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Psychological Impact of The Covid-19 Pandemic on Pregnant Patients in The Province of Buenos Aires

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Abstract

Background: *There is a lack of studies in Argentina that describe the psychological impacts of COVID-19 on pregnant women. The COVID-19 pandemic is a global health problem, due to the side effects that the disease can generate and the importance of this issue for medical health, it is relevant to promote studies on this subject. The objective of this study is to evaluate the psychological effects and knowledge of pregnant women during the COVID-19 outbreak in Buenos Aires. Material and methods: A quantitative, descriptive, associative and cross-sectional investigation was carried out during the period September-December 2020. The selection of the sample was carried out through a non-probabilistic convenience sampling, consisting of 50 pregnant women. The questions will assess demographics, knowledge, psychological symptoms, and attitudes data regarding the COVID-19 pandemic. Results: Regarding the psychological symptoms of pregnant women with the COVID-19 outbreak, the presence of symptoms associated with anxiety was reported by 60% of women. In addition, 52% of the participants reported insomnia, and 30% symptoms of depression. Regarding the level of knowledge about the effects of COVID-19 on pregnant women, more than half of those surveyed achieved an enough level. Conclusion: Through the collateral psychological impact of COVID-19 in the interviewed population, it was possible to infer that the effects are significant in pregnant women. The association between the academic level of the pregnant women and the level of knowledge had a significant relationship (p> 0.05). However, the research only describes the surveyed population.*

Keywords: *COVID-19; Psychological stress; Pregnancy; Depression; Anxiety.*

Introduction

Since January 2020, the pandemic called COVID-19 (Coronavirus Disease 19) has been declared by the World Health Organization (WHO) as a global public health emergency. The disease originated in the city of Wuhan (China) and quickly spread to the rest of the planet. The causal agent of the disease is the severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2), the pathogen has a distinctive characteristic, the speed of its transmission, which characterizes it as a serious threat worldwide **[**1, 2**]**

The context of the pandemic has imposed dramatic changes in daily life, generating significant cultural, economic and social impacts. The fear of contracting the disease, the concern to contain the spread of the virus, insecurities about work, the need for distancing and the lack of physical contact are examples of the new and challenging reality. This situation of uncertainty generates a crisis scenario that can cause psychological anguish such as stress, anxiety or depression. So, currently, this disease can be considered one of the main threats to the physical and mental health of individuals and knowledge about its consequences is still very limited **[**1,2,3**]**.

Beyond that, ever since the virus began to spread and became a global concern, experts have been monitoring the effects the infectious agent might have on pregnant women. The past has shown that infectious diseases have a significant effect on the health of pregnant women and their fetuses, generating great concern. The most recent example is Zika virus infection, the disease when acquired during pregnancy is the cause of microcephaly and other congenital malformations **[**3,4,5**]**.

Although the world is in a period of great uncertainty and poor data, some studies indicate that pregnant women with COVID-19 have a higher risk of worsening and/or needing intubation compared to women of the same age who are not expecting children.

According to a study published in September 2020 by Allotey et al., pregnant women with COVID-19, compared to those without contamination, are more likely to have a premature birth. In addition, according to the results obtained in the study, pregnant women infected with coronavirus had a higher risk of admission to the ICU (62%) and a higher probability of needing invasive mechanical ventilation (88%) **[**7**]**.

However, currently, despite the possible complications, various published studies report that they have not found a higher mortality from COVID-19 in pregnant women. At this time, abundant doubts connected to COVID-19 in pregnant women remain without objective explanations **[**7,8,9**]**. Thus, due to uncertainties and risks, the pandemic adds a new source of stress for women in the perinatal period, a time when stress and anxiety are already heightened **[**2,3**]**.

Furthermore, according to recent studies, the secondary effects of the SARS-CoV-2 disease outbreak are as alarming as the outbreak itself [7]. Some observational studies indicate elevated rates of psychological distress among pregnant women during the COVID-19 pandemic, including depression, fear, anxiety, and stress [7,9,10,11].

In addition, a study carried out on pregnant women during the COVID-19 pandemic in Colombia has shown that the psychological impact on pregnant women, in general, is high. Where 50% of the members reported symptoms of anxiety and 25% reported symptoms of depression [7].

The research also indicated that the knowledge of the pregnant population is low, due to misconceptions about the consequences of COVID-19 in pregnant women [7]. Thus, due to the importance of mental health and the relevance of this issue for medical training, more studies are needed to continuously assess the impacts of the changes associated with the pandemic.

