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RESEARCH

ASSESSMENT OF INFORMATION ON COVID-19 AVAILABLE ON POPULAR WEBSITES AIMED AT PREGNANT WOMEN

AVALIAÇÃO DAS INFORMAÇÕES SOBRE COVID-19 DISPONÍVEIS EM SITES POPULARES E DIRECIONADAS ÀS GESTANTES

EVALUACIÓN DE LA INFORMACIÓN SOBRE COVID-19 DISPONIBLE EN SITIOS WEB POPULARES DIRIGIDOS A MUJERES EMBARAZADAS

Marina Dumont Pena[1]
Ana Paula Vieira Faria[1]
Thalita Beatriz Santos Maciel[2]
Marcela Maia Santos Silva[3]
Thales Philipe Rodrigues Silva[4]
Érica Dumont Pena[1]
Fernanda Penido Matozinhos[1]

[1]Universidade Federal de Minas Gerais - UFMG, Departamento de Enfermagem Materno-Infantil e Saúde Pública. Belo Horizonte, MG - Brazil.

[2]Santa Casa de Misericórdia, UTI Neonatal. Belo Horizonte, MG - Brazil.

[3]Faculdade de Pará de Minas - FAPAM, Escola de Saúde. Pará de Minas, MG - Brazil.

[4]Universidade Federal de Minas Gerais - UFMG, Faculdade de Medicina. Belo Horizonte, MG - Brazil.

Corresponding Author: Fernanda Penido Matozinhos
E-mail: nandapenido@hotmail.com

Authors' Contributions:
Project Management: Fernanda P. Matozinhos; Statistical Analysis: Ana P. V. Faria, Thales P. R. Silva; Data Collection: Marina D. Pena, Ana P. V. Faria, Thalita B. S. Maciel, Marcela M. S. Silva; Conceptualization: Ana P. V. Faria, Fernanda P. Matozinhos; Supervision: Ana P. V. Faria, Fernanda P. Matozinhos; Validation: Ana P. V. Faria, Marcela M. S. Silva, Thales P. R. Silva, Erica D. Pena, Fernanda P. Matozinhos; Visualization: Ana P. V. Faria, Marcela M. S. Silva., Fernanda P. Matozinhos; Writing - Original Draft Preparation: Marina D. Pena, Ana P. V. Faria, Thalita B. S. Maciel, Marcela M. S. Silva, Thales P. R. Silva, Fernanda P. Matozinhos; Writing - Review and Editing: Marina D. Pena, Fernanda P. Matozinhos.

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Luciana Regina Ferreira da Mata

ABSTRACT

Objective: to assess whether information about COVID-19 aimed at pregnant women, available on popular websites, is in accordance with the recommendations of the Ministry of Health. Methods: descriptive/comparative study, carried out on popular websites most accessed by lay women. A checklist was prepared with relevant information about COVID-19 and pregnancy, based on the recommendations of the Ministry of Health and the literature. The checklist presented the topics: prenatal care; pregnant woman with suspected or diagnosed COVID-19; breastfeeding; recommendations regarding the mode of delivery and termination of pregnancy; guidelines for labor and delivery; guidelines for postpartum care; pharmacological agents, other treatments, and monitoring of COVID-19 infection; professional or non-professional pregnant women in the health area; and risk of infection by vertical and postpartum transmission. Results: after applying the checklist, 210 websites were selected for full content analysis. It was observed that none of them presented the content listed according to the evidence on pregnancy, delivery/birth, postpartum and COVID-19 available to date. The most neglected information about COVID-19 and pregnancy was in the information set on "Pharmacological agents, other treatments and monitoring of COVID-19 infection". Information about "prenatal care" was the one that most presented correct information on the analyzed websites. Conclusion: the websites provided important information for pregnant and postpartum women; however, this information was often incomplete. It is hoped that the evidence from this study can contribute to the improvement of health education, in order to indicate new possibilities of communication based on reliable sources.

