



FLOWS OF CARE IN AN OBSTETRIC CENTER IN THE FACE OF THE COVID-19 PANDEMIC: EXPERIENCE REPORT

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ABSTRACT

Objective: to report the development and implementation of flows to care for pregnant women with suspected or confirmed COVID-19 at the Obstetric Center of a public hospital. **Method:** a descriptive study, of the experience report type, carried out in a public hospital in Porto Alegre/RS, a reference for the care of pregnant women with COVID-19. **Results:** flows to care for pregnant women with suspected or confirmed COVID-19 were described in the following situations: reception and risk classification in obstetrics; induction and/or active childbirth; and cesarean surgery. The application of the described flows made it possible to organize assistance and contributed to the investigation and early diagnosis of COVID-19, as well as to control the transmission of this disease in a hospital environment. **Final considerations:** the elaboration of flows for the care of pregnant women, in the context of the COVID-19 pandemic, is a primary demand for health services, in order to organize and qualify the assistance, promoting practices based on scientific evidence and avoiding unnecessary interventions and restrictions.

Keywords: Coronavirus. Obstetrics. Hospital emergency service. Complications in pregnancy.

INTRODUCTION

December 2019 was marked by the beginning of the global pandemic caused by the SARS-CoV-2 virus, the result of a zoonosis initially reported in Wuhan, China, belonging to the family of coronaviruses known for the development of respiratory diseases in humans⁽¹⁾. The transmission of the new coronavirus is similar to that of other respiratory diseases: through inhalation or contact with droplets expelled by infected people. Although its pathophysiology is not yet fully known, the reported cases show that the elderly, pregnant women and people who have comorbidities are more likely to develop severe illnesses. To date, more than 101 million cases have been confirmed worldwide, with a mortality rate of approximately 2.2%. The Americas lead the number of confirmed cases and 10.1% of the total number of deaths in the world occurred in

Brazil⁽²⁾. In Rio Grande do Sul, Porto Alegre has the highest number of confirmed cases of the disease (79,647) with 2.7% of deaths among those infected until January 2021⁽³⁾.

In relation to the pregnant population, a recent study recorded the occurrence of 124 deaths of pregnant and postpartum women in Brazil, representing a high rate of 12.7% of maternal mortality from COVID-19 - a rate 3.4 times higher than the total value of maternal deaths from this same cause worldwide⁽³⁾. In addition to increased mortality, pregnant women with COVID-19 are more prone to miscarriage, premature rupture of amniotic membranes and restricted intrauterine fetal growth⁽⁴⁾.

Pregnant and puerperal women should be considered a risk group for COVID-19 worsening and complications, especially those that present comorbidities, such as arterial hypertension and diabetes mellitus. However, so far, there is no specific treatment, proven to be

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effective and safe during pregnancy⁽⁵⁾.

Thus, obstetric care, in the context of the COVID-19 pandemic, must consider the need to identify symptomatic, contacting and asymptomatic women in order to minimize the damage caused by the disease. In addition, it needs to be carried out in places with isolation structure, with personal protective equipment (PPE) suitable and available for use, specialized teams and indication of the individualized way of delivery⁽⁵⁻⁷⁾. Thus, it is recommended that health services organize internal care flows for suspected pregnant women or those with COVID-19, since the guarantee of qualified obstetric care and agile contingency measures with a focus on pregnant women is essential to reduce morbidity and mortality maternal infection by the new coronavirus⁽⁸⁻¹⁰⁾. Considering that it was necessary to improve aspects such as physical structure, human resources and care protocols to guarantee maternal safety^(11,12) even before the start of the pandemic, the experience report of the professionals involved in the elaboration and organization of care flows to pregnant women during the COVID-19 pandemic, it is relevant to encourage other national institutions regarding the need to develop evidence-based flows, as well as to subsidize local actions.

In this context, the guiding question was defined: "How did the elaboration and implementation of flows for the care of pregnant women with suspected or confirmed COVID-19 in an Obstetric Center occur?" Therefore, the objective of this study was to report the elaboration and implementation of flows to assist pregnant women with suspected or confirmed COVID-19 at the Obstetric Center of a public hospital.

