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# Pregnancy, childbirth and postpartum experience in pregnant women infected with SARS-CoV-2 in 2020 in Paris: a qualitative phenomenological study

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1 **Pregnancy, childbirth and postpartum experience in pregnant women**  
2 **infected with SARS-CoV-2 in 2020 in Paris: a qualitative phenomenological**  
3 **study**

4  
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18

19 Abstract

20 **Background**

21 The COVID-19 pandemic and the resulting lockdowns triggered social discontent on an  
22 unprecedented scale. Descriptive phenomenological studies showed that pregnant  
23 women were under intense stress during the COVID-19 outbreak, even though they  
24 remained uninfected. The purpose of this study was to report on the experiences of  
25 pregnant women affected by mild COVID-19 during the first wave of the pandemic.

26 **Methods**

27 In this non- interventional qualitative study, we analyzed pregnant women's  
28 experiences using an interpretive phenomenological analysis approach. We conducted  
29 semi-structured interviews with women who had had a mild COVID-19 during their  
30 pregnancy, and gave birth or planned to give birth in the maternity units of Sorbonne  
31 University in Paris, France.

32 **Results**

33 Participants reported that at the time they had COVID-19, they were not afraid of being  
34 seriously ill, but of transmitting COVID-19 to their close relatives. Their main concern  
35 was being pregnant and becoming a parent in a world where the pandemic deeply  
36 altered social environment. This included uncertainty about the future and an acute  
37 feeling of isolation related to lockdown. The idea that their partner might not be allowed  
38 to attend childbirth was almost unanimously felt as intolerable. In contrast, women had  
39 positive feelings regarding the fact that lockdown resulted in a de facto paternity leave  
40 leading to a certain degree of equality in the couple regarding baby care and household  
41 chores. Unexpectedly, the pandemic social distancing measures helped participants  
42 escaping from behavioral constraints, including the unspoken rule that they should  
43 welcome greetings from friends and family, despite being exhausted by the recent birth.

44 **Conclusions.**

45 Our results suggest that avoiding separation from their partner is a key to benevolent  
46 medical care for pregnant women in times of health crises. The unexpected benefits  
47 women reported in a world of lockdown cast a new light on their expectation regarding  
48 parenthood today.

49

50 **Keywords** qualitative research, pregnant women, COVID-19, phenomenological

51

52 **Background**

53 The COVID-19 pandemic and the resulting social and health crisis have triggered many  
54 scientific, epidemiological and sociological studies across the world. As early as May  
55 2020, researchers warned internationally against the risk of psychological  
56 repercussions of the health crisis on pregnant women.<sup>1</sup> This was alarming, since  
57 pregnancy and parenthood, usually a source of joy, may trigger negative emotions  
58 related to birth, mental load, work and family at large.<sup>2-4</sup>

59 In France, a lockdown took place between March 2020 and June 2020 with the  
60 emergence of the variant alpha. This lockdown consisted in the closing of artistic,  
61 commercial sectors considered as “non-essential”<sup>5</sup>.

62 Some French studies described low mental well-being scores during this phase,  
63 especially in poor areas of the main cities such as Paris<sup>6</sup>. American studies showed that  
64 pregnant women who had not been infected were under intense stress during the  
65 COVID-19 outbreak with qualitative studies on going to understand the impact.<sup>7,8</sup> . No  
66 qualitative study has been carried out in France about pregnant women infected with  
67 COVID-19.

68 Our objective was to describe the lived experience of women diagnosed with a mild to  
69 moderate SARS-CoV-2 infection during pregnancy regarding pregnancy, childbirth, and  
70 early parenthood.

71

72 **Methods**

73 We carried out a qualitative study using an interpretative phenomenological analysis  
74 (IPA)<sup>9</sup>, corresponding to an in-depth study based on individual participants’ narratives  
75 about their experience of a phenomenon<sup>10</sup>. It is an inductive approach, not used to

76 confirm pre-established hypotheses but to discover new concepts on the issue under  
77 study.

### 78 ***Sample and recruitment***

79 To achieve a homogenous sample, we took advantage of a list of pregnant persons  
80 infected with COVID-19 during their second or third trimester, who gave birth or  
81 planned to give birth in the maternity units of the Sorbonne University group (Pitié-  
82 Salpêtrière, Tenon and Trousseau Hospitals). The diagnosis of COVID-19 for our study  
83 was based either on a positive nasopharyngeal SARS CoV 2 PCR, or on highly suggestive  
84 clinical symptoms.