Palavras-chave: COVID-19; Internet; Women's Health; Health Education

RESUMO

Objetivo: avaliar se as informações sobre a COVID-19 direcionadas às mulheres gestantes, disponíveis em sites populares, estão de acordo com as recomendações do Ministério da Saúde. Métodos: estudo descritivo/comparativo, realizado em sites populares mais acessados por mulheres leigas. Foi elaborado um checklist com informações relevantes sobre COVID-19 e gestação, com base nas recomendações do Ministério da Saúde e da literatura. O checklist apresentava os tópicos: pré-natal; gestante com suspeita ou diagnóstico de COVID-19; aleitamento materno; recomendações quanto à via de parto e interrupção da gestação; orientações para trabalho de parto e parto; orientações para cuidado no pós-parto; agentes farmacológicos, outros tratamentos e monitoramento da infecção por COVID-19; gestantes profissionais ou não da área da saúde; e risco de infecção por transmissão vertical e no pós-parto. Resultados: após aplicação do checklist, 210 sites foram selecionados para análise do seu conteúdo na íntegra. Observou-se que nenhum deles apresentou o conteúdo elencado de acordo com as evidências sobre gestação, parto/nascimento, pós-parto e COVID-19 disponíveis até o presente momento. As informações mais negligenciadas sobre COVID-19 e gestação estavam no conjunto de informações sobre "Agentes farmacológicos, outros tratamentos e monitoramento da infecção COVID-19". As informações sobre o "pré-natal" foram as que mais apresentaram informações corretas nos sites analisados. Conclusão: os sites trouxeram informações importantes para as mulheres gestantes e puérperas; contudo, muitas vezes, essas informações estavam incompletas. Espera-se que as evidências deste estudo possam contribuir para o aprimoramento da educação em saúde, de modo a indicar novas possibilidades de comunicação com base em fontes confiáveis.

Palavras-chave: COVID-19; Internet; Saúde da Mulher; Educação em Saúde.

RESUMEN

Objetivo: evaluar si la información sobre la COVID-19 dirigida a las mujeres embarazadas disponible en los sitios web populares se ajusta a las recomendaciones del Ministerio de Salud. Métodos: estudio descriptivo/comparativo, realizado con los sitios populares a los que más acceden las mujeres laicas. Se elaboró una checklist con información relevante sobre la COVID-19 y el embarazo, basándose en las recomendaciones del Ministerio de Salud y en la bibliografía. La checklist presentó los temas: cuidados prenatales, mujeres embarazadas con sospecha o diagnóstico de COVID-19, lactancia materna, recomendaciones para la vía del parto y la interrupción del embarazo, directrices para el trabajo de parto y el parto, directrices para la atención posparto, agentes farmacológicos, otros tratamientos y seguimiento de la infección por COVID-19, mujeres embarazadas o no en el área de la salud y riesgo de infección por transmisión vertical y posparto. Resultados: después de aplicar la checklist, se seleccionaron 210 sitios para el análisis completo de su contenido. Se observó que ninguno de ellos presentó el contenido listado de acuerdo con la evidencia sobre

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embarazo, parto/nacimiento, posparto y COVID-19 disponible hasta la fecha. La información más descuidada sobre COVID-19 y embarazo fue en el conjunto de información sobre "Agentes farmacológicos, otros tratamientos y seguimiento de la infección por COVID-19". La información sobre "Prenatal" fue la que presentó la información más correcta sobre los sitios analizados. Conclusión: los sitios aportaron información importante para las mujeres embarazadas y posparto, sin embargo, a menudo estaban incompletos. Se espera que la evidencia de este estudio pueda contribuir a la mejora de la educación para la salud, con el fin de indicar nuevas posibilidades de comunicación basadas en fuentes confiables.

Palabras clave: COVID-19; Internet; Salud de la Mujer, Educación en Salud.

INTRODUCTION

Severe Acute Respiratory Syndrome (SARS-CoV-2) refers to a recently discovered virus that causes the infectious disease COVID-19. In December 2019, in Wuhan, China, the first case of the disease emerged, and on January 30, 2020, the World Health Organization (WHO) classified it as an international public health emergency, configuring it as a pandemic disease.[1]

In Brazil, the Ministry of Health (MoH) confirmed the first case of the disease in February 2020, in the city of São Paulo, and by June 2022, 31,611,769 cases were confirmed in the country, with 668,693 deaths.[2] To prevent the spread of the virus, the WHO recommended the adoption of some basic hygiene and prevention measures, such as social distancing, the use of face masks and frequent hand washing with soap and water.[3]

