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Stigma, guilt and motherhood: Experiences of pregnant women with COVID-19 in Brazil

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ARTICLE INFO

Article history:

Received 19 April 2021

Received in revised form 23 August 2021

Accepted 24 August 2021

Keywords:

COVID-19

Pandemic

Pregnant women

Qualitative study

Family relations

Physician–patient relations

ABSTRACT

Background: The COVID-19 pandemic raises health issues worldwide. Infected pregnant women may have negative mental health outcomes, but little is known about their emotional experiences.

Aim: We aimed to understand the experience of women infected with COVID-19 during pregnancy, regarding their feelings, their relationships, and the influence of social media.

Methods: We conducted a qualitative study among 22 women infected with COVID-19 during pregnancy, from a tertiary hospital during the first wave of the pandemic in Brazil (May–August 2020). We applied semi-directed interviews, sociodemographic and health data sheets, and field diaries. We built the sample purposefully. Interviews were audio-recorded and transcribed verbatim. We used thematic analysis and discussed data considering the health psychology framework.

Results: We created five categories following a timeline perspective, from before infection to the experience after recovering. Pregnant women were resistant to believing the diagnosis. They described a fear of serious symptoms or death, concerns about the fetus, sorrow from being isolated, and worries about stigma. Family relationships were ambiguous, generating either support or tension. The attachment to the health team through telemedicine or support during hospitalization produced a feeling of security.

Conclusions: Participants psychologically denied the COVID-19 diagnosis and did not accomplish isolation properly, even upon medical recommendations. The illness may produce a traumatic experience, regardless of mild or severe symptoms, but family/friend support and contact with the health team helped them to cope. We offer important insights for the clinical approach and future research, emphasizing that infected pregnant women require emotional support.

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Statement of significance

Problem

The COVID-19 outbreak is assuredly dangerous for people's health and emotional well-being worldwide. Little is known about the emotional experience of infected pregnant women.

What is already known

Studies investigate the impact of COVID-19 on pregnancy outcomes. The pandemic affects the mental health of non-infected pregnant women negatively. Moreover, infected pregnant women may have post-traumatic stress and depression after giving birth.

What this paper adds

This qualitative study demonstrates the COVID-19 among infected pregnant women potentially produces a traumatic emotional experience; women described intense fear of death, concerns about the baby, sorrow from being isolated, and worries about stigma. Preventive recommendations were not complied with and this led to public health concerns.

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1. Introduction

The Coronavirus Disease 2019 (COVID-19) outbreak, caused by the virus SARS-CoV-2, has been raising multiple problems in terms of health, social, economic, and political issues worldwide [1,2]. Since the outbreak of COVID-19, several studies have investigated the intersection of infection with COVID-19 and pregnancy, as pregnant women already experience physiological changes that impact the immune, cardiovascular, and respiratory systems, etc. [3–8]. More studies are needed to determine the impact of COVID-19 on pregnancy and perinatal outcomes (e.g., implantation, fetal development, labor, and neonatal health), and in terms of indirect consequences such as reduced access to reproductive health services, mental health struggles, and socioeconomic deprivation [9].

Moreover, the COVID-19 outbreak has brought about an “infodemic”: a global epidemic of information, accurate or otherwise, spreading rapidly through social media platforms and other outlets and posing a serious problem for public health. The World Health Organization (WHO) has flagged this global epidemic of misinformation as a serious problem for public health [10]. Media and authorities’ cooperation in providing clear information for the population is necessary [11,12].

Decreasing the transmission of the virus requires community participation with preventive measures such as washing hands, avoiding touching the face, practicing good respiratory etiquette, and cooperating with physical distancing and movement restrictions [11]. Since the quarantine decree in Brazil, the federal government has released information regarding the virus containment that diverges from the recommendations made by the WHO guidelines. This divergence resulted in an ambiguous message to the population about the pandemic severity and the preventive measures [13].

A systematic-review and meta-analysis study assessing psychiatric outcomes in previous epidemics of other coronaviruses (SARS and MERS) have shown evidence of depression, anxiety, fatigue, and post-traumatic stress disorder among individuals who recovered from the infection [14]. Several observational studies using validated mental and well-being measures have found that the COVID-19 outbreak affects the mental health of non-infected pregnant women negatively, indicating symptoms of depression, anxiety, insomnia, irritability, and stress [15–19]. In a cohort study conducted in China with 72 pregnant women infected by COVID-19, 22% of pregnant patients had had post-traumatic stress disorder or depression at three months after birth, indicating that researchers and healthcare providers should address maternal mental health [20]. A cross-sectional study showed that fear of COVID-19 is significantly associated with COVID-19 preventive behavior in pregnant Iranian women, but fear is also associated with negative mental health outcomes (depression, suicidal intention, mental quality of life, and anxiety) [21]. Some qualitative and mixed methods studies have explored the perceptions, attitudes, and impact of the pandemic on mental health and psychosocial well-being in pregnant or postpartum women, but are not related to infection by coronavirus [16,22–27].

The gap in the literature is to explore the emotional perceptions of pregnant women who have had an infection by COVID-19 through a qualitative approach. Addressing this, we aimed to understand the experience of women infected with COVID-19 during pregnancy by exploring their emotional perceptions regarding the illness process after the symptoms were remitted.

2. Methods

This is a qualitative study; the study protocol has previously been published and more detailed methods can be found there

[28]. In summary, we conducted in-depth interviews and thematic analysis following the COREQ Checklist [29]. This study was ethically approved by the local committee (protocol number: 30721120.8.0000.5404) and follows the Declaration of Helsinki and the national legislation.