85 We contacted eligible persons by e-mail, following the chronological order of the list.  
86 The e-mail inviting them to take part in the study gave practical information together  
87 with a consent form. All the women who responded positively were interviewed.

88 The women interviewed were to have sufficient mastery of the French language, to be  
89 able to undergo a long interview, and to give verbal consent to participate in the study,  
90 having read the information sheet.

91 We discontinued recruitment when sufficiency of data and concepts was obtained<sup>11</sup>

### 92 ***Interviews***

93 Four researchers carried out the interviews: a senior researcher (LB), a methodologist  
94 specialized in qualitative research (JG), a psychologist (AA) and a junior researcher (VR).

95 The interviews were carried out at the participants' convenience and with their consent,  
96 using digital tools (Whatsapp®, Skype®, Zoom®). Due to partial lockdowns during this  
97 period in France, it was very difficult to carry out face to face interviews. We chose to  
98 conduct online interviews. This simplified the recruitment of post partum women often  
99 at home with their children. A recent paper showed that online qualitative research is as  
100 efficient as face to face interviews<sup>12</sup>. All interviews were recorded, with the women's

101 consent. The final product of the transcription, the “verbatim”, was used as a basis for  
102 the analysis. All interviews were made anonymous, with ID codes generated on a  
103 secured computer. Interview transcripts were safely stored to protect confidentiality on  
104 a unique computer protected with a password. The interviewer remained as  
105 unobtrusive as possible to limit any influence on the interviewee. The interview guide  
106 was open, and the subjects to be discussed were suggested but not compulsory. Each  
107 interview was subjected to a debriefing session involving the four interviewers. This  
108 enabled the researchers to initiate the analytical process and to comment on the quality  
109 of the interviews in order to improve the interviewers’ skills.

### 110 ***Analysis of the results***

111 We used interpretative phenomenological analysis (IPA), a qualitative method  
112 developed to describe the “experience of illness”, particularly in the medical and  
113 psychological fields<sup>13</sup>. It is part of a dual hermeneutic perspective: the researcher gives  
114 meaning to the meaning attributed by the subjects to their own experiences. Every  
115 sequence of verbatim was analysed independently, with the emergence of codes for each  
116 interview, gathered in subthemes and categories in a second step, ending by the building  
117 of superordinate themes (the first step also named « coding »). The analysis was  
118 triangulated confronting the points of view of four researchers for each step of the  
119 analysis, with dedicated sessions every three interviews. Before these sessions, VR and  
120 JG coded independently every transcript. LB, VR, JG and JSC discussed during these  
121 sessions the codes for each interview and then later discussed for each interview the  
122 emergence of several themes. These themes were elaborated considering the common  
123 experience in the codes. At the end of the process, the superordinate themes were  
124 elaborated using all the themes emerged from all the interviews. Sufficiency as IPA  
125 required was obtained when new categories emerging from new interviews were

126 similar to the previous ones, without new relevant information<sup>11</sup>. We did not use any  
127 software due to the few interviews required in the IPA method <sup>9</sup>.

128

### 129 ***Ethical aspects***

130 The research protocol received approval from the Commission Nationale Informatique  
131 et Libertés (CNIL , Reference 2218112 v 0) and from the Research Ethics Committee  
132 (IDF Ile de France 4) (approval issued on June 25<sup>th</sup>, 2020 under n°2020-A01184-35).

133

### 134 **Results**

135 The first 50 pregnant women in the “COVID-19 patients” list were contacted. Twelve  
136 responded and were interviewed from June to August 2020. None of them had to be  
137 excluded because of an insufficient proficiency in French. The material studied  
138 amounted in all to twelve hours and forty-five minutes, with a mean time of sixty-two  
139 minutes per interview. The women were aged 27 to 42. Nine of them had already given  
140 birth to their babies at the time of the interview. (Table 1). All women partners were  
141 identified as men.

