

## **Awareness of Pregnant Women for COVID-19 Infection**

**\*Erhan Okuyan<sup>1</sup>, Emre Günakan<sup>2</sup>, Sertaç Esin<sup>2</sup>**

<sup>1</sup>Department of Obstetrics and Gynecology, Batman Maternity and Child Health Hospital, Batman, Turkey. <sup>2</sup>Department of Perinatology, Baskent University School of Medicine, Ankara, Turkey.

\*E-mail: dreo06@hotmail.com

**Abstract:** Covid outbreak has been getting worse and spread affected all over the world. Pregnant patients are also vulnerable to respiratory diseases. We aimed to evaluate the awareness, emotional status, and behavior of pregnant during the COVID outbreak. This study's main benefit is to analyze the knowledge and understanding of pregnant women about the pandemic and draw attention to the prevention issues that need improvement. This research is a prospective observational study that 199 patients subjected to a questionnaire including 29 questions about patient characteristics, pregnancy information, knowledge about COVID19-infection, behavioral and emotional changes. 130 (65.3) of the patients stated an above-average knowledge level. Television was the most frequent information source (75.4%, n:150) and was the only information source for 90 (45.1%) of the patients. Sixty-nine patients used more than one information source. More than one prevention method uses by 149 (75%) of the patients. Washing hands (n:183, 92.0%) and cleaning the house (n:122, 61.3%) were the most preferred methods. Only 55 (27.6%) of the patients used a mask for prevention. 88(44.2%) of the patients stated that they preferred a shorter hospital stay, and 75 (37.7%) of the patients indicated that they postponed or avoided the pregnancy follow-up visits due to the COVID-19 issue. Pregnant women seem to be aware and stressed of COVID-19, but knowledge of what to do seems insufficient. Patients informed of risks of COVID infection, unplanned hospital admission, and chances of avoiding necessary visits and home birth demands.

**Keywords:** Coronavirus; Covid-19; pregnancy

### **INTRODUCTION**

World-first met the new type of coronavirus disease (COVID-19) with the first case in Wuhan city. Consequently, it did not take much time to become a worldwide issue, defined as an emergency health problem by the World Health Organization (WHO)<sup>1</sup>. Approximately nine million people were affected all over the world<sup>2</sup>.

The first time that the new coronavirus infected humans. Thus, the course of the disease was unknown. The poor prognosis in older or with chronic disease/s or immunosuppressed patients was the first remarkable point<sup>3</sup>, which might be a prognostic factor in pregnant patients. At this point, this H1N1 outbreak has been an example of a bad outcome of a respiratory tract infection in pregnant patients in the last decade<sup>4</sup>.

There is limited data about COVID-19 infection during pregnancy. There are case reports and series from firstly affected countries. Symptoms seem to be similar to non-

**Corresponding Author:** Erhan Okuyan

Department of Obstetrics and Gynecology, Batman Maternity and Child Health Hospital, Ziya

Gokalp street no. 72 Batman, Turkey.

E-mail: dreo06@hotmail.com

pregnant patients<sup>5</sup>, mode of delivery has not been determined yet<sup>6</sup>, and there is limited data for the prognosis of the disease in pregnant patients<sup>7,8</sup>. Thus it is essential to understand pregnant women's awareness of COVID-19 to prevent them from the probable danger. Limited information also may result in panic and stress in pregnant patients. Another mission of the healthcare provider is to understand and support the patients' problems at this point. There is limited knowledge about the awareness of pregnant women in the pandemic period. This study may create a different perspective for obstetricians for personal prevention recommendations and empathy for these patients' concerns. In light of these, we conducted an awareness questionnaire for COVID-19 disease in pregnant patients.

## **MATERIALS AND METHODS**

This study is a prospective observational questionnaire study, including 199 pregnant patients who applied to Batman Maternity and Child Health Hospital-Turkey. Pregnant patients between 18-45 years old and accepted to participate in the survey include Ethics committee approval of our study (Date: 12 April 2020, document number: 234) was obtained from the Batman Regional State Hospital ethics committee after the patient consent takes, a questionnaire including 29 questions about patient characteristics, pregnancy information, knowledge about COVID-19 infection, behavioral and emotional changes after the COVID-19 condition performed.

