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Journal of Medical Case Studies

The Impact of the Sars-Cov-2 Pandemic on Women during Pregnancy, Childbirth and After Childbirth

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Short Communication

Volume 1 Issue 1

Received Date: October 31, 2023

Published Date: December 12, 2023

DOI: 10.23880/jmcs-16000107

Abstract

The pregnancy is monitored through perinatal protection of pregnant women, which is divided into antenatal, partum, and postpartum care. Antenatal care includes monitoring of the mother and fetus through physical and gynecological examinations, ultrasound examinations, cardiotocography, laboratory findings, and more. Pregnant women together with their partners attend pregnancy courses for education and the possibility of having an escort during the birth. At the end of 2019, a disease caused by the SARS-CoV-2 virus appeared in China. Measures such as physical distancing, hygienic hand washing, disinfection of hands and surfaces, and self-isolation are introduced to prevent infection. Due to the existing measures, the monitoring of pregnant women and midwives has changed. The number of doctor's appointments has been reduced, some countries are introducing bans on accompanying people during childbirth, depending on the epidemiological situation in the country. During July and August 2021, an online survey was conducted with the aim of gaining insight into the impact of the pandemic on pregnant women and midwives. A total of 253 participants who gave birth during the SARS-CoV-2 pandemic took part in the research. The results have been shown that a small number of women (29.25%) were infected with the SARS-CoV-2 virus and were most often infected during pregnancy. Regardless of the protection measures present, 95.26% of women went for regular check-ups with a doctor during pregnancy, and only 19.76% of women had to do a PCR test before the check-up (UZV, CTG, gynecological check-up or before delivery). The results showed that 61.26% of the participants did not attend a pregnancy course, which we can relate to the results that 80.63% of the participants did not have a companion during childbirth. Face masks (surgical, cloth) made breathing difficult for women and limited communication with other people (76.28%), and in 69.17% of women negative feelings were caused by daily information about the disease COVID-19.

Keywords: Pregnancy; COVID-19; Childbirth; Perinatal Protection; Pandemic

Introduction

Pregnancy is an experience that brings with it various challenges. For the pregnancy to be orderly and successful, it is necessary to follow up progress of the pregnancy. The pregnancy is monitored through perinatal protection of pregnant women, which is divided into antenatal, partum, and postpartum care. Antenatal care includes monitoring

of the mother and fetus through physical and gynecological examinations, ultrasound examinations, cardiotocography, laboratory findings, and more. Pregnant women together with their partners attend pregnancy courses for education and the possibility of having an escort during the birth. When a newborn is born, after discharge from the maternity hospital, a visiting nurse are coming for a home visit, educates the mother, and performs an examination of the newborn and the mother herself [1,2].

At the end of 2019, a disease caused by the SARS-CoV-2 virus appeared in China. The virus was transmitted through droplets and aerosols, and due to the fast-paced lifestyle and frequent migrations, it quickly spread around the world and caused a pandemic. Measures such as physical distancing, hygienic hand washing, disinfection of hands and surfaces, and self-isolation are introduced to prevent infection [2,3].

Given that the pandemic started at the end of 2019, there were many unknowns related to the disease itself, especially how COVID-19 affects pregnant women and pregnancy. Previous knowledge and experience of pregnancy with other coronaviruses, such as SARS and MERS, have been proven to have effects on the mother and fetus and indicate that the pregnant woman is potentially susceptible to the SARS-CoV-2 virus, therefore special attention was focused to pregnant woman and the monitoring of the pregnancy [4].

Regardless of the greater susceptibility of pregnant women to respiratory infections, the impact of the COVID-19 infection is less pronounced in pregnant women [5]. There were not enough evidence or enough scientific work and research to confirm the transmission of the virus from mother to child during pregnancy [6]. For the prevention of infection of pregnant women with COVID-19, the same measures as for the rest of the population were recommended, namely hand washing, hand disinfection, wearing a protective mask in closed spaces, social distance of 2 meters, disinfection of surfaces [6-8].