142

143 Six themes were identified:

144 - COVID-19: Minor symptoms, but questioning about an unknown virus

145 - Identifying oneself as a mother in an anxiety-provoking climate with a loss of social  
146 references

147 - Medical care: fine line between support and ill treatment

148 - Individual and social resources in the face of adversity

149 - The central role of the partners

150 - The unexpected benefits of the lockdown



151

152 ***COVID-19: Minor symptoms, but questioning about an unknown virus.***

153 Most participants reported their COVID-19 symptoms as moderate or “non-serious”.  
154 They showed relative serenity regarding the course of the disease. Indifference, even  
155 relief at the diagnosis, were also mentioned. *"I thought: OK, well... in fact it was COVID-*  
156 *19. What a relief, this is how most people have experienced it: like a bad bout of flu. »*, P6.

157 Worries often reported concerned the health of their unborn child, with the fear of  
158 infecting the child, during birth or breastfeeding. *"For me, I was more worried about the*  
159 *baby [...] I was worried because I thought I was going to give birth and not be able to*  
160 *breastfeed my daughter »*, P8. This fear of passing on the virus also concerned relatives  
161 (partner, family). Certain mothers were worried about not being able to look after their  
162 other children.

163 The women seemed to have suffered from a feeling of lack of knowledge about this new  
164 virus. Many remained wary about the responses given by health professionals or mass  
165 media, or found on the internet, and judged the information unreliable. Although they  
166 reckoned that scientific knowledge required constant updates, they experienced  
167 negatively the fact that experts and media provided contradictory results over time.  
168 *"It's true that there's a lot of uncertainty, so it's never very pleasant, especially when you're*  
169 *used to controlling everything, being in charge, so er... no it's not nice."*. P2

170

171 ***Identifying oneself as a mother in an anxiety-provoking climate with a loss of social***  
172 ***references***

173 The participants said they had to put to one side what they had imagined they would  
174 experience during their pregnancy. Giving up daily activities was complicated to  
175 manage. Certain participants who wished to continue working during their pregnancy

176 found it hard to cope with the cessation of work imposed by the crisis, their illness, or  
177 the fact of being pregnant. A clear decrease in physical activity among women practicing  
178 sport was also difficult, particularly because of the physical consequences. They felt  
179 isolated during their pregnancy. Restrictions on movement were experienced  
180 negatively, with a feeling of forced confinement, particularly with the presence of other  
181 children in the household and the absence of child-minding facilities. *"It's difficult to  
182 manage. Even if the apartment is large, we still have the feeling that we're going round in  
183 circles and it generates anxiety with no particular reason, but the fact of going round in  
184 circles is just stressful. »*, P11.

185 During lockdown, the participants found it hard not to be able to see their relatives.  
186 They often mentioned the absence of their mother. *"The absence of my family was really  
187 hard, because in fact they didn't really see me pregnant »*, P10.

188 Women feared a brutal break with the world they knew before the pandemic. They  
189 reported a "change in atmosphere" and an anxiety-provoking loss of social references.

190 *"You also have to renounce the fantasy that you build up when you're going to have a baby. I  
191 mean, you think that you will be able to do loads of things, see lots of people, well, just be  
192 able to live a little."* P5 *"Not only did we change, our life changed, everything was changing  
193 around us [...] So, there it was, nothing was left... becoming a mother in a world where...  
194 there was nothing left! It's... it wasn't the same world any more."* P5.

195

#### 196 ***Medical care: fine line between benevolent support and ill treatment***

197 Maternity departments seemed to have played a major role in supporting women: they  
198 were the first resort and the main source of reassurance. Participants appreciated  
199 sharing of information by professionals and the availability of the staff. They appreciated  
200 particularly telephone follow up sessions, and were disappointed and felt abandoned

201 when hospitals failed to provide it. *"I had direct contact with the doctors. It was really*  
202 *nice. Every day, I was able to talk to a health professional. (...) I found it really reassuring,*  
203 *and I can't see what they could have done better to take things in hand."* P2

204 The fear of "disturbing" the medical staff, already overwhelmed, was reported several  
205 times. Participants were disappointed when prenatal clinics were replaced by  
206 telemedicine, which they felt was not reassuring.