METHOD

Descriptive study of the experience report type which presents the elaboration and implementation of flows to care for pregnant women with suspicion or confirmation of COVID-19. The scenario of this report is a large hospital, located in the city of Porto Alegre, Rio Grande do Sul, which has one of the largest maternity hospitals in the state, which is a reference for high-risk prenatal care, as well as for pregnant women with suspicion or

confirmation of COVID-19. The institution is also characterized by providing 100% of its services through the Unified Health System.

The institution's Obstetric Center (OC) is divided into four areas: Obstetric Emergency, which contains three offices and an observation room; Obstetric Care Room; Prepartum, Childbirth and Postpartum (PCP) area, with six PCP rooms; and surgical area, with three rooms for surgical procedures and a recovery room. In each work shift, the OC has a team of twelve nursing technicians, four obstetrical nurses, four obstetricians, two neonatologists, two anesthesiologists, two administrative assistants and three hygiene assistants, in addition to professionals linked to the residency medical, in Gynecology and Obstetrics and in Pediatrics and Neonatology, and to the multidisciplinary residency in Maternal and Child Care and Obstetrics. On average, the sector performs 1,800 services to pregnant women per month and attends about 300 births.

The organization of the sector to attend to suspected or confirmed cases of COVID-19 began in March 2020, with the elaboration and implementation of assistance flows, together with the training of the team. Flows were developed by members of the Study Group of the Mother-Baby Care Line (Research Group linked to CNPQ, with the participation of obstetric nurses and resident nurses from the institution's Maternal and Child Care Program).

The creation of flows occurred from an institutional demand in the face of the pandemic, in order to organize obstetric care, favoring patient safety, reducing the exposure of pregnant women, mothers and babies to potential infectious agents, as well as protecting the care team. This construction was initially conceived and developed in meetings with experts in the area; subsequently, there were reviews of ministerial protocols, institutional protocols, norms of the bodies responsible for the maternal and child area and also of studies published on the subject so far.

After this initial stage of studies and development, flows were elaborated, which were then presented to the other team members in the form of validation and training. After the adoption of these new routines, stages of readaptation and flow adjustments took place, according to needs observed in practice and new

guidelines from competent bodies due to the constant updates that were being released.

This study was not sent to the Research Ethics Committee (REC) because it is an experience report, which did not involve specific case studies. However, the study respected anonymity, preserving institutional and professional information about those involved in the experience.

RESULTS AND DISCUSSION

In line with the demands instituted by the Ministry of Health, an institutional organization movement was initiated to deal with suspected or confirmed cases of COVID-19. The institutional contingency plan has been improved according to the epidemiological data and the knowledge about the disease that have been updated.

In the context of the pandemic, the institution adopted the following criteria for the definition of suspected cases of COVID-19 in adults: a) Influenza Syndrome - febrile report, accompanied by cough, sore throat, runny nose or even difficulty breathing; b) Severe Acute Respiratory Syndrome - when there is dyspnea, respiratory distress, persistent pressure in the chest, O₂ saturation less than 95% in ambient air or facial cyanosis. Cases with detectable results for SARS-CoV2 by means of specific laboratory tests (RT-PCR, rapid test, classical serology for antibody detection or GeneXpert) are considered confirmed cases⁽¹³⁾.

In this article, the institutional flows established to care for pregnant women with suspicion or confirmation of COVID-19 will be reported in the following situations: a) Reception and Risk Classification in Obstetrics; b) Induction of labor or active labor; c) Cesarean section.

Reception and Risk Classification in Obstetrics (RRCO)

Despite the existence of screening at the entrance of the institution, during registration for care at the OC, the pregnant woman should be asked by the administrative assistant if she has had respiratory symptoms or fever in the last 14 days; thus, the pregnant woman goes through more than one barrier, avoiding intra-hospital

transmission of COVID-19, as well as other respiratory diseases⁽¹³⁾. If so, the administrative assistant informs the RRCO nurse; the pregnant woman is identified as a suspected case for COVID-19 and receives preferential care, avoiding prolonged stay in the waiting room.