In addition, a study carried out on pregnant women during the COVID-19 pandemic in Colombia has shown that the psychological impact on pregnant women, in general, is high. Where 50% of the members reported symptoms of anxiety and 25% reported symptoms of depression [7].

In addition, there is a lack of studies in Argentina that describe the psychological impacts of COVID-19 on pregnant women, both in relation to the possible psychological effects and other factors, as well as the lack of knowledge, education or prenatal control. Thus, the objective of this research is to conduct a cross-sectional survey of pregnant women in order to assess the psychological effects and knowledge of pregnant women during the COVID-19 outbreak in the province of Buenos Aires.

Methods

A quantitative, descriptive, associative and cross-sectional investigation was carried out. The study was carried out between September-December 2020, with a population made up of pregnant women who will attend the following hospitals: Hospital Narciso López de Lanús; Evita Interzonal Acute Hospital; Hospital Evita Pueblo; General Acute Hospital Carlos G. Durand. All hospitals are located in the Autonomous City of Buenos Aires. The selection of the sample was carried out through a non-probabilistic sampling for convenience, consisting of 50 pregnant women who met the inclusion and exclusion criteria.

Inclusion criteria

- Pregnant women who go to hospitals: Hospital Narciso López de Lanús; Evita Interzonal Acute Hospital; Hospital Evita Pueblo; General Acute Hospital Carlos G. Durand.
- Pregnant women aged 18 or over;
- Have knowledge of reading and writing.

Exclusion criteria

- Pregnant women under the age of 18;
- Pregnant women infected with COVID-19.

The study intends to analyze the psychological effects and the knowledge of pregnant women about the possible complications generated by the SARS-CoV-2 virus infection. In addition, the present investigation arose from the concern about what is the level of knowledge about SARS-CoV-2 infection that pregnant women with a higher educational level have compared to those with a lower educational level? Based on the question, the following hypothesis was presented: pregnant women with primary have inadequate knowledge as opposed to those with secondary or more. To reach a possible conclusion of the topic, a self-administered questionnaire (with closed answers) was administered personally to the pregnant women who attended the aforementioned hospitals.

The questionnaire (Annexes) consists of 19 questions subdivided into 3 scales, each one to assess: psychological effects of COVID-19; knowledge of pregnant women about the possible consequences of COVID-19; personal data to characterize the interviewees.

For the analysis of knowledge about the possible consequences of COVID-19, questions were selected on: fetal death, vertical transmission, effects of COVID-19 on the fetus and on pregnancy. For the analysis of the psychological effects, questions associated with depression, anxiety, insomnia, uncontrollable crying, difficulty sleeping and fear were selected. In addition, information was requested from the mothers, such as: age (years), gestation period, educational level, how many weeks of gestation they have and if they have social security.

The cut-off points to establish the measurement of knowledge were classified as Sufficient (5-8 points) and Insufficient (0-4 points). Statistical analysis was performed with Excel® software, the nominal qualitative variables were compared with the Chi-square test and the differences were considered significant for the value of $p < 0.05$.

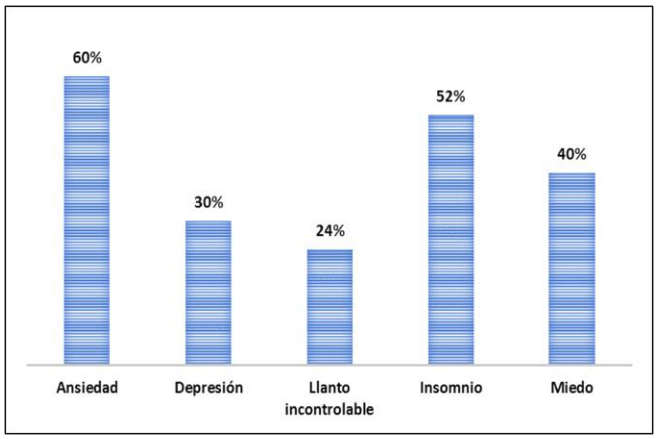
Results

The study population consisted of 50 pregnant women, ages between 18 and 40 years (mean and standard deviation of 26.1 ± 5.6 years) who attended the following hospitals: Hospital Narciso López de Lanús; Evita Interzonal Acute Hospital; Hospital Evita Pueblo; General Acute Hospital Carlos G. Durand.

Regarding the sociodemographic characterization, the age range of the participants was between 18 and 25 years old (50%); between 26 and 34 years old (38%); older than 35 years (12%).

