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Determination of Perception and Attitude toward COVID-19 Vaccine Acceptance: A Cross-sectional Study from Türkiye

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Abstract

Background: Coronavirus disease 2019 (COVID-19) has spread rapidly and turned into a worldwide pandemic and posed a serious threat to public health. The criterion of success of a pandemic is to vaccinate the population at a very high rate and on time.

Aim: This study was carried out to determine COVID-19 vaccine acceptance and the effect of the perception of COVID-19 on attitude toward vaccination in Türkiye.

Methods: Descriptive and cross-sectional designs were used in the study. The sample consisted of 1651 individuals. The sociodemographic form, The Scale of Attitudes toward the COVID-19 Vaccine, and Perception of COVID-19 Scale were used as the data collection form. The number and percentage distributions, means, standard deviation, Kruskal–Wallis, and Mann–Whitney *U*-tests were used to analyze the data.

Results: In the study, 62% of participants wanted to be vaccinated for COVID-19. It has been found that there was a significant relationship between COVID-19 vaccine acceptance and by age, gender, education level, profession, and place of residence. There was a positive correlation between the mean scores of the participants of the Perception of COVID-19 and Attitudes toward the COVID-19 Vaccination. In line with this result, increased disease perception about COVID-19 in the individuals increased their positive attitudes toward COVID-19 vaccination.

Conclusion: More than half of our participants considered being vaccinated for COVID-19, but the rate of those who were neutral was substantially high. It is suggested that the training programs for vulnerable groups can be planned by determining which segment of the society perceives the disease better and the rate of vaccine refusal.

Keywords: Attitude, Coronavirus disease 2019, perception, vaccines

Introduction

The cases of pneumonia of unknown cause were in Wuhan, China, in December 2019. The related pathogen was a novel virus not seen in humans before, and the infection caused by this virus was named coronavirus disease 2019 (COVID-19).[1] COVID-19 has spread rapidly and turned into a worldwide pandemic and posed a serious threat to public health. Individuals infected with the severe acute respiratory syndrome coronavirus 2 virus may show symptoms of asymptomatic or mild diseases. However, they can also experience serious symptoms, such as severe respiratory failure that requires support for intensive care. When the pandemic occurred, public health institutions took various measures, such as school closures, social distance measures, and hygienic measures, to prevent the spread of the infection.[2] However, despite many measures worldwide to prevent the spread of the COVID-19 pandemic, it continues to threaten the health-care system and human life.

One of the success criteria in combating the pandemic is that the compliance of individuals to the measures. Therefore, the way of perceiving the epidemic and the attitudes toward controlling the epidemic are critical. Health authorities' awareness of these perceptions and their attitudes are also very determinative in both managing the pandemic and achieving success in combating it.[3] The public knowledge level, attitudes, and practices are the most critical factors in the prevention of the transmission of infection during pandemic periods.[4,5] The lack of knowledge about the transmission of infectious agent and the methods for preventing the spread of infectious agents increase

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the likelihood of the spread of the epidemic.[6] Informing the public about the infection causing the pandemic is the most basic need to control it.[7]

Another criterion of success is to vaccinate the population at a very high rate and on time. Vaccination is an effective method for preventing the spread of infectious agents, in addition to reducing complications due to related infections.[8] Although COVID-19 preventive behaviors such as wearing masks and social distancing are effective in preventing the spread of the virus, vaccine studies and vaccine acceptance are vital for the long-term control of the COVID-19 pandemic.[9] Since we face with the deaths and disorders associated with the pandemic, and we cannot foresee the future, a vaccine for COVID-19 may be the best hope for ending the pandemic.[9] During the 2009 influenza pandemic, a panic was expected due to the thought that the vaccine would not be enough for all over the world. However, there was a panic about the side effects of vaccines, many objections were expressed that a newly produced vaccine without a completed phase study may have unknown long-term side effects. Due to these debates, people hesitated to get vaccines, and the vaccination rate did not exceed 35% even among health-care workers despite all the efforts of the Ministry of Health.[10,11]

