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ORIGINAL ARTICLE

REPERCUSSIONS OF THE COVID-19 PANDEMIC ON WOMEN'S CARE DURING LABOR AND PARTURITION: CROSS-SECTIONAL STUDY

HIGHLIGHTS

1. Maintaining COVID-19 prevention measures at parturition.
2. Early hospitalization for parturition during the pandemic.
3. Attendance of the attendant at parturition during the pandemic period.
4. Low encouragement of breastfeeding in the delivery room.

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ABSTRACT

Objective: to analyze the health care provided to women in peripartum and parturition during the pandemic period of COVID-19. **Method:** analytical and cross-sectional study, conducted with 404 puerperal women from three maternity hospitals in Paraná - Brazil, between the months of September-December/2021. Data were analyzed by chi-square test ($p<0.05$) to verify the association. **Results:** care was taken to prevent COVID-19 in peripartum and parturition (physical distance 89.4%, use of mask 96.8%, respiratory etiquette 74.3%, hand hygiene 97.8%), presence of a companion (97.2%), respect for the choice of parturition route (71%) and skin-to-skin contact (70.2%). A high rate of early hospitalization (dilation between 0-3 cm), low offer of non-pharmacological methods for pain relief and low incentive to breastfeeding were observed. **Conclusion:** the study contributes to improve health actions about the natural physiology of parturition and to strengthen the rights in parturition, even in vulnerable pandemic periods.

DESCRIPTORS: Coronavirus; Parturition; Pandemics; Nursing Care; Obstetric Nursing.

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INTRODUCTION

Sars-CoV-2 is a new strain of coronavirus that had not been identified in humans before, causing the disease called COVID-19. With a large rate of spread, it is responsible for causing numerous symptoms like a common cold initially, however, because it has a very variable clinical course, one can find asymptomatic patients, but also numerous fatal cases[1-2].

With the pandemic of COVID-19, several measures were necessary to contain the spread of the virus, such as social isolation, use of face masks, and hand hygiene. However, some of these measures, coupled with the fear of contamination, led to a good deal of health promotion and disease prevention services being postponed[3].

This situation was maintained for maternal and child health care. The concerns of pregnant and puerperal women during the pandemic were triggered by exposure to the virus at the time of peripartum and puerperal consultations, in the process of parturition and breastfeeding. Moreover, considering the stress and concern about COVID-19, many women desired an early termination of pregnancy by an elective cesarean section[4-5].

The literature shows that actions were necessary to restructure the care at the time of birth, such as prohibition or control of the escort during labor, parturition, and postpartum; suspension of doulas; restriction of visitors; many unnecessary obstetric interventions; criteria for skin-to-skin contact; early clamping of the umbilical cord; and care for breastfeeding. If on the one hand they were considered safety measures for patients and professionals, on the other they provided a negative influence on the parturition experience[6].

Therefore, it is necessary to reinforce that all women have the right to receive qualified care in a health care network, ensuring access, integrality, and humanization, in other words, components already established by the Unified Health System. Including specific care flows for pregnant women, especially in times of pandemics, to offer greater security[7].

This new context of health care and the possible negative experiences of parturient can cause impacts for the rest of their lives, such as fear, anxiety, and insecurity. Taking this into account, the study aimed to analyze the health care provided to women during labor and parturition in the period of the COVID-19 pandemic.

METHOD

Analytical and cross-sectional research, conducted in three maternity hospitals of the ninth health region of the state of Paraná - Brazil, located in Foz do Iguaçu, Medianeira, and Matelândia.

The maternity hospital of Foz do Iguaçu, headquarters of the ninth region, is a reference for high-risk pregnancy and neonatology for all nine municipalities that make up this health region and provides care in the public and private system. Thus, all high-risk pregnant women are referred to Foz do Iguaçu, which is also responsible for regular and intermediate-risk care in the city and Santa Terezinha de Itaipu. The maternity hospitals in Medianeira and Matelândia provide services through the public and private systems and assist pregnant women with normal and intermediate risk in Medianeira, Matelândia, Ramilândia, and Serranópolis do Iguaçu.