The nurse, using the recommended personal protective equipment (PPE) - surgical mask, cap, foot protection, procedure gloves, face shield and waterproof apron; PFF2 mask in aerosol-generating procedures⁽¹³⁾, calls the pregnant woman with suspicion or confirmation of COVID-19 to perform the RRCO in a predefined office as a back-up isolation. The pregnant woman then receives a disposable surgical mask that must be used throughout her stay in the hospital. During the performance of the RRCO and the medical care of this pregnant woman who is not hospitalized, the companion is not allowed due to the limited physical space of the office destined to the care.

After RRCO, immediate medical evaluation takes place. In all care, from the reception to the outcome of the medical evaluation, the pregnant woman remains in the same environment, where the tests and care are performed. The service is performed, preferably, by the minimum number of professionals possible in order to reduce the chances of contamination among professionals. In case of hospital release, the woman is instructed on the complaint presented, signs and symptoms that indicate the need to return to the health service, social isolation measures and, in suspected cases, on the flow of investigation to COVID-19 to be carried out in Primary Health Care unit.

In this sense, the lack of coordination with the Basic Health Unit has proved to be a challenge in the integrality and continuity of care⁽¹⁷⁾. In addition to this networked organization, it is necessary to dimension structure and human resources according to the region's vulnerabilities, since the health service needs to be able to meet the demand for suspected or confirmed cases of COVID-19. Just like all the other services that the hospital already performed⁽¹⁸⁾.

Following the description of the flow, after medical care, if the need for hospitalization is verified, the doctor calls the Hospital Infection Control center (HIC) and communicates the case. It is the HIC team that guides isolation

measures and the need to collect a specific exam for the investigation of COVID-19. Until the isolation is defined or suspended, the pregnant woman remains considered a suspicious case by the OC team and in respiratory isolation, aiming to protect the other pregnant women who attend the service and the health professionals of the place⁽¹³⁾. If the pregnant woman presents

confirmation of COVID-19 in the last 14 days, contact with the HIC team occurs only to notify the case. If indicated, the collection of the nasal and oropharyngeal swab is performed by nurses and then the notification form of the suspected case is filled out. Thereafter, assistance to hospitalized pregnant woman occurs according to the flow developed (Figure 1).

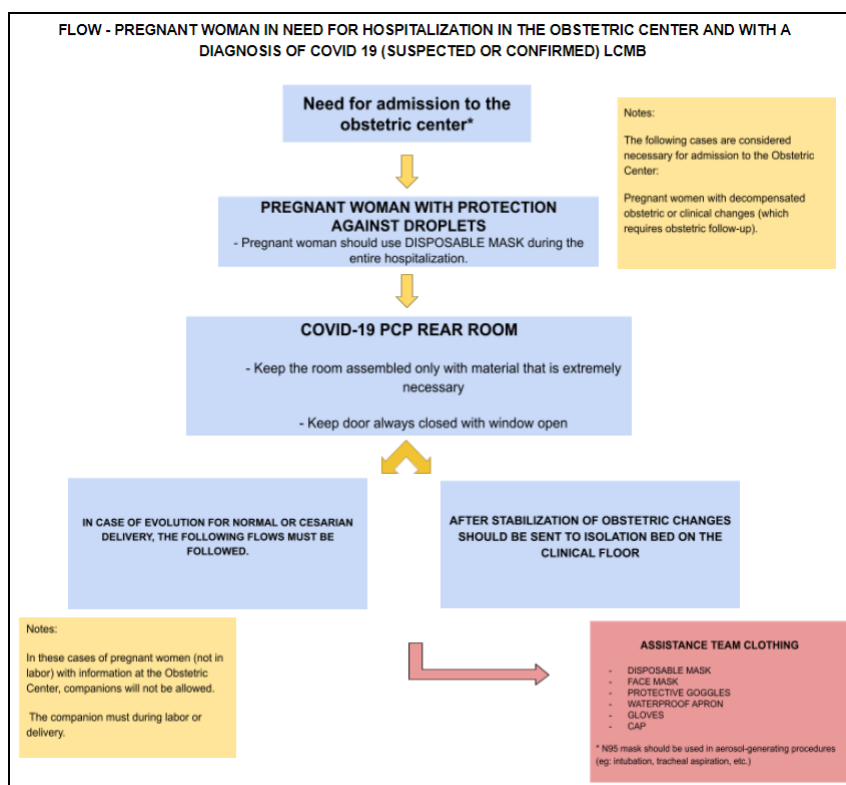


Figure 1. Flow of care for pregnant women admitted with suspected or confirmed COVID-19
Source: flowchart developed by the institution.