Thus, half of the participants were between 18 and 25 years old and 32% of the interviews were nulliparous. Furthermore, most of the patients (42%) were in the second trimester of pregnancy (14-27 weeks), 32% in the first trimester (1-13 weeks) and 26% in the third trimester (27-40 weeks).

The distribution of the psychological symptoms of the pregnant women is represented in Graph 1. The presence of symptoms associated with anxiety was reported by 60% of the women. Likewise, 52% of the participants reported having insomnia, and 30% symptoms of depression.

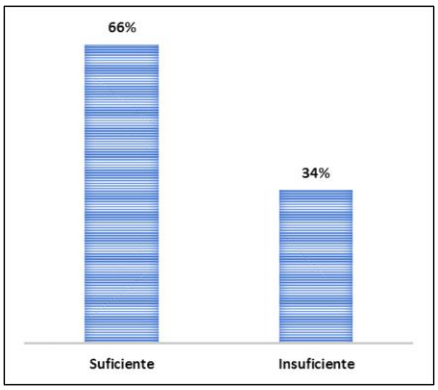


Source: Survey.

Graph 1. Psychological symptoms

In addition, 30% reported that they had already had episodes of uncontrollable crying, 40% reported that they were afraid, and 66% reported that they had already moved away from people out of fear.

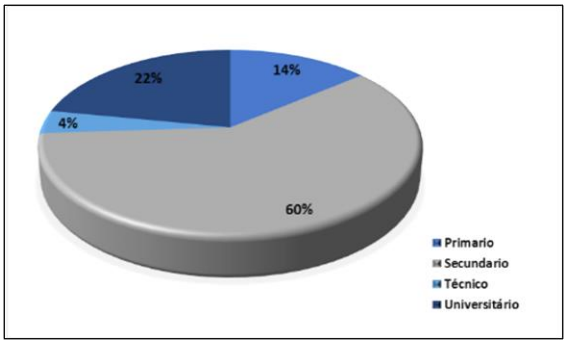
Regarding the level of knowledge about COVID-19, more than half of the respondents (66%) achieved a sufficient level (Graph 2). According to the responses of the interviewees, 20% of pregnant women believe that COVID-19 can cause fetal death, 28% believe the virus can cause fetal malformations and 14% have already considered, at some point, the interruption of pregnancy. pregnancy for fear of SARS-CoV-2 infection during pregnancy.



Source: Survey.

Graph 2. Level of knowledge about COVID-19

Regarding the characterization of the educational level of pregnant women, most had secondary school (60%), 14% had primary school; 4% with technician; 22% with university (Graph 3).



Source: Survey.

Graph 3. Distribution according to educational level

In addition, with the purpose of making the association between the academic level of the pregnant women and the level of knowledge about COVID-19, it is possible to verify that there was a significant relationship between both variables (Table 1), information based on the Teste Qui- square ($p<0.05$).

Nivel Académico	Suficiente	Insuficiente	P
Primario	0	7	**0,0006**
Secundario	24	6	
Técnico	2	0	
Universitario	7	4	
Total (n=50)	**33**	**17**	

Table 1. Association between level of knowledge about COVID-19 and academic level

When analyzing, through the Chi-square test, a possible relationship between the knowledge of pregnant women with complete primary, with those who have completed secondary or more (Table 2), there was a significant relationship between both variables ($p<0.05$).

Nivel Académico	Suficiente	Insuficiente	P
Primario	0	7	**0,00005**
Secundario	24	6	
Primario	0	7	**0,00022**
Técnico	2	0	
Primario	0	7	**0,00013**
Universitario	7	4	

Source: Survey.

Table 2. Correlation between academic level and score obtained about knowledge about COVID-19

However, when associating that pregnant women with completed high school have inadequate knowledge, compared to those with a technical or university academic level (Table 3), it was not possible to infer any association between the variables ($p>0.05$).

Nivel Académico	Suficiente	Insuficiente	P
Secundario	24	6	**0,05604**
Técnico	2	0	
Secundario	24	6	**0,10369**
Universitario	7	4	

Source: Survey.

Table 3. Correlation between academic level and score obtained about knowledge about COVID-19.

Regarding the socioeconomic characterization (based on having social insurance), 12% of the patients were covered by social insurance, so that 88% of the interviews depend on the Argentine public health.

Plano de Salud	Suficiente	Insuficiente	P
Posee	3	3	**0,4463**
No posee	29	15	
Total (n=50)	**32**	**18**	

Source: Survey.