Due to the existing measures, the monitoring of pregnant women and midwives has changed. The number of doctor's appointments has been reduced, some countries are introducing bans on accompanying people during childbirth, depending on the epidemiological situation in the country. During the period of quarantine and self-isolation, visiting nurses were not able to go to the field and organize visits to every midwife [9,10]. All the above led to changes in women and health professionals.

Methods

An online questionnaire was used in the research. The questionnaire consisted of 34 questions, of which four questions were sociodemographic data, five questions about the attitude towards the COVID-19 pandemic, thirteen questions related to the perinatal period of the woman during the pandemic, the last 12 questions gave answers to feelings, mood, and needs during pandemics during pregnancy, childbirth, or midwifery. Participation in the survey was completely anonymous and voluntary. The research was conducted via the social network Facebook on the groups Pregnant Women and Mothers 2021, Pregnant Women and Mothers 2020/2021., and Moms and Babies because most women who gave birth during the pandemic follow the groups. The survey was active online from 07/07/2021 to 08/31/2021.

The participants were asked to answer questions that had a single answer, multiple answers, answers with a short text, and answers with a linear scale where the statement is marked from 1 to 5, 1 meaning "I do not agree at all" and 5 "I completely agree". The research results were processed with descriptive statistics.

Results

A total of 253 women who gave birth during the SARS-CoV-2 pandemic participated in the research. The results showed that a small number of women (29.25%) were infected with the SARS-CoV-2 virus and were most often infected during pregnancy. Regardless of the restrictive measures at the pandemic time, 95.26% of women went for regular examination during pregnancy, and only 19.76% of women had to do a PCR test before the check-up (UZV, CTG, gynecological check-up or before delivery). The results showed that 61.26% of the participants did not attend a pregnancy course, which we can relate to the results that 80.63% of the participants did not have a companion during childbirth. The visiting nurse was regularly follow up women during midwifery (95.65%). In 94.22% of cases, the telephone and social networks WhatsApp/Viber were the mean communication between the visiting nurse and the woman. Face masks (surgical, cloth) made breathing difficult for women and limited communication with other people (76.28%), and in 69.17% of women negative feelings were caused by daily information about the disease COVID-19. In the perinatal period, women received the most help from their husbands/partners (89.33%) and family (75.49%), and unfortunately, they received the least help from health professionals: doctors (22.13%), nurses (15.02%) and psychologists (0.40%).

175 participants (69.17%) did not develop any form of postpartum mood changes. 52 participants (20.55%) developed postpartum sadness (Baby Blues), 18 participants (7.11%) developed postpartum anxiety disorder (anxiety disorder, PTSD) and 8 participants (3.16%) developed

postpartum depression (PPD). Of the total number of participants (253), 66.40% had no need or partially need psychological help during pregnancy, childbirth, and after childbirth. 19.37% of the participants mostly and complete need psychological help during pregnancy, childbirth, and after childbirth. 14.23% of woman occasionally need some psychological support.

The research has shown that women thought that the pandemic did not adversely affect their pregnancy (45.45%) or the outcome of their pregnancy (82.61%), which we can connect with the fact that there is not enough research, evidence, or scientific papers on the transmission of the virus from an infected mother to child during pregnancy [6].

The most interesting result are presented in the Tables 1-4.

Variable and Variable Form	Number of Surveyed Women	Percentage of Responses (%)
1. Age		
≥ 20 years	1	0,3953
21 – 27	71	280,632
28 – 34	136	537,549
35 – 40	41	162,055
≤ 41	4	15,810
Total	253	100
2. Education		
Elementary school	0	0,00
High school education	102	403,162
Bachelor's degree	50	197,628
Master's degree	82	324,111
PhD	19	75,099
Total	253	100
3. Marital status		
Mariage	190	750,988
Single	7	27,668
Divorce	0	0
In a relationship	56	221,344
Total	253	100
4. Number of children		
1	168	664,032
2	58	229,249
3	20	79,051
4	7	27,668
Total	253	100

Table 1: Descriptive statistical analysis of sociodemographic dana.