Some groups were considered at risk, such as the elderly, people with chronic diseases and pregnant women. A systematic review showed that priority attention to pregnant women is related to the peculiar characteristics of this phase, in which changes in metabolism and immune system occur during the gestational period. In this sense, the Clinical Management Protocol for COVID-19 infection in Brazil included pregnant women of any gestational age and postpartum women up to two weeks after delivery (including those who had fetal loss or abortion) in the risk group for complications from the COVID-19 infection.[4,5]

In this context, health information and communication are essential for institutions and communities to adopt more efficient actions to prevent COVID-19.[6] With regard to pregnant women, it is even more important that they can access health information through efficient and safe communication, especially as they reduced their frequency of appointments to stay at home and comply with health services recommendations for social distancing.[5]

In the last 10 years, there has been a considerable increase in the number of internet users in Brazil and there is a growing trend. In 2009, 39% of the Brazilian population had access to the internet; in 2018, 70% of the population had access to the internet, with an estimated 126.9 million individuals connected to the network. It is estimated that 76% of Brazilian women use the internet, with the cell phone as the main access tool. In addition, 48% of women search for information regarding health services or health.[7]

The new information and communication technologies (ICTs) have changed the ways of dialogue, expanding access to information, and learning for the population.[8] In the Latin American context, one of the most connected in the world, ICTs have been used to strengthen voices. of historically oppressed groups and make them more autonomous and representative, as in the case of mothers.[8] The recognition of ICTs as necessary instruments capable of strengthening power between groups has led to efforts being made to provide education in different areas in the networks, such as health and politics.[9]

However, the advancement of communication over the years and the ease of reaching information provided by social media have unleashed new challenges for the online universe and for the global experience, such as the propagation of false news, known as fake news.[9] A survey revealed that pregnant women frequently access the internet to obtain information regarding pregnancy and to make health decisions.[10] The use of wrong and incomplete information can harm the health of pregnant women and the fetus, as women tend to follow and access it frequently. Information obtained through the internet is not always valid and reliable and can be dangerous and confusing and cause an increase in pregnant women's anxiety levels, as well as negative implications for their health and quality of life.[11]

In view of the necessary prevention measures in the COVID-19 pandemic, the growing demand for information on the internet, the global experience of fake news, questionable quality information and the scarcity of studies on this problem in the health area, the objective of this study was to assess whether information about COVID-19 aimed at pregnant women and available on popular websites is in accordance with the recommendations of the Ministry of Health.

METHODS

This is a descriptive/comparative study based on popular websites that were probably most accessed by lay pregnant women and that offered information about COVID-19 and pregnancy. Data collection was carried out in two stages. In the first one, a simulation of a search on a certain subject was carried out on websites, based on a search carried out by a lay pregnant woman (without

scientific knowledge on the subject). The search for the websites was carried out on November 14 and 15, 2020 in the Google search tool. This tool was chosen due to its wide dissemination and ease of access by lay people. To search for the websites, an anonymous guide was used, with the following search keys: "breastfeeding and coronavirus", "breastfeeding and COVID-19", "prenatal and COVID-19", "pregnancy and COVID-19''. "pregnancy and coronavirus", "prenatal care and coronavirus" and "pregnancy and COVID-19". All websites displayed on the first 10 search pages were analyzed for each search key used, excluding websites that presented non-essential information for pregnant women, which did not deal with issues related to pregnancy and COVID-19, with content aimed at healthcare professionals, websites of city halls and the Ministry of Health, links to scientific articles, in addition to access links unavailable at the time of data collection.

The second stage took place in December 2020 and January 2021. The websites were analyzed according to their content, including blogs, media reports, laboratory websites and specialized websites for pregnant women. Initially, 359 links were found (in all the first 10 search pages for each search key used). The flowchart with the description of data collection is shown in Figure 1. After applying the inclusion and exclusion criteria, 149 websites were excluded, leading to 210 links for the analysis of the full content. It is noteworthy that the entire data collection stage was performed by three researchers (one Nursing student and two nurses independently) under the supervision of a nurse/researcher with extensive knowledge in the area.

Data collection was performed based on a structured instrument, formulated by the researchers and with relevant information about pregnancy and COVID-19. This step was carried out in January 2021, based on evidence of pregnancy and COVID-19 compiled in a review of scientific evidence on[5] pregnancy, breastfeeding, childbirth and COVID-19 and recommendations from the Ministry of Health.[4]

The structure of the data collection instrument consisted of important information about COVID-19 during pregnancy, breastfeeding, and childbirth, being evaluated according to the information in supplementary material 1.