In Türkiye, the antivaccination movement has started in the past 8 years, although there were very few cases of vaccine refusal before. However, the vaccine refusal rate increased rapidly after the winning of a lawsuit in 2015 to make parental consent obligatory for vaccination. The frequent appearance of antivaccine rhetoric in the media is also influential in this situation.[12] Vaccination programs can only be successful when there are high rates of agreement and coverage.[13] It is necessary to determine the groups that hesitate about vaccination, the situations that increase their hesitation, and their places of residence, in other words, the geographical and sociocultural structure that may cause hesitation.[14] Therefore, it is necessary to determine the willingness of people to be inoculated with the COVID-19 vaccine, their perception of the disease, and their attitudes toward the vaccine. Thus, we correctly manage this process during the pandemic.

In this study, we aim to the determination of COVID-19 vaccine acceptance and the effect of the perception of COVID-19 on attitude toward vaccination in Turkiye.

Study Questions

1. What is the ratio of individuals who want to be inoculated with a COVID-19 vaccine in society?
2. What are the sociodemographic variables that affect the way of thinking about being vaccinated with a COVID-19 vaccine?
3. Is there a relationship between the perception of COVID-19 disease and attitude toward COVID-19 vaccination?

Methods

Study Design

This study was carried out to investigate the public willingness to be vaccinated for COVID-19 and the effect of the perception of COVID-19 on attitude toward vaccination. This study was conducted descriptively and cross-sectionally with individuals over the age of 18 living in Turkiye.

Study Sample

The sample of the study was selected with the simple random sampling method and consisted of 1651 participants who agreed to participate in the study online between October 2020 and January 2021.

Data Collection Tools

The sociodemographic form, The Scale of Attitudes toward the COVID-19 Vaccine, and Perception of COVID-19 Scale were used as the data collection form.

Demographic and Health-Related Characteristics

The questionnaire evaluated a range of demographic and health-related characteristics. These characteristics were age, gender, marital status, the status of having children, educational status, occupation, place of residence, employment status, and the status of having a chronic disease. In this form, it was also assessed whether the participants had a history of COVID-19 infection in themselves and their families/friends and their willingness to be vaccinated for COVID-19. The questions were closed ended, and the “other” option was written in the appropriate questions.

Perception of COVID-19 Scale

The scale, developed by Genis et al.[3] in 2020, consists of seven items. It is a five-point Likert-type scale and has two sub-dimensions as dangerousness and contagiousness. The choices in the scale are strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). A score between 1 and 5 is obtained by dividing the total score obtained by adding the item scores in a sub-dimension to the number of items in that sub-dimension. High scores on the dangerousness sub-dimension of the scale indicate that the perception of dangerousness about the disease is high, while high scores on the contagiousness sub-dimension indicate that the contagiousness of the virus is high. The Cronbach’s alpha value of the original scale is 0.74.[3] In our study, the Cronbach’s alpha value was 0.74.

The Scale of Attitudes toward the COVID-19 Vaccination

The scale, developed by Geniş et al.[3] in 2020, consists of 9 items and two sub-dimensions as positive and negative attitudes. The statements on the scale are strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). A score between 1 and 5 is obtained by dividing the total score obtained by adding the item scores in a scale sub-dimension to the number of items on that sub-dimension of the scale. High scores on the positive attitude sub-dimension indicate that the attitude toward vaccination is positive. The scores on the items in the negative attitude sub-dimension are calculated with reverse scoring, and thus, the higher scores on this sub-dimension indicate that the negative attitude toward vaccination is less. The Cronbach’s alpha value of the original scale is 0.74.[3] In our study, the Cronbach’s alpha value was 0.74.

Data Collection

The questionnaire form was prepared on Google Forms and shared on WhatsApp, Facebook, and Instagram. Although the participants were predominantly from the Mediterranean Region of Turkiye, participants from all regions of Türkiye were included. The individuals who answered all questions were included in the study. The questionnaire form was filled in an average of 5 min. In the first question of

the questionnaire, it was asked whether the participants consented to participate in the study.