2.1. Participants

We included 22 women infected with COVID-19 during pregnancy who were at least 18 years old. To qualify, symptoms should be resolved during data collection, and the women should be emotionally and cognitively able to participate in the interview (verbally communicating). We considered as exclusion criteria: illiteracy, women who did not agree to have their interviews audio-recorded, and psychiatric/neurological illness or any condition that could prevent them from answering questions. We built the sample purposefully, considering the concept of *theoretical saturation* proposed by Glaser and Strauss [30] in which new participants were included until data had reached necessary consistency to meet the study aims.

2.2. Instruments

Instruments we applied included: (1) semi-directed interviews of open and in-depth questions; (2) sociodemographic and health data sheets; (3) and field diaries. We sought themes in the pregnant women’s feelings during the illness process, in their relationships (family, community, and health professionals), and on social media influences on their experiences. We collected data on the women’s health, obstetric information, and COVID-19 (symptoms, hospitalization, etc.). The field diary examines the overall behavior of the participant during the interview, including non-verbal communications. For more detailed information, refer to the study protocol [28].

2.3. Setting

The research was conducted at the Woman’s Hospital, University of Campinas, Brazil, a tertiary teaching hospital specializing in women’s health from the public health system. The hospital serves an area of over 100 cities containing 5 million people, and is a referral center for pregnant women infected with COVID-19.

2.4. Recruitment and data collection procedures

We collected data from June 15th to August 18th, 2020, when the number of cases of COVID-19 in Brazil was growing rapidly (Fig. 1) and the government was taking measures to contain the spread of coronavirus. Following the containment and closure elements of the Oxford COVID-19 Government Response Tracker [29], the São Paulo State response to the pandemic during data collection included: school and workplace closure, cancellation of public events, restriction of gathering size, and restrictions on internal movement and international travel.

One researcher (FGS), a medical doctor involved in the health assistance at the hospital – but not directly in contact with infected pregnant women – identified eligible women attending the hospital during the period of data collection. Another researcher (JVFJ) – a female psychologist, with experience in qualitative interviews among pregnant women who were not involved in clinical care – contacted the 22 participants.

Throughout the period of data collection, the interviewer (JVFJ) tried to contact other 18 eligible women from the list through telephone calls: 5 women did not answer the calls and 13 agreed to participate in the interview in the first call, but she lost contact

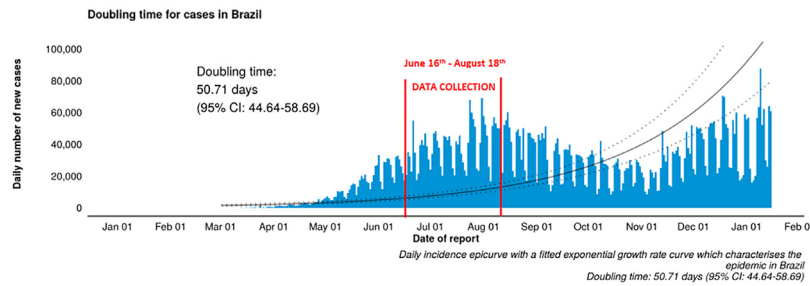


Fig. 1. Data collection period and doubling time for cases in Brazil (Adapted from the World Health Organization).

with them later after attempting 3 times on different days with no answer. After conducting the last interview, no other eligible women were contacted, because we reached the theoretical saturation of data. No participant was excluded or withdrew from participating in the study after data collection.

Before data collection, the participants verbally consented to participate in the research, after we presented the consent form verbally. The written consent form was sent to them via e-mail or a messaging app after concluding data collection. Participants could withdraw from the study at any time, without justification.

The interviews were conducted through telephone calls and were audio-recorded. The remote contact with the participants required a particular attention to the appropriate rapport for the interview. The interviewer recommended that the women stayed in a private room during the interview so they would be able to express themselves more securely. The interviewer emphasized that there were no correct answers, but that she was interested in how the women were truly feeling, with no judgment involved. After finishing the interview script, the interviewer asked the participants if they wanted to say anything else.

2.5. Data analysis and trustworthiness

We followed the thematic analysis proposed by Nowell et al. [31], using the verbatim transcribed interviews and field diaries. Sociodemographic data characterized the sample. We conducted data analysis concurrently with data collection and the interviews were performed in Portuguese. Two authors (JVFS e AAAS), including the one who conducted the interviews, did the transcription, and checked them when finished. After selecting the quotes included in the Results section, we asked a specialist to translate them from Portuguese to English.

Two researchers conducted the data analysis independently (JVJ and ODR), discussing the categorization process with the other co-authors. The analysis followed six phases: (1) familiarizing yourself with the data; (2) generating codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report.

We considered four strategies for ensuring trustworthiness: credibility, transferability, dependability, and confirmability [32]; each phase of the thematic analysis contains specific procedures and means of establishing trustworthiness. Triangulation to compare the results from different instruments and peer debriefing were strategies used by the research team. A clear and in-depth exposition of methods, data collection, and analysis was presented through a study protocol [28]. The NVIVO 11 software (QSR International, MA, USA) was utilized, contributing to the organization and textual analysis through the simple frequency of words, creating patterns and relationships, and validating the analyses performed by the researchers. Using this software, we developed the category construction process. Data were discussed using the health psychology framework.

3. Results

We conducted 22 interviews total (20 h of recordings). All participants had a partner, 17 were Christian, and 5 had no religion. Participants 5, 10, and 19 had a preterm birth due to COVID-19, while participants 12 and 20 had a term birth; these 5 women were interviewed between 8 and 20 days after giving birth, while the others were interviewed before giving birth. Table 1 shows the participants' sociodemographic and obstetric characteristics.