Data were analyzed using SPSS for Windows v.15.0 (SPSS, Inc., Chicago, IL, USA). Descriptive and frequency analyses perform. Wilcoxon and independent samples T-test uses in the comparison of groups. A P-value of <0.05 was considered statistically significant.

## **RESULTS AND DISCUSSION**

The study included 199 patients with a median age of 27 years (range: 21-87 years) and parity of 2 (1-9). The distribution of patients due to the pregnancy trimester (1 to 3) was 60 (30.2%), 67 (33.7%), and 72 (36.2%), respectively. Two patients had hypertension, and six patients had thyroid disease. A chronic disease history in family history was present in 34 (17.1%) patients. The number of patients who regularly used drugs was 17 (8.5%).

The majority of the patients (65.3%, n: 130) stated an above-average knowledge level (Table-2). Television was the most frequent information source (75.4%, n:150), followed by the Ministry of Health website (35.5%, n:71) and social media (19.0%, n:38). The website of medical specialists (8.5%) and medical literature (6.5%) were the rarely used information sources. 130 (65.3%) patients used only once, and 69 patients used more than one information source. Television was the only information source for 90 (45.1%) of the patients (Table-1).

More than one prevention method uses by 149 (75%) of the patients. Washing hands frequently (n: 183, 92.0%) and cleaning the house (n:122, 61.3%) were the most preferred methods. Only 55 (27.6%) of the patients used a mask for prevention (Table-1). Rate of patients, which complies with all measures such as frequent hand washing, the use of masks, avoiding shaking hand and kissing, and the use of gloves, was 4.5 percent.

119 (59.2%) of the patients stated a worse mood status, and only 64 (32.2%) of the patients enjoy the habits the same as before. The proportion of the patients with a comfortable feeling of pregnancy was 16.1%. Moreover, 144 (72.4%) of the patients stated that they were afraid of experiencing pregnancy complications and all the patients had a feeling of panic at least once a day (Table- 2). On the other hand, 80 (40.2%) of the patients feel more stressed than before.

Table 1. Knowledge and Information Source

<b>Covid -19 knowledge level according to the patient</b>	%
Have no knowledge	18.6
Have very little information	16.1
Have intermediate knowledge	39.7
Totally dominated	25.6
<b>Covid-19 related information sources</b>	%
Websites / social media accounts of official institutions such as the Ministry of Health	35.5
Physicians individual sites / social media accounts	8.5
Television	75.4
From medical books or magazines	6.5
Whatsapp groups, Facebook , Instagram , Youtube	19.0
<b>Prevention methods against Covid-19</b>	%
Mask	27.6
Glove	22.6
Frequent hand washing	92.0
Avoid shaking hands / not kissing	79.2
Cleaning house everyday (such as bleachetc)	61.3

Table 2. Emotional Changes

<b>A constant state of anxiety during pregnancy due to pandemic</b>	%
Never	27.6
Sometimes	44.2
At least half of the day	11.6
Always in my mind	16.6
<b>Sudden feeling of panic due to the pandemic 3 or 4 times a day</b>	%
Absolutely	24.1
Happen but it does not exceed 2 times a day	63.8
It is more than 10 times a day	4.0
I feel like per hour	8.0

88(44.2%) of the patients stated that they preferred a shorter hospital stay, and only the ultrasonographic examination of the fetus was satisfactory for them. Besides these, 75 (37.7%) of the patients stated that they postponed or avoided the pregnancy follow-up visits due to the COVID-19 issue (Table-3).

Table 3. Admission and Visits

<b>Admission and Visits</b>	<b>Yes (%)</b>	<b>No (%)</b>
Because of Covid-19, I prefer my examination period in the hospital to be very short and it is enough for me to be examined only by ultrasonography.	44.2	55.3
I postponed my pregnancy examination due to the pandemic process.	37.7	62.3
I avoid contact exams at the hospital (such as NST, blood tests, or ultrasound examination)	51.8	48.2
I am afraid of the risk of Covid-19 transmission during my pregnancy examination at the hospital.	83.4	16.6
If my labor pains start, I think of waiting at home until the last moment because of the pandemic.	83.4	16.6

Our study conduct begins with the first diagnosis of COVID-19 in our country in a city hospital with a delivery number of nearly 500 and an admission number of almost 3000 in a month. This study evaluated the awareness of pregnant women for COVID-19 and their behavioral and emotional status: We found that television was the central information source. Patients preferred cleaning methods in prevention compared to procedures that decrease contact (such as mask, gloves, or avoid shaking hands) conversely with general recommendations<sup>9</sup>. Patients have concerns about hospital admission and safety for the rest pregnancy.