The information found was classified as: present, absent, divergent, and incomplete. It was considered present when the website informed about the subject, absent when there was no citation on the topic, divergent when there was discrepant information in the text, and incomplete when the website informed about the topic but was not complete for a better understanding. After the data collection stage, performed independently by the researchers, the data were entered independently. Subsequently, they were compared using the Epi Info program (version 3.5.1). To avoid interpretation bias, all differences identified regarding the classification of the information found were discussed and decided by consensus among the researchers, with the help of a nurse and researcher with knowledge in the area.

For data analysis, the statistical package Statistical Software for Professional (Stata) was used, version 14.0, and the proportions were described according to the following classification: (0) information present, (1) information absent, (2) divergent information and (3) incomplete information.

As this is data collected from websites available in search engines and freely accessible, approval by the Ethics Committee was not required.

RESULTS

Of the 210 websites analyzed, none presented the content listed according to the evidence found on pregnancy, childbirth/birth, postpartum and COVID-19 available so far.

The "prenatal" category was the one that presented the most correct information among the websites surveyed. It should be noted that 47 (22.38%) websites reported on the recommendation to continue prenatal care for all asymptomatic pregnant women and 12 (5.71%) reported that pregnant women who have flu-like symptoms should have their elective procedures postponed for 14 days and, when necessary, be treated in places isolated from other patients.

Regarding the information aimed at "PREGNANT WOMEN, whether professional or not in the health area", in 205 (97.62%) websites, information on the relocation of pregnant women working in administrative or healthy areas to home office was not present. In two websites (0.95%) the information was incomplete and in three (1.43%) the information was present.

Regarding the group "Pregnant women with suspected or diagnosed COVID-19", 36 (17.14%) links presented the information that there is still no evidence that demonstrates greater susceptibility to infection by the SARS-CoV-2 virus in pregnant women compared to general population, while 14 (6.67%) websites mentioned the most common symptoms of the disease, such as fever, cough, myalgia, sore throat, lymphopenia, and general malaise.

The most divergent information was: "there is no evidence to confirm a greater susceptibility to infection by the SARS-CoV-2 virus in pregnant women compared to the general population". Four (1.90%) websites addressed the information in a way that differed from the scientific evidence

