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Evaluation of Pregnant Women's Approaches to the COVID-19 Vaccine- Survey Study

Gebelerin COVID-19 Aşısına Karşı Yaklaşımlarının Değerlendirilmesi- Anket Çalışması

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ABSTRACT

Introduction: *Pregnant women are at high risk for COVID-19 infection. The World Health Organization recommends COVID-19 vaccination in all weeks of pregnancy. However, there is insufficient data on vaccination rates and the opinions of pregnant women regarding vaccination. Therefore, this study was planned to investigate the hesitation, perspectives, and approaches of pregnant women regarding the COVID-19 vaccination.*

Materials and Methods: *Between January 2022 and June 2022, pregnant women who applied to the Gynecology and Obstetrics outpatient clinics of Ankara Training and Research Hospital were voluntarily given a series of questionnaires, and their responses were recorded.*

Results: *Vaccination rate was 63% (945) among 1500 pregnant women who participated in the study. When pregnant women who refused the vaccine were questioned, the most common responses given were fear of side effects (45%) and adverse effects on the baby (44%). Of the pregnant women who had received the vaccine, 85.8% had received the vaccine before pregnancy. When the COVID-19 vaccination status of the pregnant women was assessed, there was no statistically significant difference between age groups, gestational weeks, or educational status ($p> 0.05$). It was observed that pregnant women with lower educational status were more afraid of the injection ($p< 0.05$).*

Conclusion: *It is crucial that pregnant women and their relatives are informed about vaccination practices during pregnancy. The main reasons why pregnant women avoid vaccination are the side effects of the vaccine and particularly, its potential harm to the fetus. Adequate and accurate vaccine information will influence the opinions of patients, particularly pregnant women.*

Key Words: *COVID-19; Pregnancy; Vaccination*

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ÖZ

Gebelerin COVID-19 Aşısına Karşı Yaklaşımlarının Değerlendirilmesi-Anket Çalışması

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Ankara Eğitim ve Araştırma Hastanesi, Kadın Hastalıkları ve Doğum Kliniği, Ankara, Türkiye

Giriş: *Gebeler COVID-19 infeksiyonu için yüksek risk taşımaktadırlar. Dünya Sağlık Örgütü gebeliğin tüm haftalarında COVID-19 aşısı uygulanmasını önermektedir. Ancak gebelerin aşı olma oranları ve aşıyla ilgili tutumlarına ilişkin yeterli veri yoktur. Bu nedenle çalışmamızda gebelerin COVID-19 aşısına ilişkin olan tereddütlerini, bakış açılarını ve yaklaşımlarını araştırmak üzere bu çalışma planlanmıştır.*

Materyal ve Metod: *Ocak 2022 ile Haziran 2022 tarihleri arasında Ankara Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Polikliniklerine başvuran gebelere gönüllülük esasına göre bir dizi anket soruları yöneltilerek cevapları kaydedilmiştir.*

Bulgular: *Araştırmaya katılan 1500 gebe içerisinde aşı olma oranı %63 (945) idi. Aşıyı kabul etmeyen gebelere sorulduğunda aşıyı kabul etmemelerinin en sık sebepleri yan etkilerden korkma (%45) ve aşının bebekte olumsuz etkiye yol açmasından korkma (%44) idi. Aşı yaptırmış olan gebelerin %85.8'i aşıyı gebelik öncesinde yaptırmıştı. COVID-19 aşısı yaptırma durumları değerlendirildiğinde gebelerin yaş grupları, gebelik haftası ve eğitim durumları arasında istatistiksel olarak anlamlı fark bulunmuyordu (p> 0.05). Eğitim durumları daha düşük olan gebelerin enjeksiyondan daha fazla korktukları gözlemlendi (p< 0.05).*

Sonuç: *Gebelikteki aşı uygulamalarıyla ilgili gebe ve yakınlarının bilgilendirilmeleri oldukça önemlidir. Aşının yan etkileri, özellikle de fetusa olası zararlı etkileri gebelerin aşıdan kaçınmasında temel sebeplerdir. Aşı hakkında yeterli ve doğru bilgilendirme hastaların özellikle de gebelerin aşı konusundaki düşüncesini olumlu olarak etkileyecektir.*

Anahtar Kelimeler: *COVID-19; Gebelik; Aşı*

INTRODUCTION

The COVID-19 pandemic, which began in 2019 with the first case, spread rapidly throughout the world, affecting millions of people and causing serious mortality and morbidity. Furthermore, since it causes serious psychological and economic problems in all societies, many studies on disease vaccination have been conducted, and vaccine development has achieved rapid success.[1]

In many countries, COVID-19 infection has become one of the leading causes of maternal mortality. According to studies, pregnancy and delivery process are factors that contribute to the severe course of the COVID-19 infection. Furthermore, compared to non-pregnant women, pregnant women with COVID-19 infection have a higher rate of intensive care unit admission and mortality. Given that vaccination can reduce this increased mortality and morbidity, the importance of primary prevention is growing by the day.[2,3]