Statistical Analysis

Data were analyzed with the Statistical Package for the Social Sciences version 21 (IBM Corp., Armonk, NY, USA). Descriptive statistics were examined to analyze the data, and the normal distribution of data was checked for deciding on the statistical analyses to be conducted. Since data did not have normal distribution, Kruskal–Wallis and Mann–Whitney *U*-tests were applied for the differences of continuous variables between groups. The power of the study was taken as 95% and the type 1 error was 0.05. The risk of a Type II error is inversely related to the statistical power of a study. In addition, Cronbach's alpha value was calculated for the Scale of Attitudes toward the COVID-19 Vaccine and Perception of COVID-19.

Ethical Considerations

Approval was obtained from the Ministry of Health for conducting the study. All stages of the study were carried out according to the Declaration of Helsinki. Ethics committee approval was received for this study from Burdur Mehmet Akif Ersoy University Non-Invasive Clinical Research Ethics Committee (Date: 04.03.2020, Approval Number:GO 2020/38). The study participants were provided an explanation of the study by email with a link to the survey. An IRB-approved consent form, that included the purpose of the research and the confidentiality issues, was posted on the first page of the survey. It was not possible to pass the questions without signing the consent form. In addition, the send section was not opened until all scale items were completed. Furthermore, participants were informed that their participation in the study was voluntary and they could withdraw at any time without penalty. Permission for the use of the scale was obtained from the scale authors through e-mail.

Results

The mean age was 28.52 ± 10.53, 47.7% of the participants were under 25 years old; 67.2% of them were women; 38.9% of them were married; 32.3% of them had children; 65.2% of them were university graduates. In addition, 39.8% of the participants were students; 40.6% of them were employed; 34.4% of them lived in the Mediterranean region of Türkiye; 12.2% of them had at least one chronic disease; 12.9% of them were previously positive for the COVID-19 test; 79.3% of them had a family member or friend with COVID-19 test positivity; 62% of them wanted to be vaccinated for COVID-19 (Table 1).

It was found that the Perception of COVID-19 Scale score average was 3.84 ± 0.93 (min: 1–max: 5), and the Scale of Attitudes toward the COVID-19 Vaccination score average was 3.06 ± 0.85 (min: 1–max: 5). The relationship between the level of perception of COVID-19 and age, gender, marital status, educational status, job, chronic disease state, personal history of COVID-19 diagnosis, and thinking about getting the COVID-19 vaccine was found to be statistically significant. When compared with the Attitudes toward the COVID-19 Vaccine scale, it was seen that the relationship between only thinking about getting the COVID-19 vaccine was statistically significant (Table 2).

The study revealed that there was a significant relationship between age, gender, education level, and occupation with COVID-19 vaccine acceptance ($P < 0.05$) (Table 3). The participants over the age of 40 wanted to be vaccinated more compared to those under the age of 25. The female participants experienced more fear of vaccination than

Table 1. The Sociodemographic Characteristics of Participants (n=1651)

The sociodemographic characteristics	n	(%)
Age (years) ($\bar{X}$ ±Ss)	28.52±10.53	
<25	787	47.7
25–40	662	40.1
>40	202	12.2
Gender		
Female	1109	67.2
Male	542	32.8
Marital status		
Married	643	38.9
Single	1008	61.1
Have children		
Yes	533	32.3
No	1118	67.7
Education level		
Primary education	132	8.0
High school	247	15.0
University	1077	65.2
Post-graduate	195	11.8
Job		
Student	657	39.8
Teacher	252	15.3
Health employee	233	14.1
Worker	188	11.4
Housewife	157	9.5
Public servant	133	8.1
Retired	31	1.9
Working status		
Yes	671	40.6
No	980	59.4
Region of residence		
Mediterranean	568	34.4
Aegean	234	14.2
Southeastern Anatolia	200	12.1
Eastern Anatolia	184	11.2
Black sea	183	11.0
Central Anatolia	148	9.0
Marmara	134	8.1
Chronic disease state		
Yes	202	12.2
No	1449	87.8
Personal history of COVID-19 diagnosis		
Yes	213	12.9
No	1438	87.1
Family member/friend ever diagnosed with COVID-19		
Yes	1310	79.3
No	341	20.7
Thinking about getting the COVID-19 vaccine		
Yes	1024	62.0
Undecided	393	23.8
No	234	14.2