We presented the categories following a timeline perspective, from the experience of the pregnant women regarding the pandemic before getting infected to their feelings after recovering from the COVID-19. As a result of the thematic analysis, five categories emerged: (1) The Pandemic Before Infection: the virus existing only on the other side of the world; (2) Experiences from Diagnosis to Sickness: worrying about the possibilities; (3) The Thing: facing the unnamable virus among close relationships; (4) The Hospitalization and Attachment to the Health Team; and (5) The Emotional Experience After Recovering from COVID-19. Fig. 2 contains the word cloud-based analysis of word frequency using NVIVO 11, and Fig. 3 represents the process of building categories.

3.1. Category 1

3.1.1. The pandemic before infection: the virus existing only on the other side of the world

The interviewed women reported that SARS-CoV-2 seemed to be far from their own reality, even with the declaration of a pandemic by the WHO and the Brazilian health system. We realized that the participants were under the false impression that only people who had a pre-existing disease would become ill; therefore, participants without risk factors seemed to believe that they would be protected from illness.

“I thought this virus was not coming to Brazil . . . it might happen there, but not with me” (Interviewee 18)

“Now I say ‘Man, this is no joke’, [but] before I wouldn’t say anything, I couldn’t care less, you know what I mean . . . I had a mask on, but you know . . . the mask was only to cover my mouth, I wasn’t being really careful . . . you know, I used to think that I would not get it, I don’t know . . . that it was only a little flu¹” (Interviewee 6)

The participants' attitudes toward prevention and recommended isolation were quite variable. Some women adopted strict quarantine measures, leaving their jobs to avoid exposure to the virus, especially because they were pregnant. Other women acknowledged that they abandoned hygiene measures over the months, which may have been accompanied by guilt after the

¹ The expression “little flu” was declared by president Bolsonaro in March, 2020 to lessen the severity of the COVID-19 and it reached national prominence.

Table 1
Sociodemographic, obstetric, and comorbidities data of pregnant woman affected by COVID-19.

Participant number	Age	Scholarship	Paid work	Number of pregnancies	GA (w) ^a	Symptoms ^b	Hospitalization	Comorbidities	Adverse outcomes
1	28	Elementary	No	2	23	Ageusia, anosmia, dyspnea, fever, myalgia, odynophagia	Yes		1st trimester bleeding
2	31	High school	No	2	13	Ageusia, anosmia, cutaneous rash, odynophagia	No	Syphilis	1st trimester bleeding
3	30	Elementary	No	5	26	Ageusia, anosmia, dyspnea, myalgia, odynophagia, tiredness	Yes		
4	35	Higher education	Yes	2	6	Anosmia, ageusia	No	IUD pregnancy	
5	25	High school	No	5	32	Ageusia, anosmia, dyspnea, odynophagia	Yes	HIV+	Preterm birth
6	28	High school	Yes	3	34	Ageusia, anosmia, chest pain, conjunctivitis, dyspnea, fever, headache, myalgia, odynophagia, tiredness	Yes		
7	27	High school	Yes	4	19	Dyspnea, headache, myalgia, odynophagia, tiredness	No		
8	31	Elementary	No	3	23	Ageusia, anosmia, headache, fever	No	Arrhythmia	
9	36	Higher education	Yes	1	9	Ageusia, anosmia, dyspnea, headache, odynophagia	No	Depression	
10	19	High school	No	1	33	Ageusia, anosmia, dyspnea, fever, odynophagia	Yes		Preterm birth
11	38	High school	Yes	3	12	Ageusia, anosmia, dyspnea, headache, myalgia, odynophagia, tiredness	Yes	Gestational diabetes	
12	27	High school	Yes	3	39	Ageusia, anosmia, dyspnea, myalgia, odynophagia	No	Gestational diabetes	
13	39	High school	Yes	2	30	Dyspnea, fever, myalgia, odynophagia, tiredness	Yes	Purpura	
14	20	High school	No	1	32	Dyspnea, fever, headache, myalgia, odynophagia	Yes	Gestational diabetes, anemia	Birth defect
15	26	Elementary	No	2	16	Ageusia, anosmia, diarrhea, headache, myalgia, nausea	No		
16	34	High school	No	3	36	Dyspnea, fever	No	Diabetes, hypertension	
17	28	Elementary	No	5	16	Diarrhea, headache, fever, myalgia, odynophagia	No		
18	33	Elementary	No	3	Missing	Dyspnea, fever, myalgia, nausea, odynophagia	No		
19	28	Higher education	No	1	32	Dyspnea, headache, fever, odynophagia, tachycardia	Yes		Preterm birth
20	38	Higher education	Yes	2	39	None	No	Toxoplasmosis	
21	30	High school	Yes	2	14	Ageusia, anosmia, dyspnea, fever, headache, myalgia odynophagia	No		
22	25	Higher education	No	4	14	Ageusia, anosmia, diarrhea, dyspnea, fever, headache, myalgia odynophagia	No		

^a GA (w): gestational age (weeks) at diagnosis.

^b Hospitalization due to the severity of their COVID-19 infection.

infection was found. They believed the quarantine was about the deprivation of leisure activities (e.g., parties, restaurants, etc.), but other activities outside of the home, such as work, the supermarket, etc., would not pose a risk of infection.

“I thought it was a pregnancy thing, I felt a lot of pain in my body, shortness of breath. There were nights when I woke up crying because I had a lot of pain in my body, but we don’t even think [it is COVID], you know? Because my routine was from hospital to home, from home to hospital, I just don’t go out, right. So I’ve always taken care of myself, I used masks, as they recommended, right?” (Interviewee 5)

The emotional and health conditions during pregnancy before the diagnosis of COVID-19 were factors that influenced the women’s perceptions of the illness, including the context in which the pregnancy occurred, situations of emotional crisis, the baby’s health, and maternal diseases. There were reports of close contacts or people with social media influence (e.g., artists, famous singers) who were infected and died, which aroused feelings of anguish and fear. In this sense, experiences with the virus prior to the diagnosis itself may negatively alter the pregnant woman’s experience.