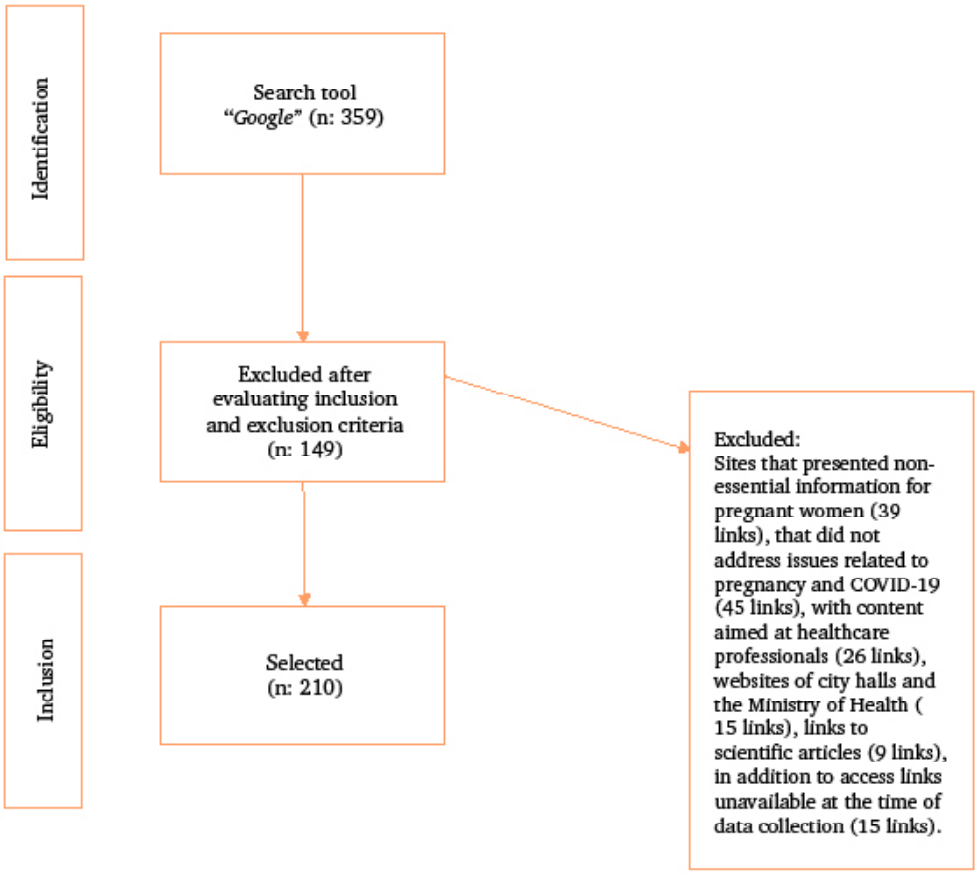

Figure 1 - Data collection flowchart

available so far and "every pregnant woman is entitled to a companion of her choice". The companion must be single, asymptomatic for flu-like illness and regularly stay with the woman". Three (1.43%) websites presented the opposite information to the right of an asymptomatic companion.

The most incomplete information was: "Recommendations regarding the route of birth and termination of pregnancy" and "Guidelines for labor and delivery". In both "sets", 7 (3.33%) websites had incomplete information, namely: "there are no results that demonstrate a higher risk of transmission during normal delivery or that support the hypothesis that cesarean section would act as a protective factor recommending the route of birth" and "every pregnant woman is entitled to a companion of her choice. The companion must be single, asymptomatic for flu-like illness and regularly stay with the woman".

As for the information on "Recommendations regarding the route of birth and termination of pregnancy", 16 (7.62%) websites presented the information that there are no results that demonstrate a greater risk of transmission during normal delivery or that support the hypothesis that cesarean section would act as a protective factor by recommending the route of birth. Two (0.95%) websites presented the information in a different way, and in seven (3.33%) websites, the information was incomplete.

Regarding the information referring to "Guidelines for labor and delivery", three (1.43%) websites presented divergent information regarding the right of a companion during labor and delivery. One (0.48%) website mentioned the woman staying in a single room during labor, as well as the use of a surgical mask throughout the process. 206 (98.10%) websites analyzed did not provide information on contraindications to water birth, due to the confirmation of the presence of the virus in stool and urine samples in view of the possibility of water contamination.

The most neglected information about COVID-19 and pregnancy was in the information set on "Pharmacological agents, other treatments and monitoring of COVID-19

infection". It should be noted that 209 (99.52%) websites did not inform that the use of spinal anesthesia and epidural analgesia for pregnant women with COVID-19 is not contraindicated, and no website (100%) presented information about treatments such as ventilatory support with the use of oxygen therapy, hydration, rest, and nutritional support based on the monitoring of the pregnant woman's clinical conditions. These results are presented in Table 1.

The "guidelines for postpartum care" were rarely present in the analyzed websites. Only 18 (8.57%) had the information that visits should be suspended, including those of the closest family members. It is reinforced that 192 (91.43%) websites did not present the information that skin-to-skin contact between an infected mother and her child should be suspended, as well as breastfeeding should be postponed until the newborn received the hygiene care and preventive measures of contamination by SARS-CoV-2. In 200 (95.24%) websites there was no guidance that rooming-in should be individual by binomial, and the distance between the newborn's crib and the mother's bed should be one meter.

Regarding information on postpartum, breastfeeding and COVID-19, there is a more expressive presence of information on "breastfeeding". In 86 (40.95%) websites, there was information that breastfeeding should be encouraged even if the mother was a suspected or confirmed case of SARS-CoV-2, as long as it was her wish and she was in adequate clinical conditions for it, as there was no evidence that the virus was transmitted through breast milk. Eighty-four (40%) websites reported that, if the mother is a suspected or confirmed case, she should wear a surgical mask and correctly carry out measures to prevent transmission of the infection during breastfeeding. However, information regarding the donation of breast milk in times of COVID-19 ("the donation should be maintained, it should only be contraindicated if the woman has symptoms compatible with flu syndrome, respiratory infection, confirmation of SARS-CoV-2 or if you have confirmed home contact") were not addressed in most websites 192 (91.43%).