Induction of labor or active labor

Regarding the mode of childbirth, vaginal childbirth is not contraindicated in cases of COVID-19, since, to date, there is no evidence of vertical transmission^(4,5). Thus, the pregnant woman with suspicion or confirmation of COVID-19 and interned for the induction or active phase of labor (L) is dressed in an apron, mask and gloves for the procedure and sent to a predefined PCP room as an isolation rear, which must remain with the door closed and the window open⁽¹³⁾. The woman's physical record remains outside the room in order to reduce transmission of the virus.

Regarding the presence of a companion during labor and childbirth, it was established by

the institution that the entry of the companion is allowed, being necessary that the person chosen by the woman does not belong to the risk group and/or does not present signs and symptoms of the disease. The companion must be dressed (apron, cap, mask, procedure gloves and foot protection) and leave the sector after one hour of birth. In specific situations, the companion can remain throughout the hospitalization, as in cases of women under 18, with cognitive or physical disabilities, who do not speak Portuguese fluently, or with multiple pregnancies.

During the latent phase of the L, the team's professionals are available to enter the PCP room whenever there is a request of the woman or demand for care. Non-pharmacological

methods in labor, as well as childbirth analgesia, when necessary, are performed within the PCP room. In the active phase of the L and in the expulsive period (Figure 2), the parturient is assisted by a reduced team, using the recommended PPE⁽¹³⁾, composed of a nursing technician, an obstetrical nurse, an obstetrician and a neonatologist⁽¹⁴⁾.

The care for the newborn (NB) follows the most recent recommendations described in the national and international literature⁽¹⁹⁻²¹⁾. Care takes place in the room PCP, after the opportune clamping of the umbilical cord, respecting a minimum distance of two meters between the mother's bed and the neonatal care cradle. Skin-

to-skin contact is not carried out, and the newborn receives body hygiene, considering that it is necessary to reduce contact with maternal fluids. Breastfeeding is encouraged after hygienic care for the puerperal woman, including the change of mask, nightgown and sheets. In addition, guidance is given on hand and breast hygiene before each feeding and the continued use of a mask⁽¹⁹⁻²¹⁾.

The puerperal woman remains in the PCP room until obstetric release and is then sent to the isolation room in an inpatient unit. Immediately after the transfer, the hygiene team disinfects the PCP room, according to the institutional flow⁽¹³⁾.