“And then you get sick, not with COVID, but in your head. And that’s what was happening with me. I was getting sick for real [. . .] So, you know, this is something that shook me a lot, this COVID thing.” (Interviewee 13).

“Two days before [my diagnosis], I think, a Christian singer that I really liked died with this disease. So, I was thinking, ‘I’m going to die.’” (Interviewee 1).

3.2. Category 2

3.2.1. Experiences from diagnosis to sickness: worrying about the possibilities

The pregnant women reported resistance to believing that the diagnosis was real; at the same time, feelings of fear, despair, worry, and uncertainty emerged. They did not believe that their symptoms were caused by COVID-19, even after laboratory confirmation. Denial of the diagnosis was so intense that despite the alerts from the media and the first wave of the disease in Brazil, many participants believed they had the common flu, even those who had already been vaccinated against influenza. Among the



Fig. 2. Word cloud based on NVivo analysis of word frequency. NVivo 11 (QSR International MA, USA).

asymptomatic women or those with mild symptoms, the distrust of the diagnosis was even more intense, emerging doubts about the veracity of the laboratory test.

“For me, it was a normal flu that would cure, right. And then, when I found out [the diagnosis], I got scared because we don’t know how it affects the pregnancy” (Interviewee 2)

“You know, I was feeling undisposed, and then I think ‘Maybe I caught a flu, right.’ Even though I took the [flu] shot, I still think it was a flu. I worked that week . . .” (Interviewee 11)
 “Oh, because I didn’t feel symptoms or anything, I still disbelieve that I had COVID, I think this exam went wrong” (Interviewee 14).

In addition, the participants only accomplished the medical indication of isolation when the positive diagnosis was confirmed by the laboratory test. Although the medical team had recommended social isolation upon COVID-19 suspicion (when the pregnant women went to the emergency service due to malaise and respiratory symptoms), several women reported that they did not follow the guidance until the laboratory test had confirmed the diagnosis.

“Look, it’s . . . it was Friday and the doctor already put me in isolation, and told me to stay isolated, and on Sunday my mom made some lunch, and we ate together . . . because up until then the isolation we were keeping was really because the doctors said, but in my head I did not have it.” (Interviewee 11).

The pregnant women seemed to be surprised, despite the pandemic and quarantine, about community transmission and sudden changes in routines. The interviewees thought that COVID-19 was related to shortness of breath, a symptom that is not always noticed at the beginning of the illness. Even when they felt short of breath, they still confused it with a malaise resulting only from the pregnancy. They imagined there were only severe forms of the disease, excluding the possibility of mild conditions.

“I lost the sense of smell, I had difficulty breathing, but I thought that my difficulty breathing was because I was pregnant. [. . .] I still ask myself ‘My God, where did I get it, I wasn’t seeing anyone’” (Interviewee 18)

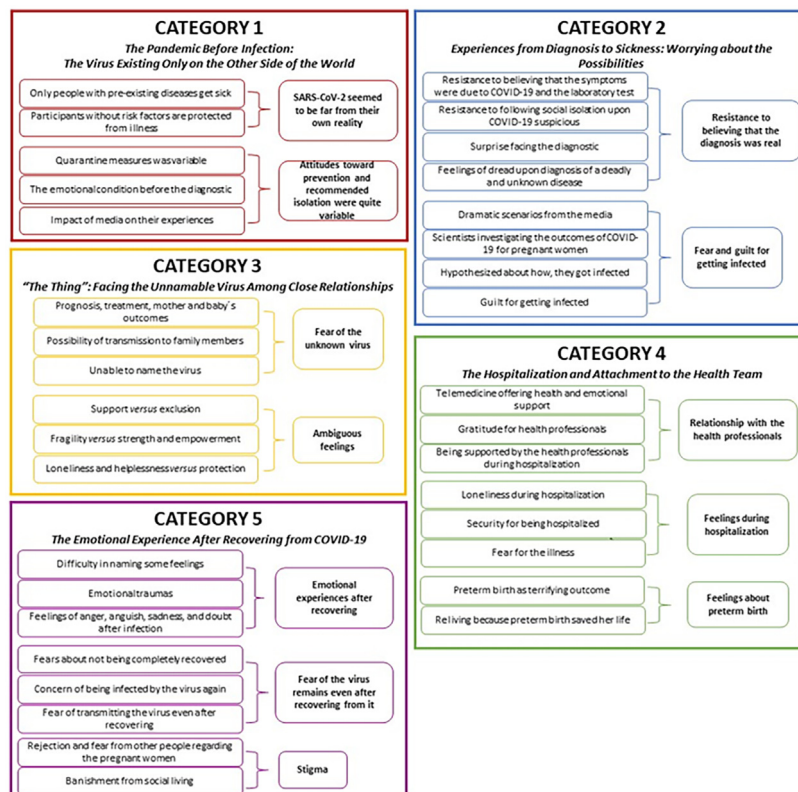


Fig. 3. The coding tree.

“And I had researched everything, looked on the internet to see what the symptom was, but it was only, like, I only had a cough and trouble breathing, I didn’t have everything that was on the internet. So I said to myself ‘*Ah, I don’t have it. It is just a minor cold.*’ [. . .] I got really scared when I got the news . . .”
(Interviewee 1)

There may be feelings of dread upon diagnosis of a deadly and unknown disease, for both the mother and the baby. Information on the outcome of COVID-19 was only available in the news or on social media, as no other pregnant women around them had previously been infected and could share their own experience with the virus, whether mild, moderate, or serious. This differs from other common illnesses, such as gestational diabetes, about which there is always someone to talk to who has been through the experience. Nevertheless, the news primarily contained reports of the serious form of the disease. Participants reported that they had heard dramatic scenarios from the media, which may have become the only reference for their own experience, causing feelings of intense fear. On the other hand, they knew the scientists were still investigating the outcomes of COVID-19 for the baby’s health.