Information on the risk of vertical transmission and postpartum infection was adequately addressed at 42 (20%) websites. They contained the information that the risk of vertical transmission was not well understood, and the evidence does not confirm an increased chance of transmission from mother to fetus. Eighteen (8.61) websites showed that the presence of the virus has not yet been detected in samples of cervical mucus, amniotic fluid, placenta, umbilical cord blood and breast milk from infected women. These results are presented in Table 2.

DISCUSSION

In this study, of the 210 websites analyzed, only one presented all the information in accordance with the recommendations on pregnancy, delivery/birth, postpartum and COVID-19 available in the technical manuals of the Ministry of Health. On the other websites, none of the checklist categories had all the information on them.

The most neglected information about COVID-19 and pregnancy was in the information set on "Pharmacological agents, other treatments and monitoring of COVID-19 infection". This gap may be related to the fact that scientific articles on COVID-19 and pregnancy, in general, do not address pharmacological agents, treatments and infection monitoring, since there is still no effective treatment against the disease[12-14], which makes the least available and, possibly, least popularized information.

A study carried out on pregnant Brazilian women infected with COVID-19 showed that 22.6% of pregnant women who died were not even admitted to the Intensive Care Unit (ICU), and 64.0% had invasive ventilation. These data may indicate barriers in accessing treatment and monitoring the infection.[15] In addition to intensive care, information on treatments and infection monitoring is relevant, since the context of the pandemic has been characterized by the spread of so-called "repositioned drugs", such as hydroxychloroquine, ivermectin and azithromycin, which are not supported by scientific evidence for the prevention or treatment of COVID-19[16] and may even cause damage to health.

In most websites, information aimed at the "work of pregnant women, professionals or not in the health area" was not present. A survey carried out with pregnant Nursing professionals during the pandemic showed that one of the concerns of women is not to leave the unhealthy workplace and access to labor rights.[17] Official information on the working conditions of pregnant women in the pandemic was few and insufficient to resolve doubts. Normative Instruction No. 21/2020 of the Ministry of Economy established, on March 16, 2020, remote work for pregnant and lactating public servants and employees during the duration of the public health emergency resulting from the coronavirus.[6] A study carried out by the Federal Nursing Council (COFEN, Conselho Federal de Enfermagem) proved the lack of information on working conditions and highlighted the urgency of greater labor security for pregnant and lactating professionals during the pandemic.[17]

As in the previous item, information on "Guidelines for labor and delivery" was also scarce. This is information

Table 1 - Analysis of information collected on popular websites about pregnancy and COVID-19 according to the Ministry of Health4 and available literature (n = 210)

	Present	Abscent	Divergent	Incomplete
Prenatal				
It is recommended the continuity of prenatal care actions for all asymptomatic pregnant women	47(22.38%)	157(74.76%)	1(0.48%)	5(2.38%)
Pregnant women with flu-like illness should have their elective procedures postponed for 14 days and, when necessary, be treated in a place isolated from other patients.	12(5.71%)	193(91.90%)	1(0.48%)	4(1.90%)
Pregnant women working or not in the health area				
Pregnant women who work in administrative or unhealthy areas should be reassigned to the home office when possible	3(1.43%)	205(97.62%)	-	2(0.95%)
Pregnant women who are healthcare professionals working in any unhealthy activities should be immediately removed	-	207(98.57%)	1(0.48%)	2(0.95%)
Pregnant woman with suspected or diagnosis of COVID-19				
There is no evidence to confirm an increased susceptibility to SARS-CoV-2 virus infection in pregnant women compared to the general population	36(17.14%)	167(79.52%)	4(1.90%)	3(1.43%)
Most common symptoms: fever, cough, myalgia, sore throat, lymphopenia, malaise	14(6.67)	191(90.95)	-	5(2.38)
Recommendations regarding the route of birth and termination of pregnancy				
There are no results that demonstrate a higher risk of transmission during vaginal delivery or that support the hypothesis that cesarean section would act as a protective factor, recommending a lifetime of childbirth	16(7.62%)	185(88.10%)	2(0.95%)	7(3.33%)
Guidelines for labor and delivery				
Every pregnant woman is entitled to a companion of her choice. The companion must be single. asymptomatic for flu-like illness and regularly stay with the woman	4(1.90%)	196(93.33%)	3(1.43%)	7(3.33%)
For vaginal delivery. it is advisable for the woman to remain in a single room during labor as well as the use of a surgical mask throughout the process	1(0.48%)	208(99.05%)	-	1(0.48%)
Contraindication to water birth. due to the confirmation of the presence of the virus in stool and urine samples and in view of the possibility of contamination of the water	3(1.43%)	206(98.10%)	-	1(0.48%)
Pharmacological agents, other treatments, and monitoring of COVID-19 infection				
There is no contraindication for spinal anesthesia and epidural analgesia	1(0.48%)	209(99.52%)	-	-
The other treatments include ventilatory support with the use of oxygen therapy, hydration, rest and nutritional support, based on monitoring the clinical conditions of the pregnant woman, through the measurement of vital signs, laboratory and imaging tests	-	210(100%)	-	-