The data collection period was four months, beginning in September and ending in December 2021. Included were 404 puerperal women hospitalized in the rooming house, regardless of maternal age and gestational age, with their newborns lodged with them,

residents in municipalities of the ninth health region of Paraná. The exclusion criteria were puerperal women with clinical and/or mental health problems, recorded in the medical records, which prevented their participation in the research. In this research, no puerperal woman was excluded.

To calculate the sample size, the number of parturitions that occurred in the year 2020 in the municipalities of interest of the study was considered, considering N size (number of elements) of the population; n size (number of elements) of the sample; n.° a first approximation for the sample size; E0 tolerable sampling error, using the following formulas:

$$n0 = 1 / (E0)2.\ 0.05 = 400 \quad / \quad n = N.\ n0 / N + n0$$

A margin of error of 5% and a confidence level of 95% were considered. We defined 10% as a safety margin, considering that losses may occur during data collection.

Data collection was initiated after the presentation of the research objective and acceptance by the puerperal woman. The search was based on electronic medical records and the pregnant woman's health card, then through a survey with the puerperal women in the room, without the presence of companions and health professionals, since the privacy of the participants was prioritized. The surveys were conducted by fourth- and fifth-year nursing students from a public university, who were previously trained to perform the collection.

A structured instrument was used, developed by nurse-teachers with expertise around maternal and child health research. This instrument contained the following variables: i) At admission: requirement to wear masks - patients and professionals; gestational risk stratification; cervical dilation; uterine dynamics; state of membranes. ii) At peripartum: rupture of membranes at parturition, use of non-pharmacological methods for pain relief, presence of a companion, feeding and preventive measures for COVID-19. iii) At parturition: choice of parturition, type of parturition; Golden Hour - skin-to-skin contact, skin-to-skin contact/hospital gown, late cord clamping, encouragement of breastfeeding; preventive measures for COVID-19.

To analyze the data, descriptive analysis was performed, and the chi-square test was used with a significance level of 5% to verify the association between variables, using the XLStat2014® program.

This study was approved by the Ethics Committee on Human Research of the State University of Western Paraná under opinion number 4,837,617.

RESULTS

The participants of the study had a mean age of 26 years, white 182 (45.1%) and brown 183 (45.3%), with seven years of schooling 151 (37.4%), fixed partner 343 (85%), no paid occupation 200 (49.7%), mean family income of R$2.500.00 (Brazilian Reais), and most received government assistance 279 (69.2%).

The measures recommended avoiding exposure and contamination by COVID-19 were implemented in all environments of the studied maternity hospitals. In the process of hospitalization for labor and parturition, respiratory screening was performed upon entering the hospital institution, the use of masks by patients and health professionals, handwashing, physical distancing, and the respiratory etiquette.

In Table 1 it was possible to observe that all variables presented statistical evidence for care of these women at admission, labor, and delivery ($p<0.0001$). Although it showed statistical evidence for care to avoid contamination, physical distancing and respiratory

etiquette were the care with the lowest incidence in peripartum and parturition.

Table 1 - Description of care to prevent contamination by COVID-19 among women in peripartum and childbirth. Foz do Iguaçu, PR, Brazil, 2022

Variables	N	%	p-value
Admission			
Respiratory screening (n=403)	374	92.8	0.0001
Mask use by participant (n=404)	376	92.8	0.0001
Mask use by professionals (n=401)	398	99.3	0.0001
Labor			
Physical distance (n=402)	376	93.5	0.0001
Mask Use (n=402)	398	99	0.0001
Respiratory label (n=402)	315	78.4	0.0001
Hand hygiene (n=402)	397	98.8	0.0001
Parturition			
Physical distance (n=404)	361	89.4	0.0001
Mask on (n=404)	391	96.8	0.0001
Respiratory label (n=404)	300	74.3	0.0001
Hand hygiene (n=404)	395	97.8	0.0001
Service offered materials (n=403)	391	97	0.0001

Source: The authors, 2022.

The obstetric conditions presented by the women at hospital admission were described in Table 2. It was found that 277 (69.6%) of the pregnant women were habitual risk ($p<0.0001$), and it is important to highlight that 104 (26.1%) were stratified as high risk. There was statistical evidence ($p<0.0001$) for cervical dilatation between zero and three cm 121 (47.6%), uterine dynamics present 233 (64.5%) and integrity of amniotic membranes 294 (79.5%).