“About the feelings, sometimes you cry, sometimes you’re happy, sometimes you’re sad, sometimes you’re worried. It’s very unstable” **(Interviewee 4)**

“Of course, I’m super apprehensive, because of the baby, God forbid and save! There’s not much research yet, right.”
(Interviewee 9)

“I think that we put it all together, because, like, when you only have a fever, a headache, it’s all right, but when you feel difficulty breathing, then you think ‘*I will die, for sure!*’. Then you hear that I don’t know how many thousand, millions of deaths [. . .] then you say ‘*I am dying for sure, I won’t even make it to the hospital*’ [. . .] It’s because the other symptoms you can manage with medicine, but not the difficulty breathing, you know?” **(Interviewee 22)**

Finally, some women hypothesized about how, where, or when they got infected. These thoughts may have raised feelings of guilt since they thought they got sick due to their own failure in taking preventive measures. The feeling of guilt may have worsened if they had concerns about the consequences of COVID-19 for the baby’s development. It is as if they were thinking, “If the baby has a health problem, it will be my fault.”

“We begin to . . . we are looking for it, right, looking for a mistake. ‘*Oh, but where did I go? Where did I get it, right?*’ [. . .] It’s like, maybe I shouldn’t have been there, or I should have been more careful, right? . . . like blaming yourself a little bit.”
(Interviewee 20)

“On the day I found out about it, that’s all I had in my mind, I feel guilty. I would rather be admitted to the hospital, isolated from everyone, because what I’ve done, like . . . I harmed everyone.”
(Interviewee 1)

3.3. Category 3

3.3.1. “The Thing”: facing the unnamable virus among close relationships

The participants felt intense fear of the unknown virus since the prognosis, treatment, and outcomes for the mother and baby were not well known. They reported concerns about developing severe symptoms, apprehension of having a premature birth, and fear of transmission to family members. They also feared vertical transmission and adverse outcomes for the baby. Among participants with previous diseases, the fear seemed to be more

intense. Participant 1, for example, showed anxiety and difficulty in emotionally dealing with the disease, and she was not even able to name it “COVID” throughout the interview, replacing it with “The Thing,” as if it were taboo.

“Oh, I was very worried about passing something to the baby, or about my situation getting worse, you know? Because I already have some health issues, I would cry a lot because I was scared, really scared, I was really scared that I would pass away, or, I don’t know, maybe passing it to someone like my mother, who is 68, and I was very scared of passing it to her.” **(Interviewee 11)**

“When we don’t have the virus, we feel sorry, we feel the pain, we have empathy but, . . . you can’t . . . compare it with when you really tested positive. It is . . . REALLY nerve-racking, really! Even more when you’re pregnant. Oh, my . . . I cried . . . for real! Non-stop [. . .] I thought I was going to die. That maybe the baby would not have a mom . . . I was always thinking about me, but he would be fine. [Silence] . . . too much apprehension. Anguish! Affliction . . . oh, I had every bad feeling.” **(Interviewee 19)**

The pregnant women reported feeling fragile, especially because they were aware that the disease was very new and still being studied, which can generate a lot of insecurity. They were often informed through the news, which primarily talked of tragedies related to pregnant women who had COVID-19, such as premature births and deaths. In this sense, the ultrasound examination is reported as fundamental to give pregnant women a feeling of security that there will be no sequelae for the baby, even among women with the mild form of the disease.

“Well, most news we hear, unfortunately, is about when they [the medical team] had to anticipate the delivery, right? [. . .] Then they anticipated . . . they took the baby out, did a c-section, and all. And then the mom is admitted in, right, because unfortunately the mom doesn’t come back a lot of times, she can’t survive.” **(Interviewee 20)**

“I thought I was going to die and also lose the baby [. . .] I only calmed down when I did the ultrasound.” **(Interviewee 15)**

“I’m looking forward to taking exams to see if my baby is ok, my anxiety now to see if he’s ok” **(Interviewee 7)**

Isolation within their own home to prevent transmission to family members brought feelings of loneliness and helplessness, especially among women who developed moderate symptoms. In a delicate moment of illness, the pregnant women had imagined they could not ask for help due to the risk of transmission. This may bring intense emotional suffering. On the other hand, there were reports that, despite the feeling of flirting with death, knowing they were having a baby brought strength to cope with the symptoms, even among women who gave premature birth due to COVID-19.

“To me, the nights were the worse, because when the night fell, I cried a lot [. . .] my nose would get very runny, the difficult breathing would be very bad, and so I would turn to one side and I could breathe, turn to the other and couldn’t breathe. I wouldn’t call my husband to help, thinking: ‘*I can’t call him, or else I will infect him*’. So, I tried for myself, living only inside the room, thinking ‘*Man, I will die!*’. Difficulty breathing, right? . . . the worse thing is to want to breathe but not be able to.”
(Interviewee 18)

“What motivated me was . . . was D. [the baby], really, through each kick, each new sensation brought by the pregnancy, that’s what uplifted me.” **(Interviewee 19)**

The participants said that their relatives expressed intense concern when they could not approach the pregnant women due to

isolation or hospitalization (the hospital did not allow the presence of a companion during COVID-19). The inability to see the pregnant woman may cause suffering, doubts, and anxieties about her health condition; women reported that family members made telephone or video calls to check if they were in fact recovering well. However, it is important to emphasize that sometimes the family members were so emotionally affected that the pregnant woman must simulate a positive emotional and health condition that, in fact, was very fragile. Women with toddlers reported difficulties in managing this distance.