207 Changes in practices, such as wearing a face-mask during labor and pushing efforts,  
208 were generally seen as problematic. Regarding the mask: *"It's true that to catch your*  
209 *breath, it wasn't easy, even if I had to push only three times, I had the feeling that I was*  
210 *lacking air when I tried to get my breath back".* P9. A major concern expressed by  
211 participants was the risk that their partner might not be allowed to attend the birth,  
212 which was almost unanimously felt as intolerable. All these measures were difficult to  
213 accept by couples, and sometimes they did not understand the rationale behind these  
214 pragmatic decisions. The lexical field related to catastrophe, nightmare, death and  
215 trauma was prominent to talk about birth and post-partum hospitalization in the  
216 context of the pandemic. *"I felt that it was like coming out of a nightmare, because it was*  
217 *quite traumatic, physically and of course mentally as well (...). I was in tears because my*  
218 *husband wasn't with me and I was afraid and I couldn't take it any more. I felt as though*  
219 *my heart was going to stop; it was too much."* P10

220 This revealed a major side effect of safety measures implemented in hospitals to prevent  
221 the spread of COVID-19, which, according to participants, bordered on medical violence.  
222 *«The bad side of Covid, it was really down to the fact that they completely ruined the birth of*  
223 *my baby, with not good reason whatsoever."* P4

224

225 ***Individual and social resources in the face of adversity***

226 The women interviewed resorted to several strategies to cope with COVID-19. Those  
227 who did not feel concerned about the risk of a “severe form” felt protected and did not  
228 feel as vulnerable as the women they identified as frightened with a severe form. Others  
229 put things into perspective depending on their previous history of childbearing.  
230 Primiparous women pointed out that it was simpler not to have other children to look  
231 after, and multiparous women stated they were lucky to have already experienced  
232 pregnancy so that they were not in unknown territory. Others gave precedence to their  
233 maternal role over their role as women, considering that if their baby was well, there  
234 was no reason to complain. *“For me the most important thing is that my baby is well, and  
235 from there on, OK.” P2*

236 Certain women had already experienced serious illness in their lives, which enabled  
237 them to put things into perspective or to feel better prepared. Many women declared felt  
238 relieved after having COVID-19. It was no longer an abstract threat but a condition they  
239 experienced and overcame. They were reassured at the thought of being protected via  
240 lasting immunity.

241 Housing conditions seemed to have a substantial role in the experience of lockdown.  
242 Women belonging to higher socio-professional categories felt privileged. *“On top of  
243 everything, the weather was good. (...) I had a deckchair under my cherry tree, able to eat my  
244 cherries, in peace. A garden makes all the difference.” P6*

245 Participants declared they adapted to lockdown by using digital technology to maintain  
246 social contacts. Digital means served to communicate on changes in the pregnant  
247 person’s body via photos and videos and helped maintaining contact to with friends and  
248 family by sharing news on the ongoing pregnancy, the birth and the first moments spent  
249 with the baby. *“We made videos, but it was totally different in fact.” P7*

250

251 ***The central role of the partner***

252 The partners, who were often mentioned, seemed to have played an important  
253 supporting role during these difficult times for a great majority of women. *"My partner,*  
254 *who is often absent, he was always here with me, we were together, and for the pregnancy it*  
255 *was really great. He was really super present with the baby in my belly, in fact. »*, P10

256 Other women felt their partner failed to give support, and they expressed a feeling of  
257 solitude and resentment. *"Basically, in fact, we've never been as close physically, but*  
258 *despite that, I have never felt that lonely before »*, P11.

259 The fact that partners were denied the right to be present at prenatal clinics, ultrasound  
260 examinations, the post-partum ward, the operative theatre in case of a caesarean, and  
261 even the birth room was experienced as an injustice, depriving fathers of their legitimate  
262 involvement in the pregnancy and birth process. *"It was really hard for him. In fact, those*  
263 *moments, small as they may be, were taken away from him. It's difficult, because for us, it*  
264 *was a shared project, we really experience things in life together... and I felt I was being*  
265 *more privileged than him".* P7

266 This feeling was reinforced by the fact that these measures did not seem to be evidence  
267 based. Hearsay around the prohibition of the fathers' presence at birth was the cause of  
268 further preoccupation, anticipatory anxiety, even if in the end they were allowed to  
269 attend the birth.