Variable and Variable Form	Number of Surveyed Women	Percentage ofResponses (%)
Have you been infected with the SARS-CoV-2?		
Yes	74	292,490
No	179	707,510
Total	253	100
When were you infected with the SARS-CoV-2?		
Before pregnancy	1	0,3953
During pregnancy	40	158,103
During childbirth	6	23,715
After childbirth	28	110,672
I was not infected	178	703,557
Total	253	100
Do you think that the SARS-CoV-2 pandemic has adversely affected your pregnancy?		
Yes	63	249,012
No	115	454,545
Partially	75	296,443
Total	253	100
Do you think that the SARS-CoV-2 pandemic had an adverse effect on the outcome of your pregnancy?		
Yes	17	67,194
No	209	826,087
Partially	27	106,719
Total	253	100
Do you think that the SARS-CoV-2 virus pandemic has adversely affected you?		
Yes	97	383,399
No	80	316,206
Partially	76	300,395
Total	253	100

Table 2: Analysis of the data of surveyed women about the SARS-CoV-2 pandemic.

Variable and Variable Form	Number of Surveyed Women	Percentage of Responses (%)
Did you go for regular examination during your pregnancy?		
Yes	241	952,569
No	3	11,858
Partially	9	35,573
Total	253	100
Did you go for regular ultrasound examinations?		
Yes	252	996,047
No	1	0,3953
Total	253	100
Did you do PCR test before any examination?		
No	203	802,372
Yes, before CTG-a	9	35,573

Yes, before ultrasound exam	9	35,573
Yes, before childbirth	14	55,336
Yes, before admission to the hospital	3	11,858
Yes, before the appointment at the hospital	6	23,715
Yes, before hospitalization	5	19,763
Yes, upon arrival at the emergency department	2	0,7905
Yes, before every gynecological examination	2	0,7905
Total	253	100
Did you attend a pregnancy course with your partner?		
Yes, I/we attended the live course	22	86,957
Yes, I/we attended the course online	76	300,395
I/we did not attend the course	155	612,648
Total	253	100
Did you have a companion during the birth?		
Yes	49	193,676
No	204	806,324
Total	253	100
Do you think that you had adequate care during your stay in the maternity hospital?		
Yes	177	699,605
No	65	256,917
Partially	11	434,680
Total	253	100
How often did the visiting nurse visit you during midwifery?		
Once	10	39,526
Twice	41	162,055
Three times	73	288,538
> Three times	118	466,403
Not once	11	43,478
Total	253	100
Do you think you were sufficiently educated by health professionals during pregnancy?		
Yes	133	525,692
No	59	233,202
Partially	61	241,107
Total	253	100
Do you think that you were educated enough by the visiting nurse during midwifery?		
Yes	176	695,652
No	42	166,008
Partially	35	138,340
Total	253	100

Table 3: Data analysis of the perinatal period of women during the SARS-CoV-2 pandemic.

Statements	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
During my pregnancy I felt sad/depressed.	42,69%	21,34%	21,34%	9,09%	5,53%
During and after the birth I felt sad/ depressed.	30,04%	18,18%	20,55%	17,39%	13,83%
Getting tested for COVID-19 during pregnancy was stressful for me.	45,78%	12,05%	13,25%	8,43%	20,48%
The face mask made it difficult for me to breathe and limited communication.	8,30%	4,35%	11,07%	15,02%	61,26%
Everyday information about the disease COVID-19 created negative feelings for me.	7,51%	5,93%	17,39%	20,95%	48,22%
Contact with other people made me feel uneasy and panicky.	28,06%	14,62%	27,67%	16,99%	12,65%
I had frequent mood swings.	19,37%	13,44%	26,88%	18,57%	21,74%

Table 4: Analysis of the psychological aspect of female participants during the SARS-CoV-2 virus pandemic.