“My husband’s reaction was of shock, fear, he also cried. There was a time, like, he was on the outside and I was inside the bedroom crying at the door, and he was saying ‘*You are my life, the mother of my children, . . . now our dream is coming [referring to the baby], now it’s a girl.*’ And how was I? On the other side, you feel your heart even tighter, right?” (*Interviewee 18*)

“Look, my brother, my dad, they were ok, calling, asking. Now, my mother . . . it was as if I would die, and that was making me nervous, because my mother would treat me as if I was really dying.” (*Interviewee 13*)

Regarding other face-to-face relationships, ambiguous feelings were raised. On the one hand, the pregnant women may feel very supported and welcomed by friends, neighbors, or co-workers, through prayers or even help with household chores. The religious community, in this sense, can be an important source of support. On the other hand, they also reported estrangement and withdrawal by people around them (neighbors, friends, etc.), which gave them feelings of being excluded, even after the period of isolation.

“I felt really loved by the people from church and friends. A really beautiful type of care. The concern they had and still have for us. [. . .] I am very grateful for the support and for everything people did and are doing for us.” (*Interviewee 19*)

“So, like, it’s that feeling that you are an infected stranger, that everyone has to keep their distance because you will transmit it, you know?” (*Interviewee 13*)

3.4. Category 4

3.4.1. The hospitalization and attachment to the health team

The team in the hospital where the data collection was performed carried out daily medical monitoring of pregnant women with a positive diagnosis of COVID-19. Participants reported feelings of security and safety with the health professionals, which reveals that telemedicine might be an essential tool not only in terms of technical monitoring of health conditions, but also for the possibility of comfort among so many doubts that may emerge.

“They [the doctors] would call me every day, to ask how I was, if I was any better. [. . .] Because we know nothing [about COVID], it’s a concern, to know if you are good, if you are not feeling worse, right? So I felt good knowing that the doctors were concerned about how I was.” (*Interviewee 17*)

The participants also reported that they trusted the team, especially because they were able to talk to the doctor when they needed, even when there was still not enough scientific evidence to explain the entire coronavirus illness process. They identified the need for special attention because they were pregnant. At the same time, they felt grateful for the professionals who risked exposure in order to care for people.

“[The medical team] were excellent, everyone, no exception. I had a lot of love, a lot of affection, and a lot of care.” (*Interviewee 19*).

“My experience was that they explained me exactly what I had to do. They were simply being attentive, right? Even more in my case, as a pregnant woman, so, like . . . any questions I may have someday, I know that if I ask them, they will try to answer me.” (*Interviewee 16*)

Facing hospitalization, pregnant women described varied feelings. They felt fear because it could be a sign that the disease was progressing badly, while they also felt security because they were observed at all times by health professionals. They also reported that hospitalization was an opportunity to rest and to remain isolated from family members, reducing the risk of transmission.

“And then if I get it and become really sick, in the hospital, then I said ‘*Oh my God! Will I die? What about my daughter?*’ [voice breaks] And it was really difficult.” (*Interviewee 13*)

“Then I would cry a lot because I didn’t want it, like, we don’t get to choose having these things, right? My mom would calm me down because I was afraid I wouldn’t come out of the ICU.” (*Interviewee 10*)

“In the hospital, I was resting for real. During the 48 hours I stayed there, I lay down, just doing this, just recovering [from the disease]” (*Interviewee 13*)

During hospitalization, a feeling of loneliness might occur—concerning both family members and health professionals—as a result of the contact isolation imposed as a safety protocol. In this sense, several pregnant women spoke of the importance of health professionals being present, even from a distance (e.g., knocking on the door, showing signs of support, asking if she needs anything). When the pregnant woman is feeling bad, however, there may be doubts about whether to call the professional due to the risk of exposing them to the virus.

“In the hospital too, the nurses were very loving, going there all the time, at the room door, they wouldn’t come in the room all the time to avoid having to get all dressed every time, right? They would only come in when it was time for the meds, when it was time to bring in the food, then they would go in the room, but during the day they would tap the glass door, asking if I needed anything.” (*Interviewee 11*)

“You are not allowed to do anything, unfortunately that’s the feeling, it seems like you are from outerspace, right? (laughter), you can’t come close, you can’t touch anything, you can’t chat, talk as little as you can, those things.” (*Interviewee 20*)

Three participants experienced premature birth as a result of COVID-19 complications. They reported that they felt terrified when the medical team announced the need for childbirth because the anticipation brought a sense of imminent danger and risk of death. Paradoxically, the pregnant woman might feel relieved when realizing that the situation was necessary to save her life. For mothers whose baby was hospitalized, there were reports about the importance of contact with the baby through videoconference and photos.

“Then the doctor showed up again and said straight away ‘Look, we will do your delivery at 4pm’, it was noon then, ‘because your baby’s amniotic fluid is getting low, he will start to suffer, and you’re also at risk.’ That’s what he said! And my heart almost . . . stopped. And I was desperate, you know? . . . anyways . . . [. . .] I was sure I was going to die, but I knew the baby would be ok, I had that certainty, you know?” (*Interviewee 19*)

“I said ‘*Oh, God, it’s on you, do whatever you want, just look after my baby, you don’t have to worry about me.*’ I was sure I was going to die, I really felt it, I was feeling so sick [Pause]. Oh my . . . It

was terrible, like, the feeling, and when he was born, I . . . I saw him really fast, like seconds, and they already took him . . . to NICU. And . . . and then I was better from EVERY symptom.” (Interviewee 19)

3.5. Category 5

3.5.1. The emotional experience after recovering from COVID-19

After the remission of the symptoms of COVID-19, women can still go through an intense process of psychological elaboration about the experience. They have difficulty in naming some feelings and possible emotional traumas, describing feelings of anger, anguish, sadness, and doubt. They also felt relief and reported the sense that they were warriors for having managed to overcome the illness.