270 Contrastingly, the fact that anti COVID measures kept the partner at home in the post-  
271 partum period was good news to participants. They welcomed this kind of a forced  
272 parental leave, and declared it helped forming family ties and putting parents on an  
273 equal man-woman footing after the birth of the baby. *"I think that in the end, it allowed us*  
274 *to be on an equal footing from the start. Because he saw that I didn't know anymore than he*

275 *did why she, [the baby] was crying, we were trying different things... he was also able to*  
276 *calm her down." P9*

277

278 ***The unexpected benefits of the lockdown***

279 Despite all this inconvenience, many participants considered lockdown as an  
280 opportunity. On the one hand, during pregnancy, they appreciated to have the  
281 opportunity to stay at home with their family. In the course of pregnancy, lockdown  
282 enabled expectant mothers to take time for themselves and prepare for the arrival of  
283 their baby. They enjoyed being able to focus on their couple and family. *"It did me a lot of*  
284 *good to be able to put my feet up a bit, to make the most of things, to pay more attention to my*  
285 *pregnancy, so that was good." P7*

286 On the other hand, social distancing enabled them to get rid of traditional social  
287 constraints in the early post-partum period. The prohibition of post-partum visits from  
288 the wider family and friends was received with ambivalence. Many participants  
289 resented the prohibition of postpartum visiting, resigning themselves to being deprived  
290 of the attentions triggered by having a baby. At the same time, the prohibition of  
291 physical contacts was felt to be beneficial in nearly all cases. The post-partum period  
292 was described as quieter, less tiring and more respectful of privacy than expected.  
293 *"There were fewer visits in fact. Er... well visits can be very tiring, so for me, I was quite*  
294 *happy for the visits to be banned [...]. When you're tired, when you're... when you're aching*  
295 *all over, you don't necessarily want to see any visitors, right?" P10.* This feeling was  
296 reinforced by the fact that, very often, the post partum period was harder than what  
297 they had expected. Lockdown was a "good excuse" to stay quietly at home. Parents  
298 seized this opportunity to concentrate on the newborn baby, to protect it in their own  
299 way, without having to justify themselves to their entourage and to society. They were

300 able to discover their child at their own pace, and build a privileged relationship. *"It's not*  
 301 *a bad thing to start finding our marks, just the three of us, so that later we can integrate*  
 302 *the other family members. Being able to have a quiet time the three of us in fact." P7*

303

304 **Table 1: participants**

<b>P</b>	<b>Age Family situation before this pregnancy Type of household</b>	<b>Timing of the interview</b>	<b>Symptoms and PCR tests</b>
P1	38 years old. Single, no children. Lives alone, duplex apartment, with no outside premises	Pregnant	Cough, fever, anosmia, ageusia, substantial dyspnoea PCR + 20WA
P2	27 years old Married, no children Lives in an apartment, with no outside premises.	Pregnant	Anosmia, ageusia PCR + 25 WA
P3	34 years old With a partner, 2 children Accommodated in a social hostel	3 weeks post partum	Asthenia, myalgia PCR + 31 WA
P4	32 years old, Married, 1 child	3 weeks post partum	Pseudo influenza symptoms PCR + 30WA
P5	35 years old, Civil partnership, no children In an apartment, with no outside premises.	10 weeks post partum	Fever, cough, dyspnoea, anosmia, ageusia Screening not done = COVID-19-like symptoms
P6	34 years old, With a partner, no children In a house with a garden	11 weeks post partum	Pseudo-influenza syndrome, anosmia, ageusia PCR COVID-19 +
P7	28 years old Married, no children Apartment with balcony and garden	Pregnant	Anosmia, ageusia (20 WA) No PCR, no serology = COVID-19-like symptoms
P8	31 years old Single, 3 children Social accommodation	4 weeks post partum.	Apyrexia, asthenia, myalgia. PCR + 30WA
P9	28 years old Married, no children In an apartment, no garden	7 weeks post partum.	Rhinitis alone PCR + 28 WA

P10	42 years old With a partner, no children In an apartment, outside yard	1 week post partum.	Chest pain, fever, tachycardia. Transported by ambulance to the maternity unit PCR + 25 WA
P11	34 years old Married, 1 child Apartment, outside yard	8 weeks post partum.	Pharyngitis alone PCR + 28 WA
P12	35 years old With a partner, 1 child Apartment, no outside premises.	5 weeks post partum	Rhinitis, dyspnoea PCR + 25 WA