Discussion

The American Journal of Perinatology published general guidelines for the management of pregnant women during labor [11]. Every woman who comes to give birth must go through triage performed by health professionals to remove or confirm the suspicion of COVID-19 [12]. As already mentioned earlier, accompaniment should be limited, depending on the hospital's policy, and accompaniment are strictly prohibited for women who are suspected of having COVID-19 or those who are positive. Women who have symptoms of COVID-19 should be isolated, and those with a positive COVID-19 test should be placed in a room with negative pressure, the movement of positive women should be restricted [12]. According to the guidelines of the WHO and the Centers for Disease Control and Prevention, all health workers who care for positive women with COVID-19, during childbirth or before and after childbirth, must use personal protective equipment (goggles/face shield, N95 mask, gloves, and protective coat) (CDC, 2021). All these measures could lead for different changes in physical and psychological state of pregnant woman. From the conducted online research, we can conclude that the pandemic partially adversely affected women during pregnancy, childbirth, and midwifery.

The daily increase in the number of newly infected with COVID-19 has led hospitals to restrict accompaniment during childbirth to protect the mother and the newborn, and then other healthcare workers [9]. Despite the hospital's policies, WHO supported accompaniment during childbirth with adherence to infection precautions, so some hospitals have allowed attendance depending on the epidemiological state in the area [9]. Accordingly, some pregnancy courses were held online, some live and some were not held at all. 61.26% of the participants did not attend the pregnancy course, 30.04% of the participants took the course online, and only 8.70% of the participants attended the course live. In our research, 23.32% of women were in self-isolation. During that period, 44.07% of women felt well, but 55.93% of women felt lonely, sad, and depressed during self-isolation. A study in Mumbai has shown that 51.6% of pregnant women had mild to moderate levels of depressive symptoms, and 39.4% of pregnant women developed mild to moderate anxiety symptoms [13]. In other research, from total of 114 participants, 82.5 % reported negative changes in mental status measures (e.g., stress, anxious thoughts, changes in sleep patterns). All reported risk-reduction behavior changes (e.g., handwashing/use of sanitizer, social distancing). Ahlers-Smidt & authors founded that participants reported changes in mental status related to the COVID-19 pandemic (n = 94, 82.5 %), including increased stress (n = 72; 63.2 %), increased anxious thoughts (n = 57; 50.0 %), changes in sleep patterns (n = 54; 47.4 %), reduced motivation (n = 53; 46.5 %), increased fearful thoughts (n = 46; 40.4 %), changes in appetite (n = 46; 40.4 %), racing thoughts (n = 41; 36.0 %), difficulty in focus and concentration (n = 42; 36.8 %), depressed mood (n = 33; 28.9 %) and increased tearfulness (n = 23; 20.2 %) [14]. During the COVID-19 pandemic, there were increased odds of maternal death during and after delivery, cardiovascular disorders, and obstetric hemorrhage. Molina & authors have shown that COVID-19 pandemic was associated with increases in pregnancy-related complications and maternal deaths during delivery hospitalization [15]. Nearly a third of women pregnant during the outbreak of the COVID-19 pandemic experienced elevated levels of stress related to feeling unprepared for birth or being worried about perinatal infection [16].

Strengths and Limitations

Our study is not without limitations. The group of women was relatively small and heterogeneous, and results were collected only by online surveys. Furthermore, our study included only women from Croatia. Hence the results might not be generalizable to the women in different countries. On the other side, this research has contributed to collecting information about the Impact of the SARS-Cov-2 pandemic on women during pregnancy, childbirth, and after childbirth in Croatia.

Conclusion

This study contributes to our understanding of the experiences of pregnant women, childbirth, and maternity period during the COVID-19 pandemic. Our study is small but important for further research. We need to be focused on the short and longer-term impacts of pandemic-related stress in the perinatal population.

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