Studies have shown that COVID-19 vaccines have no negative maternal or fetal effects. It has also been shown to reduce hospitalization duration, mortality, and morbidity in pregnant women. Regardless of gestational week, the World Health Organization recommends COVID-19 vaccines for pregnant women. Furthermore, the ACOG (American College of Obstetricians and Gynecologists) and the CDC (Centers for Disease Control and Prevention) both recommend COVID-19 vaccines for pregnant women, breastfeeding mothers, and those considering pregnancy.[4,5] Despite this, there are hesitations about vaccination in pregnant women due to lack of information on the clinical benefits and risks of vaccines, as well as increased pregnancy concerns.[6] The aim of this study was to look into pregnant women's concerns, perspectives, and approaches to COVID-19 vaccination.

MATERIALS and METHODS

Following approval by the local ethics committee (911) of the Republic of Türkiye Ministry of Health, Ankara Training and Research Hospital, a questionnaire about the COVID-19 vaccine was voluntarily administered to pregnant women who applied to the outpatient clinic of Ankara Training and Research Hospital between January 2022 and June 2022. Pregnant women who agreed to participate in the study provided written informed consent. The study included all pregnant women of all ages and gestational weeks who could understand and speak Turkish

and agreed to participate. The study excluded pregnant women with a medical history that would constitute a contraindication for vaccine administration, such as immunosuppression, and pregnant women with comorbidities that could be the cause of fever, extremity pain, and acute infections.

Pregnant women were given detailed information about the COVID-19 disease, its spread, treatment, and effects on pregnant women. Following in-person explanation, an informed consent form was obtained. The patients were given a questionnaire verbally. The researchers' questionnaires yielded all of the available data, including sociodemographic characteristics and questionnaire forms examining the vaccine-pregnancy relationship.

Multiple-choice questions were used to investigate patients' ages, gestational weeks, educational status, whether they received COVID-19 vaccine or not, the reasons for refusal of patients who refused vaccination, and the side effects observed in pregnant women who received the vaccine. The collected data were compared according to the patients' education level, age and gestational weeks.

Statistical analysis was performed using SPSS for Windows version 23.0 (SPSS Inc., Chicago, IL, USA). Chi-square test was used to compare the categorical data. Statistical significance level was accepted as 5% for the evaluation of the results.

RESULTS

A total of 1500 pregnant women participated in the study, and mean age was 27.36 years. Of the pregnant women, 945 were vaccinated (63%) and 555 (37%) were not. Demographic characteristics, vaccination rate, and vaccination

Table 1. Demographic characteristics vaccination rate and vaccination time of pregnant women who participated in the study

		Min.-Max.	Mean + SD
Age		15-45	27.36 ± 7
		n	%
Age groups	Adolescent group (15-19 years)	234	15.6%
	Middle age (20-40 years)	1257	83.8%
	Advanced age (+40 years)	9	0.6%
Gestational week	Week 1-13	513	34.2%
	Week 14-26	512	34.1%
	Week 27-41	475	31.7%
Educational level	Illiterate	45	3.0%
	Primary school	387	25.8%
	Middle school	354	23.6%
	High school	456	30.4%
	University	240	16.0%
	Postgraduate	15	1.0%
	Doctorate	3	0.2%
Received COVID-19 vaccine?	No	555	37.0%
	Yes	945	63.0%
When were you vaccinated?	Before pregnancy	811	85.8%
	During pregnancy	134	14.2%
Have you experienced any side effects after vaccination?	No	485	51.3%
	Yes	460	48.7%

time are shown in Table 1. Of the pregnant women who were vaccinated, 48.7% reported experiencing side effects after vaccination (Table 1). The most common reason why pregnant women did not want to be vaccinated was 'I am afraid of side effects' (45.2%), and 44% (n= 244) answered 'I am afraid that the vaccine may cause negative effects on the baby' (Table 2). Table 2 lists other reasons why pregnant women are afraid of vaccination. No statistically significant difference was found between the educational status and age groups of the pregnant women who participated in the study and their COVID-19 vaccination status (p= 0.211 and p= 0.246) (Table 3,4). However, it was observed that those with low educational status were more afraid of injections (p< 0.05).