Table 4. Association between socioeconomic characterization (based on social work) and level of knowledge about COVID-19

In addition, when analyzing a possible association between the socioeconomic characterization (based on social work) and the level of knowledge about COVID-19 (Table 3), no association between the variables can be inferred ($p>0.05$).

Discussion

In regard to mental health, the concept of crisis can be viewed as a sudden break in the experience of psychic continuity, accompanied by an acute manifestation of stress, in addition to an active response to the need for a process of change. . The active response can be successful, generating an action that favors the development and integration of the personality. However, this response can also be unsuccessful, leading to a strong destructuring.

The COVID-19 pandemic has imposed numerous challenges, given that the virus is widely disseminated and acts through mechanisms that are not yet fully understood. The disease presents symptoms and signs whose incidence is shown to be variable over time. Given this, the outbreak of the COVID-19 disease is presented as a new source of stress for women in the perinatal period, a time in which anxiety and stress are already accentuated.

Thus, in order to verify the collateral psychological impact of COVID-19 on the population interviewed, it was possible to infer that the effects are significant. Of the total number of pregnant women, 60% described symptoms of anxiety, 25% reported symptoms of depression and 52% insomnia.

Within this context, the perinatal period is a time when many women become more susceptible to psychiatric illness. Non-psychotic mental disorders are the most frequent illnesses during this period [11,12].

In addition, studies indicate a possible association between increased stress experienced during the perinatal period and long-term mental health sequelae. Likewise, research carried out before the pandemic indicates that psychiatric illnesses during pregnancy may be associated with inadequate prenatal care [12].

To date, there are no specific data on the impact of COVID-19 on mental health in pregnant women, so more studies are needed on the subject. In that way, patients can be frustrated by the lack of clarity about the perinatal implications of the virus and rapidly changing protocols.

To prevent further long-term problems, it is important to lessen the psychological burden generated by the COVID-19 outbreak. Thus, it is relevant that prenatal care considers promoting psychological evaluation and the psychosocial needs of each patient [11,12].

Beyond that, regarding the understanding of pregnant women, the level of knowledge of the interviewees about the possible harmful effects of COVID-19 in pregnancy is relatively satisfactory, since more than half of the respondents (66%) achieved a sufficient level.

Furthermore, misconceptions about fetal death and vertical transmission, in addition to the desire to terminate pregnancy for fear of SARS-CoV-2 infection during pregnancy, show the need for the development and implementation of future educational strategies and interventions. about COVID-19. The closure of physical and mental health care spaces and lack of support can have devastating effects on the health of postpartum women and their newborns.

Within this context, there is still no evidence that the SARS-CoV-2 virus is transmitted from mother to child during pregnancy. Until now, there is no consolidated evidence that the virus has been detected in the amniotic fluid or in the placenta. However, some evidence, scarce for now, shows that newborns of mothers with SARS-CoV-2 (confirmed or suspected) are generally not infected or are asymptomatic. Those who present symptomatic, in general, have a favorable evolution [11,12]. These evidences, although scarce, support the international recommendations and those of the Ministry of Health of Argentina in favor of not separating the mother from the newborn and encouraging breastfeeding [12].

In addition, poorly informed women were more likely to have only a primary education. However, it was not possible to associate that pregnant women with secondary education have inadequate knowledge as opposed to those with a technical or university level. In addition, it was not possible to make an association between the socioeconomic characterization (based on social work) and the level of knowledge about COVID-19.

In this sense, it is possible to observe that the educational and financial level do not necessarily fully influence the knowledge about the current situation. So that, in turn, opens the possibility of other influencing elements in the knowledge regarding the subject, and the concepts shared by health agents are added to them.

As a conclusion, it is significant to underline that the research only describes the researched population. Thus, it is not possible to consider the sample a representative part of the reality of pregnant women in Buenos Aires. In addition, the most notable limitation of the study is related to the selection of the sample, since non-probabilistic convenience sampling was used. When information is obtained from a perceptual instrument, in which the subjects answer for themselves, it carries the risk of acquiring biased or partial information. The instrument may generate resistance, and therefore the data may not be reliable.

The COVID-19 pandemic is a global health problem, so due to the complications that the disease can cause and the importance of this issue for medical training, it is important to promote studies on this topic. Finally, because the COVID-19 pandemic is associated with very significant levels of psychological distress, the study suggests that mitigation of its effects should be considered a public health priority.

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