Source: Prepared for the purpose of this study.

that has historically been neglected and that is central to the construction of a model of humanized childbirth care.[18 9] Due to the context of the pandemic, it is known that women may face more difficulties for their choices to be accepted and respected by healthcare professionals and services, due to the limitations that the health crisis imposes on the entire system.[18] However, the right to a companion is supported by Law nº 11.108/2005, known as the Companion Law.[19] A Brazilian study showed that the presence of a companion during childbirth favors the physical and emotional well-being of the pregnant woman, reduces her pain and provides her with security, in addition to the fact that the company is essential to offer support to women.[20]

Table 2 - Analysis of information collected on popular websites about pregnancy and COVID-19 according to the Ministry of Health4 and available literature (n = 210)

	Present	Abscent	Divergent	Incomplete
Postpartum care guidelines				
Visits must be suspended	18(8.57%)	192(91.43%)	-	-
Skin-to-skin contact between an infected mother and her child should be suspended, breastfeeding should be postponed until the newborn receives hygiene care and preventive measures for SARS-CoV2 contamination	9(4.29%)	192(91.43%)	6(2.86%)	3(1.43%)
Rooming-in must be individual by binomial and the distance between the newborn's crib and 1 meter from the mother's bed is strongly advisable	7(3.33%)	200(95.24%)	3(1.43%)	
Breastfeeding				
If the woman does not feel safe to breastfeed while she is infected, it is recommended that her milk be withdrawn and offered to the child, and she may consider the possibility of asking for help from someone who is healthy to offer breast milk	40(19.05%)	158(75.24%)	-	12(5.71%)
Breastfeeding should be encouraged even if the mother is a suspected or confirmed case of SARS-CoV-2, as long as the mother wants to breastfeed and is in adequate clinical conditions to do so, as there is no evidence that the virus is transmitted through maternal milk	86(40.95%)	91(43.33%)	2(0.95%)	31(14.76%)
The mother with a suspected or confirmed case of COVID-19 must wear a surgical mask and carry out measures to prevent the transmission of the infection during breastfeeding	84(40.00%)	107(50.95%)	2(0.95%)	17(8.10%)
The donation of breast milk in times of COVID-19 should be maintained, however it is contraindicated if the woman has symptoms compatible with flu syndrome, respiratory infection, confirmation of SARS-CoV-2 or if she has confirmed home contact	14(6.67%)	192(91.43%)	-	4(1.90%)
Risk of infection by vertical transmission and postpartum				
The risk of infection by vertical transmission is not well understood and the evidence does not confirm an increase in the chances of transmission from mother to fetus	42(20.00%)	139(66.19%)	11(5.24%)	18(8.57%)
They did not detect the presence of virus in samples of cervical mucus, amniotic fluid, placenta, umbilical cord blood and breast milk from infected women	18(8.61%)	130(62.20%)	7(3.35%)	54(25.84%)

Source: Prepared for the purpose of this study.

The information referring to the set "Pregnant women with suspected or diagnosed COVID-19" were the most frequent in the analyzed websites. The information group "There is no evidence that confirms a greater susceptibility to infection by the SARS-CoV-2 virus in pregnant women, compared to the general population", was the one that presented the most divergent information. The literature shows that there is still not enough evidence to confirm that pregnant women are more susceptible to coronavirus infection compared to the general population. However, due to immunological adjustments, they should be classified as a population vulnerable to infection.[5]