Clinical presentation and outcome of COVID-19 infection during pregnancy has not been clarified yet due to the limited number of cases of the novel disease. Initial case series were promising for low risk of maternal deaths and intrauterine or transplacental transmission<sup>10</sup>. Whereas immune response in pregnancy is different from the population, pregnant women may experience respiratory illnesses in a more disproportional way. H1N1, SARS-CoV, and MERS CoV were examples of morbid and mortal infections, imprints in memories<sup>4,11,12</sup>. Besides these, the unknowns of COVID-19 disease in pregnancy resulted in concerns in patients and obstetricians.

Our study shows an increased concern of patients for their pregnancy and babies. This study is in agreement with the findings of a recent study from our country. A study conducted in our government found that the pandemic increased pregnant women's anxiety, but it observed that it performed on a small number of subjects<sup>13</sup>.

One of the essential properties of the novel coronavirus is the rapid spread pattern in populations. All people are at risk of transmission, and it is understood that the main point in disease control is to minimize transmission. At this point, knowledge and awareness of the population play an important role. This matter was the kernel point of our study because, despite the infection detected in our country, the number of pregnant patients admitted to our clinic has not decreased.

Although most of the patients in our study rated their knowledge level as sufficient, most of them were getting information from only one source and mostly television. Hand and house cleaning were the frequently used prevention methods, whereas primary

prevention methods provide contact isolation, such as a mask used by nearly one in four patients.

The questionnaires perform at the beginning of the outbreak in our country, and patients were eager to use different prevention methods rather than masks or gloves. This matter might be caused by limited knowledge and emphasizes the importance of informing patients appropriately.

Besides, these pregnant women tend to continue regular doctor visits and undergoing complete evaluation in visits. This matter may result from increased panic and stressor, on the other hand, insufficient awareness of the disease. When they evaluate from the other side, an essential part of the patients is eager to avoid examination parts such as NST or laboratory tests due to thoughts of transmission risk. This matter may affect the pregnancy outcome, and patients should also inform about this issue.

Studies show 1/3 of the patients eager to stay shorter in hospital and postpone visits. This matter may be an option for patients with antenatal follow-up in normal limits. There is not a consensus on follow-up frequency and management besides this close follow-up is recommended<sup>6,14,15</sup>. However, the best approach seems to be an evaluation inpatient basis and should be planned according to the clinician's recommendations.

Another important finding is that half of our pregnant women (49.2%) stated that they would postpone hospital admission to the onset of labor until birth signs due to COVID-19 risk. This matter may lead to an increase in home birth demands and possible maternofetal complications.

The onset of the questionnaire, though, to be the limitation of the study because it was about the onset of first cases in our country. A sufficient number of patients was the strength of the course.

## **CONCLUSION**

In this study, we aimed to evaluate pregnant women's awareness and behavior during the COVID-19 outbreak. In conclusion, pregnant women in our country seem to be aware of COVID-19, but on the other hand, their knowledge of what to do seems to be insufficient. In our study, it determined that television appears to be the primary information. Television broadcasts may emphasize prevention as the most frequently used information source. Cleaning of the living areas seems to use as the primary prevention method. Cleaning the houses and using techniques such as masks to avoid the aerosol contact must be pointed. Patients informed of risks of COVID-19 infection, unplanned hospital admission, and dangers of avoiding necessary visits and home birth demands. Healthcare providers' knowledge increases daily; however, self-prevention methods seem to continue to be an essential part of management. Thus studies on information methods and prevention applications will contribute to the battle against COVID-19.

## **CONFLICT OF INTEREST**

The author report no conflicts of interest and no funding resources in this study.

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