Table 2 - Obstetric conditions at admission for delivery in the pandemic period of COVID-19. Foz do Iguaçu, PR, Brazil, 2022

Variables		n	%	p-value
Risk stratification (n=398)				
	Usual Risk	277	69.6	
	Intermediate Risk	15	3.8	0.0001
	High Risk	104	26.1	
	Not risk stratified	2	0.5	
Cervical dilatation (n=254)				
	0 to 3	121	47.6	
	4 to 7	93	36.6	0.0001

	8 or more	40	15.7	
Uterine dynamics (n=361)				
	Present	233	64.5	0.0001
	Absent	128	35.5	
Amniotic membranes (n=370)				
	Integral	294	79.5	0.0001
	Route	76	20.5	

Source: The authors, 2022.

Figure 1 below shows the non-pharmacological measures used for pain relief in labor, and it was found that approximately 120 (30%) of the parturient women received some intervention in this process.

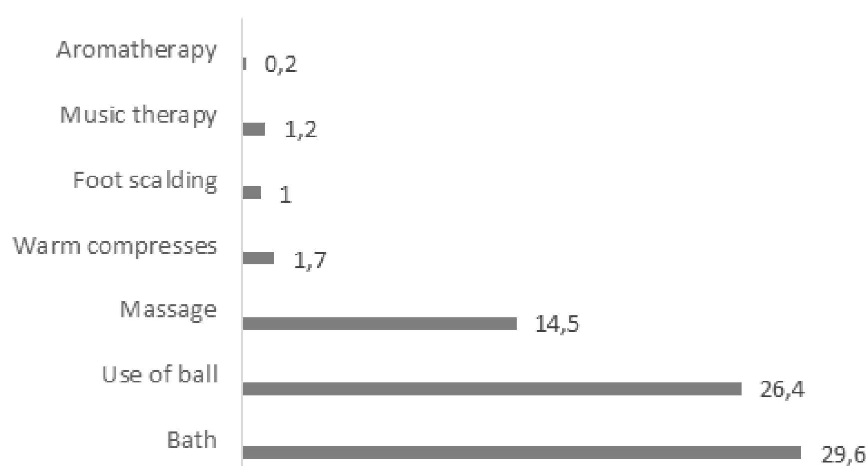

Figure 1 - Use of non-pharmacological measures for pain relief in the labor process in the pandemic period of COVID-19. Foz do Iguaçu, PR, Brazil, 2022.
Source: The authors, 2022.

The period of the COVID-19 pandemic did not interfere with the opportunity to have a companion at the birth of the child, being possible for 348 (97.2%) parturient women ($p<0.0001$) as shown in Table 3. Regarding care during childbirth, the woman's choice of delivery was respected for 282 (71%) and there was care in the delivery room to avoid an excessive number of people, 246 (61.5%), both results with statistical evidence ($p<0.0001$).

Regarding the "Golden Hour", for most women, skin-to-skin contact was provided 276 (70.2%); however, late cord clamping 33 (8.4%) and encouraging breastfeeding in the delivery room 115 (29.3%) were not satisfactory ($p<0.0001$).

Table 3 - Attention to parturition and birth during the pandemic of COVID-19. Foz do Iguaçu, PR, Brazil, 2022

Variables		n	%	p-value
Presence of companion (n=358)				
	Yes	348	97.2	0.0001
	No	10	2.8	
Too many professionals in the room (n=400)				
	Yes	154	38.5	0.0001
	No	246	61.5	
Choice of parturition respected (n=397)				
	Yes	282	71	0.0001
	No	115	29	
Golden Hour				
Skin to skin contact (n=393)	Yes	276	70.2	0.0001
	No	117	29.8	
Skin-to-skin contact (n=392)	Yes	62	15.8	0.0001
	No	330	84.2	
Late cord clamping (n=391)	Yes	33	8.4	0.0001
	No	358	91.6	
Breastfeeding encouragement (n= 392)	Yes	115	29.3	0.0001
	No	277	70.7	
None of the above (n=392)	Yes	47	12	0.0001
	No	345	88	

Source: The authors, 2022.