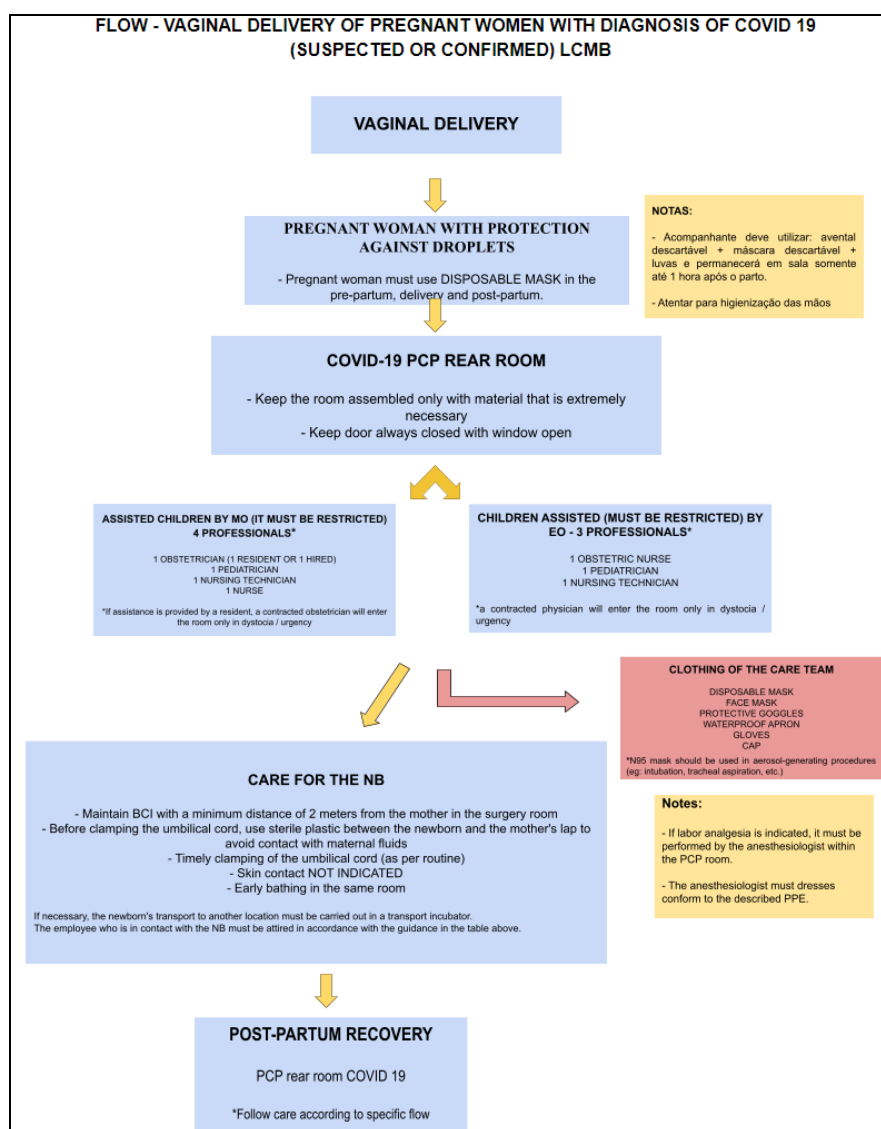


Figure 2. Flow of care for pregnant women with suspected or confirmed COVID-19 in labor

Source: flowchart developed by the institution.

Cesarean section

Cesarean section of pregnant women with suspected or confirmed COVID-19 occurs in a predefined operating room as an isolation rear (Figure 3). This room remains with the door closed throughout the procedure and contains only the supplies necessary for the surgical procedure, thus avoiding excessive contamination of material resources. In this situation, the pregnant woman is dressed in the same PPE described in the previous section.

The care team for cesarean section is also reduced, consisting of an anesthesiologist, two obstetricians and a neonatologist, a nursing technician and a nurse⁽¹⁴⁾. The team's attire is in accordance with the established by the institutional protocol, as previously described. The newborn's care takes place inside the

surgery room with the same care provided in the vaginal postpartum period. After the end of the surgery, the puerperal woman is transferred to the PCP room (isolation rear), where she will be monitored until complete anesthetic recovery and referral to the isolation room in an inpatient unit. Two hours after the procedure, the hygiene team performs the disinfection of the surgery room, according to the institutional flow⁽¹³⁾.

The companion is authorized to remain with the pregnant woman during cesarean section, as long as she does not have respiratory symptoms or belongs to the risk group. In addition, he must remain dressed (apron, cap, mask, gloves, and foot protection) throughout his period of stay. In specific cases, as mentioned earlier, the companion may remain for the entire hospitalization.

