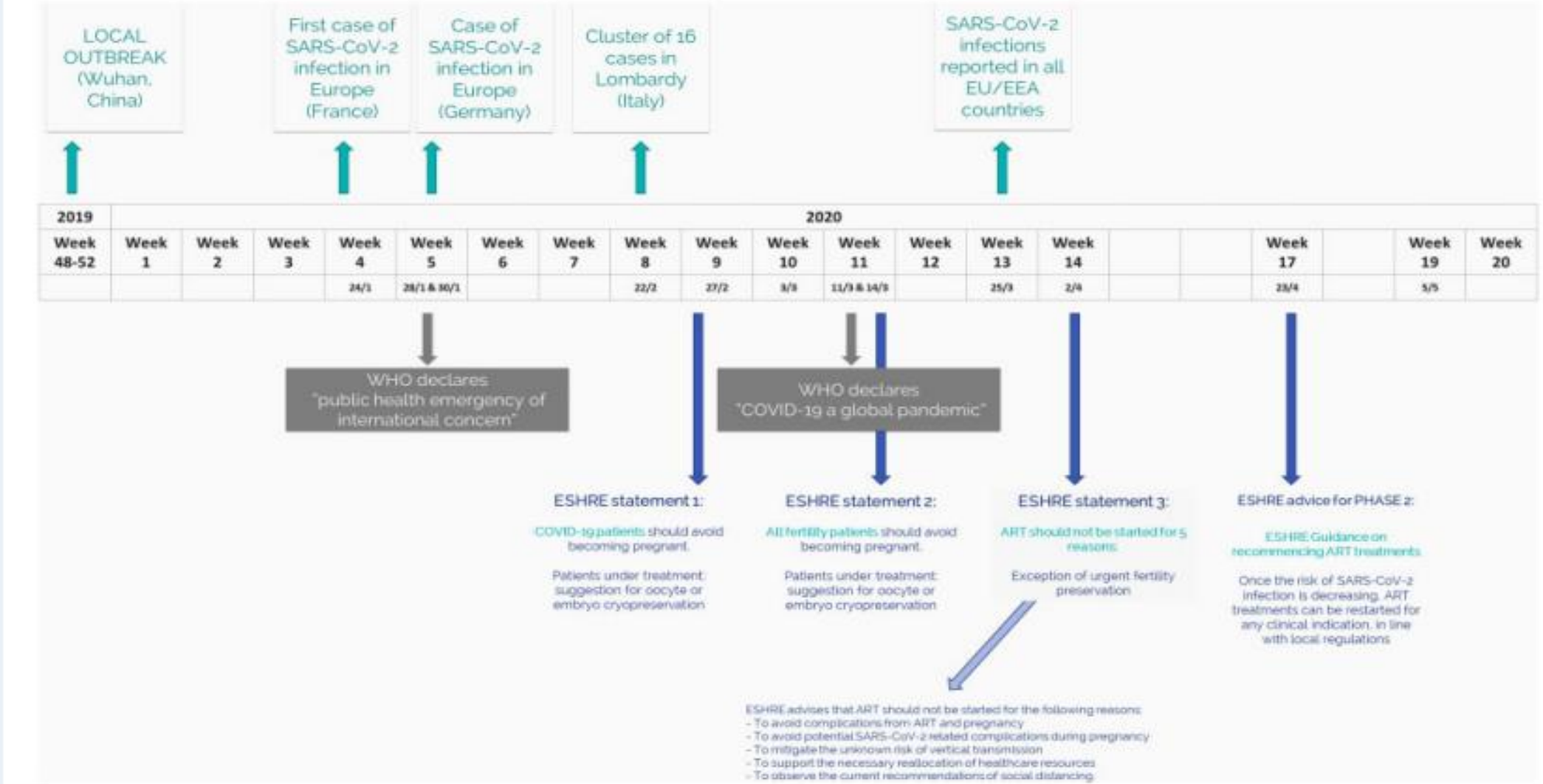


Figure 1 Timeline for the outbreak of COVID-19 in Europe. COVID-19, coronavirus disease 2019; MAR, medically assisted reproduction;

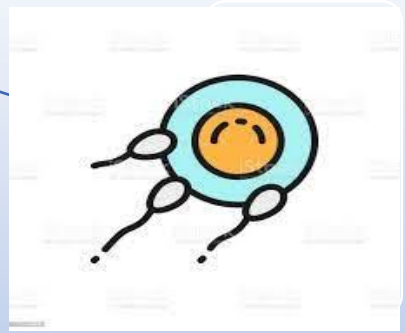
FER-SYM-21-10-2021-03 The ESHRE COVID-19 Working Group et al., humprepo, 2020

Mang thai trong mùa covid-các cặp vợ chồng hiếm muộn

Có nên mang thai không?

Mang thai như thế nào cho an toàn ?

Vaccine



Điều trị hiếm muộn an toàn?

- Sau khi tiêm vaccine bao lâu có thể bắt đầu điều trị HTSS?
- Phản ứng phụ nặng sau tiêm vaccine, thực hiện HTSS như thế nào?
- Trung tâm HTSS
  - Yêu cầu tiêm vaccine cho các bệnh nhân điều trị HTSS (ASRM 8/2021)
  - Bệnh nhân: phải có CT sàng lọc, kiểm soát nhiễm khuẩn an toàn trong mọi khâu từ lâm sàng đến lab
  - Sàng lọc định kỳ nhân viên

Bệnh viện Từ Dũ tiêm vaccine miễn phí cho phụ nữ hiếm muộn

FER-SYM-21-10-2021-03


Thank
you!