305

306 Others verbatim are available in table 2.

307 **Table 2: boxes of verbatim**

<b>Box 1</b>	<b><u>-COVID 19: Minor or moderate symptoms, but questioning about an unknown virus</u></b>
Anxiety related to the health of the child to be born and relatives	<i>"For me, the first worry that I had when I left for A&amp;E, was to find out whether he was ok (the baby)". P1</i> <i>"I was afraid that my husband might die, you know. When I left with the ambulance, I thought to myself, maybe this is the last time I'll ever see them. Either because I was going to die, or because they were going to die... I could see death everywhere, it was horrible". P10</i>
Fairly unreliable, even contradictory information	<i>"Because it was the same thing for babies on the news, they were saying: blablabla.. foetuses are not at risk, blablabla, and then, two weeks later we heard there had been one case." P1</i>
<b>Box2</b>	<b><u>-Identifying oneself as a mother in an anxiety-provoking climate with a loss of social references</u></b>
Giving up on daily activities	<i>"But it's true that having to stop work, and then stop sport on top of having to stay at home, it was complicated." P1</i>
Isolation, restriction in freedom, missing the family	<i>"Frankly I found it...it was hell being at home on my own." P4</i> <i>"So, I felt lonely on my own during my pregnancy because of this. I missed my mother particularly; I missed her a lot." P10</i>



Giving up the pregnancy that was planned in a world before COVID-19	<i>"There wasn't the fun side of having a first baby, going to look at things... I don't know. Going to look at buggies, perhaps... We did everything on the Internet... That was it." P2</i> <i>"I would have liked to have had the sensation of what it is like to float at the deep end of the pool with a big belly, when your feet can't touch the bottom". P2</i>
Break with the world before, loss of references	<i>"I was worried about the world and globalisation, about everything surrounding us. Being pregnant in such times, it was really horrible." P10</i>
<b>Box 3</b>	<b><u>-Medical care: fine line between indispensable support and ill treatment</u></b>
Tele-consultation: not satisfactory	<i>"I didn't particularly appreciate the follow-up on the phone, I must say. It would have reassured me if I had been examined a bit for my baby. On the phone, it's not at all the same thing." P2</i>
Fear of disturbing	<i>"No, in fact, so long as I didn't have a temperature, I didn't dare, I didn't want to kick up a fuss. », P7</i>
Ill treatment, obstetrical violence during birth	<i>"Oh well, that was a catastrophe, it was a total catastrophe. The anesthesiologist was screaming at me because I was not obeying him." P4</i>
<b>Box 4</b>	<b><u>-Individual and social resources in the face of adversity</u></b>
Distancing	<i>"It's true that the COVID-19 pandemic... we were rather serene about it... We are not in the risk-prone categories and I still think that children are not part of the risk-prone categories." P9</i>
Previous history of serious illness	<i>"I have seen worse! I have a very loaded medical history, so I've seen worse." P1</i>
COVID-19 infection	<i>"I was happy to have had it because I thought: Ok, so that's done! We've all had it. We are... in a way, well, safe now." P10</i>
Digital social links insufficient	<i>"I also missed having that kind of contact... even if we could use the phone, it's not the same." P11</i>
<b>Box 5</b>	<b><u>-The central role of the partners</u></b>
Supporting role	<i>"Being with someone, it was reassuring. I felt protected." P2</i>

Not being allowed to take part in the pregnancy follow-up experienced as an injustice	<i>"I'm not sorry for myself, I'm sorry for him. These are moments you can't relive afterwards..." P2</i> <i>"We live together, we lived through lockdown together, so we didn't understand these things, why should we be separated for this medical follow-up?" P7</i>
Intense anxiety at the idea of not being allowed to attend the birth	<i>"We weren't sure that the father would be able to attend the birth, and it's something that I would have felt I was robbed of, this particular moment. Even the first days after my daughter was born. It's for him, really, I would have been sorry to be with her and not him... », P9</i>
<b>Box 6</b>	<b><u>-The unexpected benefits of the suspension of social norms</u></b>
Spending time as a couple or as a family	<i>"Being able to do things once more together, without the pressure of having to go out, of absolutely having to do something. For our part, we loved lockdown." P9</i>
A cocoon and a privileged relationship with the newborn baby	<i>"An enriching (experience) in the sense that I really experienced the end of the pregnancy cut off from the rest of the world, and the birth, and my daughter, without any outside pressure whatsoever. I could discover my daughter, without the outside world looking on, it was great." P6</i>