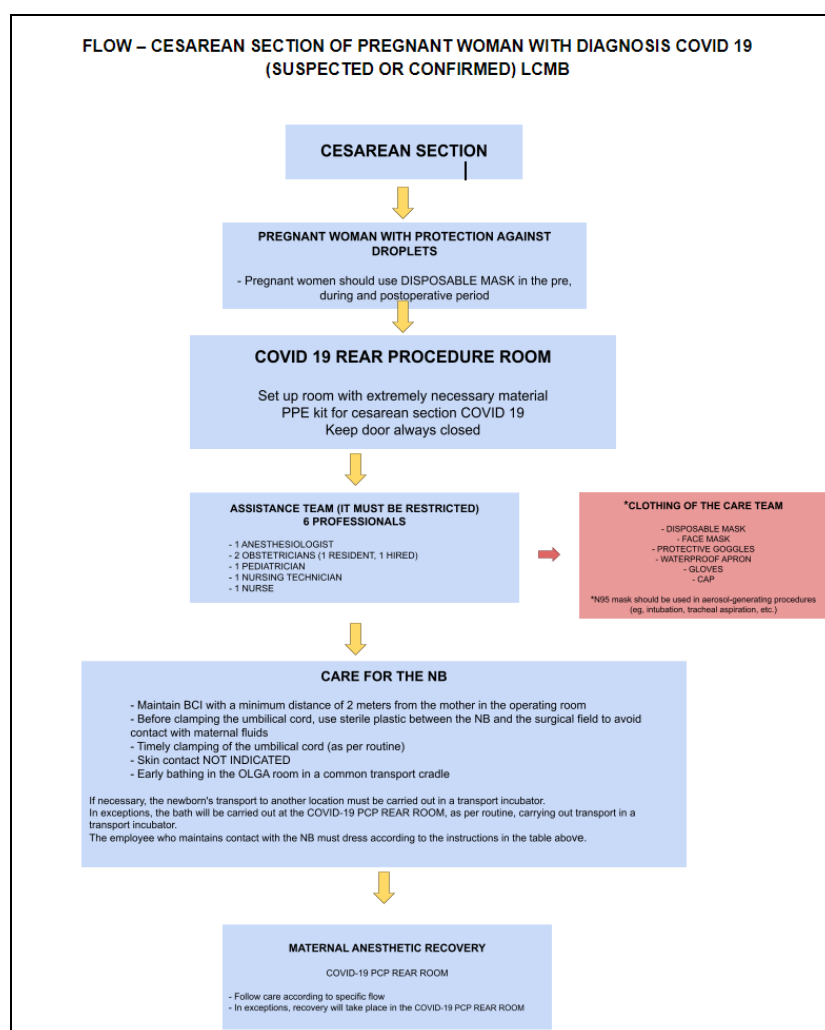


Figure 3. Flow of care for pregnant women with suspected or confirmed COVID-19 during cesarean section
Source: flowchart developed by the institution.

The use of the three flows described above enabled the organization of care and the practice based on scientific evidence by the multidisciplinary team of the OC, thus guaranteeing the safety of users and health professionals. The measures put in place have contributed to the investigation and early diagnosis of COVID-19, as well as to control the transmission of this disease in a hospital environment. In the context of the pandemic, it became evident that the implementation of care flows made it possible to review care practices in the face of COVID-19 and, consequently, the risk reduction for obstetric violence, disseminated in several institutions and supported by routines without scientific basis, such as the deprivation of the companion, the unnecessary indication for cesarean section or instrumental childbirth to shorten the birth and the contraindication for breastfeeding⁽¹³⁾. Thus, the creation of care flowcharts and the institutional organization to care for pregnant women with suspected or confirmed COVID-19 qualify care and have the potential to reduce maternal morbidity and mortality^(3,6,7).

The limitations of this experience are related to the constant updates and reviews of knowledge about COVID-19 and anomalous cases that do not fit into the flows created. In addition, limitations in the physical structure were identified, especially in relation to the small number of rooms, considering the time of occupation and disinfection of the rooms designated for isolation, as well as limitations in the staff, since the team maintained the same number of professionals from before the pandemic. However, for the application of the flows, it is necessary to spend more time on the professionals to perform tasks that would be faster in everyday situations and that, in the care of patients with suspected or confirmed COVID-19, end up becoming more prolonged and exhausting due to the need for precautionary and isolation care. Often, assistance to these patients demands exclusive attention from the team, requiring a reorganization of the professionals for the other tasks, which causes work overload.

Still, difficulties were perceived in the training and adherence of professionals to the established flows. It was also noted the resistance of some professionals to assist

patients with suspected or confirmed COVID-19. In this sense, permanent health education actions are essential in the implementation and consolidation of new care practices, as they enable the qualification of health care, promote the learning process of professionals and, consequently, impact on maternal security⁽¹⁴⁻¹⁷⁾.