“It was a roller-coaster, it’s really like that. [. . .] I don’t know how to define the feeling precisely. I . . . I try to resignify every part of suffering into something good . . . so we suffer less [. . .] I don’t know yet.” (Interviewee 19)

There remained a fear that perhaps they were not yet completely cured, and they expressed concern of being infected by the virus again. After a period of isolation, some symptoms such as respiratory discomfort remain, which can arouse worries about reoccurrence of the disease.

“Well, it’s complicated [. . .] in truth we don’t even know if after the 14 days you are not an infection risk still, right? To infect someone else, or even if you yourself are not at risk of getting it again, so we don’t know, it’s a bit complicated, we are a bit nervous” (Interviewee 17)

Even after the remission of symptoms and the end of the isolation period, people may still suspect that the pregnant woman and her family are infected. As if they carried the mark of the disease for some time, there was a feeling that they were banished from living with other people, at least for a while. Women were also afraid that they may still transmit the virus to other people.

“When you go outside, it’s like you are doing something wrong, you know? Everyone looks at you, in a way like ‘Why are you here? That’s wrong, go back home and stay inside’”. (Interviewee 13)

4. Discussion

Our results demonstrated that the experience with COVID-19 is traumatic for some pregnant women, regardless of the degree of the disease (mild, moderate, or severe). They described concerns about possible sequelae of the virus for the baby and of developing serious symptoms, fear of not recovering completely from the disease, and anguish from being isolated in times of intense physical malaise and from the stigma caused by the disease in their community.

In a qualitative mixed-method study among non-infected pregnant women during the pandemic in the U.S., themes related to stress included uncertainty about perinatal care, risk for both the mother and the baby, misinformation, and lack of support [16]. Our research was conducted in the beginning of the first wave of COVID-19 in Brazil (over 3,300,000 confirmed cases and 107,000 deaths by August 18th, 2020). This may have produced more intensive negative emotions among the participants, in accordance with a multicenter, cross-sectional study by Wu et al. [33], which demonstrated that depressive symptoms in pregnant women are positively associated with the number of confirmed cases of COVID-19 and deaths per day.

Pregnant women may deny their COVID-19 diagnosis, as demonstrated in categories 1 and 2. Prior to infection, watching

the news made the disease seem to be far from their own reality, especially at the beginning of the pandemic in Brazil. What makes this process more serious in terms of public health is that the participants did not believe they were infected at first, even with a positive diagnosis by exam or clinical suspicion (category 2).

Many participants did not maintain isolation, an essential measure to contain the spread of the virus. In countries like Brazil, with social inequality and a vulnerable population, there is a greater agglomeration of people in the domestic environment, higher risk of exposure to the virus in the workplace, and a greater number of chronic morbidities [34]. This may lessen the impact of these virus containment measures in these countries when compared to other regions of the world.

The general population may also deny the disease, but pregnant women present particularities. Our results indicate that there may be a paradoxical process producing denial, including five interactive aspects (Fig. 4): (I) intense fear of the virus, categories 1, 4, and 5; (II) feelings of guilt, categories 1 and 2; (III) stigmatization, categories 3 and 5; (IV) “infodemic” and misinformation, categories 1–3; and (V) typical invincibility of pregnancy, category 1. We discuss each of the interactive aspects hereafter.

Our results indicate that the intense fear of the disease arises from the fear of death and the uncertainty about the consequences for the baby’s development (categories 1, 4 and 5). A quantitative cross-sectional study investigating worry and well-being among 484 non-infected pregnant women demonstrated that fear of COVID-19 may increase women’s stress 6.4 times during the pandemic, while having a COVID-19 infected relative and the concern for fetus health are predictors of a low level of well-being [35]. A qualitative study among non-infected pregnant women in Turkey reports they felt fear of the unknown virus [22]. Our study was conducted among COVID-positive pregnant women, which may increase symptoms of anxiety, depression, worry, and decrease levels of well-being when they receive the diagnosis.

Guilt may emerge because the pregnant women and their families were loosening hygiene measures and social distancing before infection, and they think “Where did I go wrong?”, as represented in categories 1 and 2. The WHO warns that the feeling of having done something wrong can plague people affected by COVID-19, and they deserve support [36]. Guilt may also appear as a thought that she can pose a danger to both her baby and her family at a time when pregnancy and motherhood should be synonymous with protection and safety.

The pregnant women participating in our study reported disease-associated stigmatization in their communities (categories

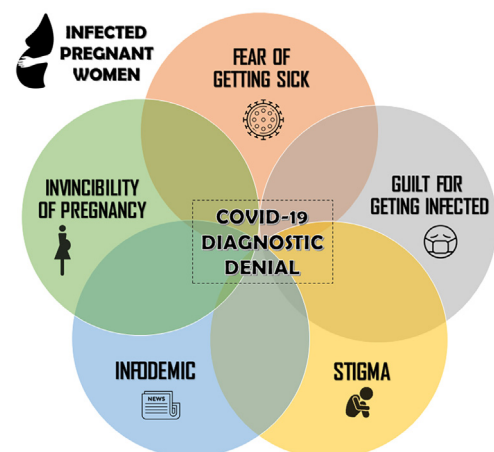


Fig. 4. Factors of the COVID-19 denial process among pregnant women.