308

309 **Discussion**

310 The main worry for women affected by COVID-19 in our study was not the risk the  
311 infection carried to their own health, but the fact that they could transmit the disease,  
312 especially to their relatives, and above all, the general disruption resulting from the  
313 pandemic and the lockdown. Our results were similar to those of Corbett, concerning the  
314 serious worries of future mothers during the pandemic on the subject of their family's  
315 health (including the child to come), and on changes imposed on lifestyle (social  
316 isolation, work from home, commuting difficulties and child-minding)<sup>14</sup>. The distress of  
317 women coping with isolation could be explained by the changes in the process of  
318 identity construction. which is achieved in part by how other people view it, via different  
319 "pregnancy markers"<sup>15</sup>. For instance, receiving attention or preparing for the baby's  
320 arrival are phenomena that place pregnancy in the sphere of a woman's social standing  
321 and give substance to the imminent birth of the baby. In order to feel "pregnant", women

322 need to be seen<sup>16</sup>. This was observed in the present study, via the need to maintain a  
323 visual link with others during lockdown (photos and videos shared showing the changes  
324 in the body during pregnancy).

325 In our study, participants' utmost concern was the idea of being separated from their  
326 partner at crucial moments including prenatal visits, ultrasounds examinations, birth,  
327 and the postpartum. Some of our findings are in accordance with previous papers,  
328 including the fear of pregnant persons to be separated from the partner and other  
329 children, the difficulty of coping with limited social interactions, the demand for support  
330 from health institutions. These feelings were expressed by COVID-19 positive<sup>17</sup> and by  
331 COVID-19 negative pregnant persons<sup>4,7,14,18-19</sup>, in different settings including Italy<sup>17</sup>,  
332 Ireland<sup>14</sup>, Turkey <sup>4,5</sup>, Australia<sup>18-19</sup>.

333 The traumatic experience of pregnant women recruited in our study was related to the  
334 unexpected side effects of the preventive measures implemented to limit viral  
335 transmission, with a lack of information about these measures. Women were asking  
336 themselves whether these measures were evidence-based, or resulted from an  
337 unscientific precautionary principle or even from an authoritarian and arbitrary  
338 decision. This, in our opinion raises the question of medical and institutional violence.  
339 Becoming a mother during the COVID-19 pandemic amounted to facing of adversity by  
340 calling upon various resources. Our results underline the importance of gynaecology-  
341 obstetrics units as a "monitoring institution" for pregnant women<sup>15</sup>. The women's  
342 relationship to medicalization was ambivalent. Whereas women tended to be  
343 apprehensive of excessive medicalization during a « normal" pregnancy, medicalization  
344 was welcome concerning COVID-19, provided professionals were available, empathetic,  
345 and willing to share reliable information.

346 Our results were in accordance with the evolution of parental roles in society. In 1988 <sup>20</sup>,  
347 a study from IPSOS, a French consulting firm, reported that 71% of pregnant women  
348 interviewed did not wish for their husband's presence "at all costs" during birth. Times  
349 have changed<sup>21</sup>. In our study, women reported that the exclusion of fathers from the  
350 pregnancy follow-up was experienced negatively by both partners. This is in accordance  
351 with other studies, in which future fathers reckoned that attending prenatal ultrasound,  
352 was paramount for constructing parenthood via the tangible apprehension of the child  
353 <sup>22</sup>. In our study, the thought that fathers could not take part in the birth was almost  
354 unanimously felt as intolerable. Although they had been affected by COVID-19, women  
355 felt more privileged than their partners, and resented the injustice of their exclusion  
356 from the pregnancy and childbirth process. We could discuss here about "paternal  
357 commitment"<sup>23</sup>. This term referred to the current trend for fathers to be more involved  
358 in the domestic space, and in particular in caring for the children. It would seem that  
359 they now, more than in the past, are expected to be true actors in parenthood. Our main  
360 themes are in accordance with a recent qualitative metasynthesis with mostly American  
361 articles, describing the negative experience of women during the pandemic<sup>24</sup>.