FINAL CONSIDERATIONS

Considering the context of the new coronavirus pandemic, building flows for care becomes a primary demand for health services in order to organize care and promote practices based on scientific evidence. In the context of health care for pregnant women and parturients, the organization of assistance qualifies care, promoting the safety of professionals and users and avoiding unnecessary interventions and restrictions.

However, the elaboration of care flows to pregnant women in the context of a pandemic caused numerous challenges to the multidisciplinary team, due to the constant updates in the care protocols and the frequent need for permanent education actions for the care team. There was an increase in the demand for work due to the need for specific precautions for contact precautions and respiratory precautions and the increase in the number of professionals on sick leave (because they belong to groups at risk for COVID-19 or because they have a diagnosis or suspicion of this disease). In addition, the pandemic has triggered situations of stress, conflicts and fears in the care team of the front line, which may have long-term repercussions in the lives of these professionals.

In short, from the reported experience, it was concluded that the development and implementation of flows to care for pregnant women with suspected or confirmed COVID-19 were essential in this context of a pandemic. In addition to optimizing the institution's obstetric care, systematizing the conduct of professionals, restricting the spread of the disease among patients and the health team, the implementation of care flows was fundamental for maintaining good practices in childbirth and birth care, as well as for the preservation of women's rights in obstetric care.

FLUXOS DE ATENDIMENTO EM UM CENTRO OBSTÉTRICO FRENTE À PANDEMIA DA COVID-19: RELATO DE EXPERIÊNCIA

RESUMO

Objetivo: relatar o desenvolvimento e implementação de fluxos para atendimento de gestantes com suspeita ou confirmação de COVID-19 no Centro Obstétrico de um hospital público. **Método:** estudo descritivo, do tipo relato de experiência, realizado em um hospital público de Porto Alegre/RS, referência para atendimento de gestantes com COVID-19. **Resultados:** descreveram-se fluxos para atendimento à gestante com suspeita ou confirmação de COVID-19 nas seguintes situações: acolhimento e classificação de risco em obstetrícia; indução e/ou trabalho de parto ativo; e cirurgia cesariana. A aplicação dos fluxos descritos possibilitou a organização assistencial e contribuiu para a investigação e diagnóstico precoce de COVID-19, bem como para o controle da transmissão dessa doença em ambiente hospitalar. **Considerações finais:** a elaboração de fluxos para atendimento de gestantes, no contexto da pandemia de COVID-19, é demanda primordial para os serviços de saúde, a fim de organizar e qualificar a assistência, promovendo práticas baseadas em evidências científicas e evitando intervenções e restrições desnecessárias.

Palavras-chave: Coronavírus. Obstetrícia. Serviço Hospitalar de Emergência. Complicações Infeciosas na Gravidez.

FLUJOS DE ATENCIÓN EN UN CENTRO OBSTÉTRICO FRENTE A LA PANDEMIA DE COVID-19: RELATO DE EXPERIENCIA

RESUMEN

Objetivo: relatar el desarrollo y la implementación de flujos para la atención a las gestantes con sospecha o confirmación de COVID-19 en el Centro Obstétrico de un hospital público. **Método:** estudio descriptivo, del tipo relato de experiencia, realizado en un hospital público de Porto Alegre/RS-Brasil, referencia para atención de gestantes con COVID-19. **Resultados:** se describieron flujos para la atención a la gestante con sospecha o confirmación de COVID-19 en las siguientes situaciones: acogida y clasificación de riesgo en obstetricia; inducción y/o trabajo de parto activo; y cirugía cesárea. La aplicación de los flujos descritos posibilitó la organización asistencial y contribuyó para la investigación y el diagnóstico precoz de COVID-19, así como para el control de la transmisión de esta enfermedad en ambiente hospitalario. **Consideraciones finales:** la elaboración de flujos para la atención de gestantes, en el contexto de la pandemia de COVID-19, es demanda primordial para los servicios de salud, a fin de organizar y calificar la asistencia, promoviendo prácticas basadas en evidencias científicas, evitando intervenciones y restricciones innecesarias.

Palabras clave: Coronavirus. Obstetricia. Servicio de Urgencia Hospitalaria. Complicaciones infecciosas del embarazo.

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