Table 2. Frequency-percentage distribution of reasons for not getting vaccinated

Reasons for not getting vaccinated	n	%
I am afraid of the side effects.	251	45.2
I do not believe in the necessity of vaccination.	108	19.5
I think the vaccine has not been tested enough.	29	5.2
I am afraid that the vaccine will have an adverse effect on the baby.	244	44.0
I was negatively affected by the news I heard from the media/internet.	45	8.1
People in my close circle do not recommend vaccination.	88	15.9
I do not think COVID-19 is a risky disease.	22	4.0
I am afraid of injections.	7	1.3
I believe the vaccine leads to COVID-19.	8	1.4

Table 3. Vaccination rates by educational status

		Received COVID-19 Vaccine?				
		No		Yes		
		n	%	n	%	Total
Education level	Illiterate	17	37.8%	28	62.2%	45
	Primary school	158	40.8%	229	59.2%	387
	Middle school	130	36.7%	224	63.3%	354
	High school	163	35.7%	293	64.3%	456
	University	85	35.4%	155	64.6%	240
	Postgraduate	2	13.3%	13	86.7%	15
	Doctorate	0	00%	3	100.0%	3
Total		555	37.0%	945	63.0%	1500

Table 4. Vaccination rates of the pregnant women by age groups

	Received COVID-19 Vaccine				
	No		Yes		
	n	%	n	%	χ^2 ; p
Adolescent group (15-19 years)	90	38.5%	144	61.5%	2.806; 0.246
Middle age (20-40 years)	464	36.9%	793	63.1%	
Advanced maternal age (+40 years)	1	11.1%	8	88.9%	
Total	555	37.0%	945	63.0%	

Table 5. The frequency percentage distribution of the side effects experienced

Side Effects	n	%
Fever	146	15.4
Headache	147	15.6
Myalgia	144	15.2
Weakness/Fatigue	206	21.8
Diarrhea	13	1.4
Pain in the injection area	221	23.4
Aphtous ulcers	5	0.5

The vaccine was given to 811 (85.8%) of the vaccinated pregnant women who participated in the study before pregnancy and 134 (14.2%) during pregnancy. Of the pregnant women who received the vaccine, 146 (15.4%) experienced fever, 147 (15.6%) headache, 144 (15.2%) muscle pain, 206 (21.8%) weakness/fatigue, 13 (1.4%) diarrhea, 221 (23.4%) injection site pain and 5 (0.5%) oral aphthae (Table 5).

DISCUSSION

The CDC in August 2021 and the Ministry of Health in September 2021 adopted the vaccination of pregnant women and recommended that all pregnant women be vaccinated. Despite this, our study found that the vaccination rate of pregnant women was lower than the general population vaccination rate. In our study, 63% of the pregnant women reported having been vaccinated. Although this rate was comparable to that of all pregnant women in Türkiye, it was found to be lower than that of the general population. Furthermore, despite studies and explanations showing that the maternal and fetal benefits of vaccination during pregnancy outweigh the potential risks, vaccine acceptance rates in pregnant women have not changed since the period before vaccines were developed. As a result of this situation, the majority of pregnant women believed that the vaccine could cause side effects during pregnancy and on the baby. Our hospital should be planned to raise pregnant women's vaccination awareness in the region, as well as expand research in this direction.[7,8]

In the study, no significant difference was found between the educational status of the patients and their vaccination rates. When other studies conducted worldwide and in Türkiye are examined, it has been observed that vaccination rates generally increase as the level of education increases. The lack of a significant difference in our study is thought to be due to the fact that the location of our hospital is in a socioculturally low location, that the level of education does not reflect the level of knowledge about vaccination, and that the educational level groups of the patients who applied were not equally distributed. We believe that accurate information about vaccination practices and their effects during pregnancy should be provided to pregnant women and their families. We also believe that providing by healthcare professionals with the most up-to-date and accurate information would be the best approach.[9,10]

Of the pregnant women who received the vaccine, 73% reported experiencing side effects, and the most common side effect observed was pain at the injection site. These findings are consistent with previous studies in the literature. Concerns about potential long-term side effects of the vaccines may be the most important factor in vaccine acceptance.[11,12] We believe that implementing health policies to combat these prejudices will increase vaccine acceptance rates.

When we examined the relationship between the reasons for not accepting the vaccine and the educational status of those who did not receive the vaccine, we discovered a statistically significant difference between their educational status and their fear of the vaccine. Given that anxiety and fear increase in vulnerable populations such as pregnancy[13,14], it was discovered in our study that pregnant women with lower educational status were more afraid of vaccines, while no statistically significant difference was found between educational status and other reasons for not accepting the vaccine. As a result, informative and encouraging training for pregnant women can be planned to help them overcome their fear of vaccines.

Pregnant patients are in a high-risk group for COVID-19 infection. Vaccination of the pregnant population will contribute to the protection of the fetal, maternal, and immediate environment of

pregnant women and healthcare workers as well as themselves. It is crucial that pregnant women and their relatives are informed in the most accurate way possible about vaccination practices during pregnancy. Therefore, vaccination of this significant patient group will be one of the important steps in combatting the COVID-19 pandemic.

ETHICS COMMITTEE APPROVAL

This study was approved by Ankara Research and Training Hospital Ethics Committee (Decision no: E-93471371-514.99, Date: 10.05.2022).

CONFLICT of INTEREST

None of the authors had conflict of interest.

AUTHORSHIP CONTRIBUTIONS

Concept and Design: SA

Analysis/Interpretation: SA

Data Collection or Processing: SA

Writing: SA

Review and Correction: SA

Final Approval: SA

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