362 Our study, centered on women who had COVID-19, had two unexpected findings. First,  
363 participants considered work from home was a blessing: it extended the duration of the  
364 maternity leave, amounted to a *de facto* paternity leave, which facilitated gender  
365 equality in household chores and baby care. Second, the pandemic social distancing  
366 helped participants escaping from behavioural and social constraints, including the  
367 unspoken rule that they should welcome greetings from friends and family, despite  
368 being exhausted by their recent birth. Parenting is underpinned by an intimate and  
369 personal dimension which intertwines with the public and socially normed dimension<sup>25</sup>  
370 . "Parenting skills" refer to attitudes and behaviors that society expects from a "good

371 parent”<sup>26</sup> . The family sphere (at large) is the main source of judgment and injunctions  
372 made to new parents<sup>26</sup>. Lockdown might have protected people against social  
373 constraints in general. The declarations of the young mothers we interviewed suggest  
374 this applied to the expected parental behavior in front of friends, family, or neighbors.  
375 These unexpected results might reveal the social pressure put to new parents.

376

### 377 ***Strengths and limitations***

378 The interviews were individual, long and fruitful, which enabled the most delicate  
379 aspects of the experience to be discussed. The course of the interviews was open, which  
380 helped the women to express themselves and limited the influence of the researchers  
381 during the interviews. The triangulation, necessary for the scientific validity of the  
382 approach, was achieved on two levels: data collection (4 different researchers carried  
383 out the interviews) and analysis (3 researchers conducted the analyses individually and  
384 then pooled them). All data collection and analysis was discussed by the research team.  
385 To our knowledge, no qualitative study on SARS-CoV-2 infection during pregnancy has  
386 been carried out in France. An IPA requires about ten interviews, provided they are  
387 sufficiently long and enable in-depth access to the participants’ experiences. Twelve  
388 interviews were achieved and sufficiency was obtained on the present research theme.  
389 There is no bias in qualitative analysis, since the research is not meant to be objective.  
390 However, it could be pointed out that the participants in this study had by definition  
391 “agreed to take part”. This could suggest that they judged their experience interesting,  
392 enriching or traumatic. Also, we did not study the experiences of women having gone  
393 through a severe form of COVID-19.

394

### 395 **Conclusions**

396 The COVID-19 pandemic has been an unprecedented phenomenon as a result of the high  
397 contagiousness of SARS-CoV-2 and the generalized lockdown it caused. This study, the  
398 only one performed in France that the authors are aware of, may have provided keys for  
399 adapted and empathic medical care for pregnant women in times of health crises.  
400 Interviewing partners of pregnant women affected by COVID-19 should provide us a  
401 direct access to their thoughts and difficulties in parenthood process during pandemic,  
402 in heterosexual or non -heterosexual relationships. Furthermore, it contributes to  
403 outlining the contours of parenthood today. Qualitative metasynthesis using qualitative  
404 researches performed all over the world could be an asset to understand better what  
405 pregnant women and their companions lived in this period of SARS-CoV-2 pandemic, to  
406 support them the best, facing both the virus and a new parenthood in this world of  
407 uncertainty.

408

409 **Declarations**

410 **Ethics approval and consent to participate**

411 The research protocol received approval from the Commission Nationale Informatique  
412 et Libertés (CNIL, Reference 2218112 v 0) and from the Research Ethics Committee of  
413 Saint Louis Hospital, Assistance Publique des Hopitaux de Paris, Ile De France 4  
414 (approval issued on June 25<sup>th</sup> 2020 under n°2020-A01184-35).

415 The interviews were carried out at the participants' convenience (time and location) and  
416 with their informed consent. All interviews were recorded and then anonymised before  
417 analysis and publication with the patient's informed consent.

418 All methods were performed in accordance with the relevant guidelines and regulations.

419

420 **Consent for publication**

421 NA (Not Applicable)

422

423 **Availability of data and materials**

424 The datasets used and/or analysed during the current study are available from the  
425 corresponding author on reasonable request.

426

427 **Competing interests**

428 Authors have no conflicts of interest to report.

429

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433 provided no external peer review.

434 **Author's contributions**

435 LB, JSC, JG and MD conceived the study; LB, JG, and JSC designed the study; VR, LB and JG  
436 carried out the interviews; VR, LB, JSC and JG contributed to the analysis of the data and  
437 discussed the findings; VR, JSC, JG and LB produced early drafts of the paper; JSC  
438 developed the final manuscript; LB, MD, JG read and approved the manuscript.

439

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