3 and 5), similarly to studies among general infected people in the 2003 SARS outbreak [1,37,38]. Both the guilt and the stigma of the disease can cause negative feelings that contribute to an emotional barrier that prevents the pregnant woman from trusting the diagnosis, which may also delay her search for health services, may cause her to hide important medical history, and increase the risk of transmission [1].

The “infodemic,” characterized by the over-abundance of information and the excessive tragic news in social media [11], may cause insecurity about the reliability of the information, contributing to the denial process, as represented in categories 1–3. Searching for information about the virus during the COVID-19 outbreak is positively associated with depression and anxiety [39], which may have an increased effect among individuals with a pre-existing vulnerability [40]. When they are not communicating with their doctor, midwife, or nurse, pregnant women may receive information through the internet and television, thinking they were not enough [22]. In Brazil, in addition to the infodemic, people struggled with ambiguous messages from different levels of the government, who were fighting each other about the severity of COVID-19.

Paradoxically, being pregnant may give the woman a feeling of invincibility and completeness, which may be conflicting or contrasting with the fear and guilt emerging with the diagnosis of COVID-19. Some symptoms, such as shortness of breath and tiredness, can be confused with the malaise of the pregnancy itself, as presented in category 1. Corbett et al. [41] pointed out that non-infected pregnant women during the COVID-19 pandemic had more concerns about elderly relatives, then their children, followed by the unborn baby; they were less concerned about their own health.

Beyond the nosological diagnosis of anxiety or mood disorders, these women seem to be experiencing intense psychological suffering and need to receive emotional support to re-signify the experience in a positive way, especially if they have a previous mental illness. This emotional support may be necessary not only during the period of illness, but also in the post-illness period, when the woman will elaborate and reframe the whole experience she had. Future studies could address the long-term mental health and emotional effects of COVID-19 during pregnancy, for mother, baby, partner, and family.

The participants in this study reported that family and community support were sources of resilience to deal with the illness. This is in line with a mixed-methods study by Farewell et al. [16] that pointed out that virtual communication, self-care behavior, and partner emotional support may be sources of resilience for uninfected pregnant women during the pandemic. Moreover, there is evidence that couples could work together to relieve the effect of the COVID-19 pandemic on their mental well-being during the pregnancy, and a therapeutic model could include a dyadic model [21]. However, as we demonstrated, some family members might be a source of negative feelings for the pregnant women because they get anxious about the consequences of COVID-19 during pregnancy.

Regarding the healthcare providers, the participants expressed the importance of the ultrasound exam and the support of the health team, and especially the use of telemedicine to monitor their health condition during the illness process. They felt secure receiving phone calls from medical doctors. Telephone, e-mail, and video consultations increased significantly in primary care during the coronavirus pandemic [42]. Using telemedicine consultation, especially applying digital technology, may guarantee that patients receive standard clinical care while avoiding physical crowding of people into hospitals and clinics [43]. Moreover, our results demonstrate that it is an important tool to offer support and confidence to pregnant women during infection. The participants also received reassurance from the health workers during

hospitalization through simple gestures of encouragement. The ultrasound exam seems to provide some reassurance or consolation that the baby’s development is going well.

A limitation, despite the several measures to ensure reliability we applied in this qualitative study, may be that this is but one perspective on pregnant women infected with COVID-19 among many other possibilities. However, this does not invalidate the results. We have no intention to exhaust the subject and we offer an important insight for the clinical approach regarding feelings, behaviors, and relationships of the participants with their family, community, and health professionals.

5. Conclusions

Our study emphasizes the need to broaden our knowledge of the mental and psychological well-being of pregnant women infected with COVID-19, not only when there are diagnosed mental diseases, but also considering their emotional health after giving birth and the relationship with the baby and the family. Infection with COVID-19 during pregnancy may be a significantly traumatic experience for these women. We also highlight important emotional issues during the fight against the pandemic, discussing COVID-19 diagnosis denial during pregnancy and stressing the relevance of effective communication to ensure preventive behaviors.

We suggest that future studies address the perceptions of family members and the prevalence of and risk factors for the development of mental health diseases (e.g., anxiety, depression, post-traumatic stress disorder) among pregnant women infected with COVID-19. We also suggest prospective studies to evaluate long-term effects of the illness on baby and mother.

Ethical statement

This study was ethically approved by the National Research Ethics Committee, from the Brazilian Government (approval number: 30721120.8.0000.5404, date of approval: May 17th, 2020). We read verbally the informed consent form and we ask the participants to approve it, before starting the interview. Thereafter, the consent form was sent to them via e-mail or a messaging.

Funding

This study was financed by the Coordination of Improvement of Higher Education Personnel CAPES/Brazil (Finance Code 001), who provided PhD governmental scholarships. The sponsor did not had influence in any step along the study development (study design; collection, analysis, and interpretation of data; writing of the report; and decision to submit the article for publication).

Conflict of interest

None declared.

Author contributions

Juliana Vasconcellos Freitas-Jesus: Conceptualization; Methodology; Formal Analysis; Investigation; Resources; Data curation; Writing; Visualization. **Odette Del Risco Sánchez:** Software; Formal Analysis; Data Curation; Writing; Visualization. **Larissa Rodrigues:** Conceptualization; Methodology; Software; Validation; Writing; Visualization. **Débora Bicudo Faria-Shutzer:** Validation; Formal Analysis; Writing. **Adrielle Amanda Altomani Serapilha:** Data curation; **Fernanda Garanhani Surita:** Conceptualization; Methodology; Validation; Writing; Supervision; Project Administration; Funding Acquisition.

Acknowledgments

Providing support: Coordination of Improvement of Higher Education Personnel CAPES/Brazil. Providing validation: SARHAS-Lab/UNICAMP. Providing language proofreading: Elsevier and Cambridge and Lucas Vasconcellos Freitas.

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