DISCUSSION

This research indicated that the attention to parturition and the prevention of contamination by coronavirus among women in labor and parturition were satisfactory, since the main care was maintained, both in relation to the dissemination of coronavirus, as in the humanization of the birth of the child, remaining the companion during this important trajectory, respect for the choice in parturition and physical contact with the baby after birth.

However, it must be considered that there were factors that can be considered unsatisfactory, since most women were hospitalized in a latent phase of labor, and also, there was a scarce number in the offer of non-pharmacological measures for pain relief and encouragement of breastfeeding in the Golden Hour.

The measures of care and prevention in all phases of hospitalization were established

and considering that a laboratory examination of RT-PCR would take hours to complete, the respiratory triage consisted in the performance of a rapid test for COVID-19 to perform the hospitalization and early detection of positive cases for the coronavirus and thus proceed with the proper care, consequently reducing the contamination and transmission of the virus.

Regarding the other care, it is true that during labor, especially during the expulsion period, it is difficult for pregnant women to continue using masks, because of the expulsion efforts that hinder respiratory movements[8]. To maintain this care and avoid excessive circulation of people, the routines and flow of care were reorganized, and only the necessary number of professionals was maintained in the delivery room, and the participating pregnant women felt safe during the birth of their child.

These precautions should be taken by all individuals, especially by those who belong to a certain risk group, and although pregnant women are part of this group, most of them were admitted early (zero to three cm), that is, in the latent stage of labor, with the amniotic membranes still intact and only uterine dynamics present. Considering this moment of pandemic crisis and the accentuated risk of infection by the virus in a hospital environment, it is understood that an early hospitalization was carried out, extending the period of labor, since the participant was not yet in the active phase, increasing her exposure to the virus and the chances of becoming infected.

It is important to point out that pregnant women who were hospitalized early have a greater chance of unnecessary interventions; however, one cannot consider that this is a recurrent practice in maternity care or that it may be measures mistakenly performed due to the instability of the period experienced.

Early hospitalization is a common problem among obstetric health care institutions. A study[9] showed that 73.22% of pregnant women were hospitalized without adequate dilation, resulting in other problems in addition to increased exposure to the virus. For this, it is important that pregnant women be oriented about the stages of labor, practices that can be adopted at home, and when to seek the health unit, this being one of the topics addressed in the National Guidelines for Assistance to Normal Birth[10].

The same guideline instituted by the Ministry of Health in 2017 brought aspects to qualify the care for pregnant women throughout the parturition process, contributing to humanization and reducing risks to it. The guideline has become a tool for consulting health professionals in their daily activities[10].

Added to this, among the various topics covered are non-pharmacological measures for pain relief during labor and delivery, such as acupuncture, massage, water immersion, aromatherapy, music therapy, among others. It is important to emphasize that such methods should precede pharmacological ones[11]. In the present study, few parturients received any intervention in this process. This result may be related to the high rate of cesarean sections, since patients hospitalized to await the procedure have no or shorter labor periods, and thus, few or no non-pharmacological interventions are offered.

About the points addressed in the guideline and according to the Law of the Companion, it is necessary to choose a companion to provide assistance during labor and postpartum, but this was the subject of discussion among several organizations to reduce the movement of people in the environment during the pandemic period[8]. As shown in the results, the study institution did not interfere in the possibility of pregnant women having the presence of a companion during labor and parturition. However, care was taken to prevent the spread of the virus, such as the use of masks and the prohibition of the exchange of companions.

It is frequent that there are still people who are unaware of their rights regarding parturition care, in this issue we find the protagonism of the woman in choosing her route of parturition, especially for pregnant women of habitual risk, the majority evidenced in

this research. The choice of the type of delivery is a legitimate right recognized by law in the state of Paraná[12]. The pregnant woman's choice of parturition considers family support, beliefs, and especially the level of information about types of parturition[13]. In this study, it was common that the women interviewed had their choice of parturition respected during the pandemic, whether vaginal or surgical.

Another important aspect analyzed in this study was the Golden Hour, which refers to the first 60 minutes of life of the newborn. A term that involves the first neonatal care, consisting of evidence-based interventions for the child in the transition to extra-uterine life[14].