The Ministry of Health included pregnant and postpartum women up to 2 weeks after childbirth in the group of people with risk conditions for possible risk complications.[21] The signs and symptoms in pregnant women tend to be similar to those of infected patients in general, but they can overlap. due to the physiological changes that occur during pregnancy, making the diagnosis difficult or even delaying.[12] Symptoms tend to be mild or moderate, probably as a consequence of the combined effects of gender, age, and the immune status of the pregnancy, indicating that, in an area of high infection prevalence, many pregnant women may be infected but asymptomatic.[12]

The "Recommendations regarding the route of birth and termination of pregnancy" were more present; however, it was one of the most incomplete pieces of information. The route of birth is a historical issue in Brazil. In the country, obstetric care is still shrouded by flaws that impair perinatal and maternal outcomes.[15] Poor quality prenatal care, few resources for emergency care, racial inequalities in access to maternity services, obstetric violence and the pandemic are obstacles to access to health care.[15] In addition, the rate of cesarean sections remains among the largest in the world, and uncertainties about the growing risk of mortality and postoperative morbidity for pregnant women who underwent surgery continue to grow.[15] It is necessary to take into account that the disorder caused by the pandemic will affect the quality of care, increasing the rates of cesarean sections performed without clinical recommendation and causing the growth of obstetric, gender and institutional violence.[18] These situations are also capable of reflecting negatively and violent in the reproductive experience of women, in the health of babies, the community and families. These are social, cultural, emotional, structural, and even economic class damages, which have the potential to affect the positive experience of childbirth.[18]

Information on the risk of infection by vertical transmission and in the postpartum period was the most prevalent. Normal delivery is the recommended route of delivery, even for infected mothers, as long as they do not manifest any complications. The Ministry of Health does not recommend water birth for the safety of professionals and the newborn, since the virus is eliminated in feces.[22] In addition, as found in this study, none of the investigated websites addressed the suspension of births in water at this time of a pandemic. In order to ensure safe and humanized care, it is essential that maternity hospitals ensure the rights of pregnant women and, for this, adopt protection and prevention strategies, in order to ensure rights and avoid infection with the virus.[23]

As for information on postpartum, breastfeeding and COVID-19, there is a much more expressive presence of information on "breastfeeding". However, guidelines for postpartum care were rarely present in the analyzed websites. A study showed that the positive repercussions regarding breastfeeding should be associated with Nursing care in Primary Health Care (PHC).[24] Educational actions contribute to the construction of techniques and interpersonal thoughts favorable to breastfeeding.[24] Families who constantly receive guidance feel more protected to keep their children breastfeeding, especially in critical times such as the pandemic.[25]

This information collaborates to increase the family bond and the bond between the family and the health team, providing security in the baby's feeding. The support network for postpartum women is essential for successful breastfeeding. The partner's participation is pointed out as a factor that provides a greater effect in this process, encouraging the bond between the newborn and the partner.[25]

Regarding the use of the internet, women use it not only to search for content about pregnancy, but also for support, connection with other women and entertainment. Pregnant women feel safer to make decisions based on the information found, are less anxious and feel less isolated. Pregnancy-related content that is available on the internet is not always reliable. There is also a concern with the competence of pregnant women to interpret information, since women take the information found as truth and do not talk to healthcare professionals about what they found on the internet.[11]

Due to this information and the doubts of science about the possible risks of infection, the fear that women have is understandable. For this reason, it is necessary for them to be aware of fake news and investigate whether the news comes from reliable sources.[23]

Finally, it should be noted that this study has some limitations, such as the failure to assess the information available to pregnant women on other social networks. However, taking into account the current context of the health crisis, the increase in distrust of scientific evidence, the growth of fake news and the lack of complete information according to the available evidence on pregnancy, delivery/birth, postpartum and COVID-19, the present study presents relevant information that can contribute to the improvement of health education.

FINAL CONSIDERATIONS

With the COVID-19 pandemic, pregnant women have sought information that associate pregnancy with the pandemic context, as their prenatal consultation routines were affected. This situation dictates the need for them to receive correct information.

Most of the websites gave important information for pregnant and postpartum women, however these were often absent. It is considered that the websites reveal potential in terms of reaching pregnant and postpartum women and sharing scientific information in popular media.

It is hoped that the evidence from this study can help improve health education in order to indicate new possibilities of communication based on scientific evidence for Nursing, managers, and other healthcare professionals. Women are encouraged to be partners and central in the construction of these communications, so that they can indicate their anxieties, questions, needs.

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