The components of the Golden Hour include late umbilical cord clamping, hypothermia prevention, respiratory and cardiovascular system support, nutritional support, breastfeeding encouragement, skin-to-skin contact, skin-to-skin/cotton contact, record keeping, among others. It is considered a strategy to improve outcomes of preterm and term newborns, showing reduction of several neonatal morbidities. Besides the positive impact on newborn survival and morbidity, the Golden Hour refers to an important resource to humanize birth care[15-16].

In the context of the COVID-19 pandemic, some institutions were restructured, but in a retrograde manner, with unnecessary obstetric interventions; criteria for skin-to-skin contact; early clamping of the umbilical cord; and care for breastfeeding[7]. In this research, for most women, skin-to-skin contact was provided, one of the main humanizing aspects of parturition. However, other aspects were not performed, such as skin-to-skin contact; late clamping of the umbilical cord; and encouragement of breastfeeding in the first hour of life.

In a general context, there is a lack of knowledge by pregnant women and family members about the spheres that involve parturition. It is important that women be aware of the humanization measures that can be practiced in the obstetric center, such as non-pharmacological measures for pain relief, as well as the importance of the Golden Hour practices. A study[17] described the lack of knowledge about the true humanization practices, noting that 30.5% of pregnant women had only heard about the subject, and 65.5% could not answer adequately on the subject.

Another study[16] showed that the search for information about the types of delivery was low, only 41% of pregnant women. Among the fears and concerns of pregnant women, what stands out the most is the lack of information about the signs and symptoms of labor and the most appropriate time to seek the maternity hospital[18]. Clear and precise information, during prenatal consultations, about the physiology of the body, the signs of labor, and even the ideal time to seek the hospital, will certainly decrease the search for the hospital unnecessarily, reduce early hospitalization, and certainly result in less exposure to the Sars-CoV-2 virus.

Furthermore, the quality of parturition care in a pandemic moment must involve legal measures to guarantee the rights in the process of parturition, but, above all, ensure the commitment of professionals in safe and humanized health practices, to being agents that transmit information and care to avoid contamination by COVID-19 and make the birth of the child a positive experience for mothers and their families.

The findings of this study were limited to the use of quantitative variables, in which the interviewed woman is restricted in her answers, not being able to discuss them in depth.

FINAL CONSIDERATIONS

The attention to coronavirus prevention care in the maternity hospitals of the ninth region of the state of Paraná at the time of delivery and birth, regarding the use of mask, respiratory etiquette, physical distance, and hand hygiene showed satisfactory results. Likewise, the results were positive in the woman's right to choose a companion, skin-to-skin contact, and the woman's choice of the route of delivery.

However, there were practices that could compromise the women's health in this process, such as early admission for hospitalization of the pregnant woman, in which they presented little dilation when seeking the maternity ward; low offer of non-pharmacological methods for pain relief and unsatisfactory attention in the Golden Hour, which implies the encouragement of breastfeeding, late clamping of the umbilical cord and skin-to- cloth/jersey contact, in cases of cesarean sections.

The health team, as well as managers and the entire multi-professional team were faced with several challenges for the care in the maternity hospitals, with the pandemic circumstance. Being the pillar in the construction of new care flows and protocols that would meet the need for security for the risks represented by COVID-19, concomitantly, preserving the quality of care throughout the pregnancy-puerperal cycle to ensure a humanized care to the mother-baby binomial.

It also reinforces the importance of health actions that involve educational practices aimed at the prenatal period in care units, so that professionals provide guidance to pregnant women regarding the natural physiology of parturition, approaches about their bodies and their rights, the best times to go to the reference maternity hospital, and options for non-pharmacological practices for pain relief that can be performed at home, among others.

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Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - **Alderete G, Ferreira H, França AFO, Contiero AP, Zilly A, Silva RMM da**; Drafting the work or revising it critically for important intellectual content - **Alderete G, Ferreira H, França AFO, Contiero AP, Zilly A, Silva RMM da**; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - **Alderete G, Ferreira H, França AFO, Contiero AP, Zilly A, Silva RMM da**. All authors approved the final version of the text.

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