Table 2. Comparison of Perception of COVID-19 and Attitudes toward the COVID-19 Vaccine Scales According to the Sociodemographic Characteristics of Participants (n=1651)

The sociodemographic characteristics	Perception of COVID-19		Attitudes toward the COVID-19 Vaccine	
Scale (mean±SD)	3.84±0.93		3.06±0.85	
(Min-max)	(1–5)		(1–5)	
Age (years)				
<25	3.93±0.83	***F=6.594 P=0.037***	3.04±0.81	F=1.365 *P*=0.505
25–40	3.79±0.97		3.06±0.86	
>40	3.68±1.10		3.14±0.92	
Gender				
Female	3.90±0.90	***Z=–3.778 P=0.000***	3.04±0.81	Z=–1.774 *P*=0.076
Male	3.71±0.98		3.11±0.90	
Marital status				
Married	3.69±1.05	***Z=–3.854 P=0.000***	3.06±0.90	Z=–0.667 *P*=0.504
Single	3.94±0.83		3.06±0.81	
Education level				
Primary education	3.47±1.11	***F=26.375 P=0.000***	2.94±0.82	F=2.686 *P*=0.261
High school	3.68±0.97		3.05±0.80	
University	3.91±0.87		3.07±0.85	
Post-graduate	3.92±0.98		3.11±0.90	
Job				
Student	3.92±0.86	***F=38.801 P=0.000***	3.03±0.83	F=5.389 *P*=0.495
Teacher	3.86±0.86		3.11±0.92	
Health employee	4.06±0.85		3.12±0.78	
Worker	3.55±1.05		3.07±0.87	
Housewife	3.66±1.01		2.98±0.81	
Public servant	3.75±0.95		3.14±0.88	
Retired	3.52±1.37		3.10±1.04	
Chronic disease state				
Yes	3.91±1.03	***Z=–2.195 P=0.028***	3.14±0.91	Z=–1.130 *P*=0.190
No	3.83±0.91		3.05±0.84	
Personal history of COVID-19 diagnosis				
Yes	3.95±0.94	***Z=–2.417 P=0.016***	3.15±0.91	Z=–1.589 *P*=0.112
No	3.82±0.93		3.05±0.83	
Thinking about getting the COVID-19 vaccine				
Yes	3.96±1.09	***F=49.521 P=0.000***	3.92±0.82	***F=1046.220 P=0.000***
Undecided	3.82±0.86		2.97±0.30	
No	3.71±0.83		1.99±0.46	

Table 3. Comparison of COVID-19 Vaccine Acceptance According to the Sociodemographic Characteristics of Participants (n=1651)

	COVID-19 vaccine acceptance						
	Yes		Undecided		No		
The sociodemographic characteristics	n	%	n	%	n	%	*P**-value
Age (years) ($\bar{X}$±SS)							
<25	212**a**	26.9	427**a**	54.3	148**a**	18.8	**.047**
25–40	196**a,b**	29.6	339**a,b**	51.2	127**a**	19.2	
>40	76**b**	37.6	89**b**	44.1	37**a**	18.3	
Gender							
Female	303**a**	27.3	588**a**	53.0	218**a**	19.7	**.037**
Male	181**b**	33.4	267**a**	49.3	94**a**	17.3	
Education level							
Primary education	30**a**	22.7	78**a**	59.1	24**a**	18.2	**.043**
High school	70**a,b**	28.3	137**a**	55.5	40**a**	16.2	
University	312**a,b**	29.0	558**a,b**	51.8	207**a**	19.2	
Post-graduate	72**b**	36.9	82**b**	42.1	41**a**	21.0	
Occupation							
Student	39**a**	24.8	86**a,b**	54.8	32**a**	20.4	**.009**
Teacher	83**a**	32.9	113**a,b**	44.8	56**a**	22.2	
Health employee	52**a**	27.7	103**a,b**	54.8	33a	17.6	
Worker	14**a**	45.3	15**a,b**	48.4	2**a**	6.5	
Housewife	70**a**	30.0	126**a,b**	54.1	37**a**	15.9	
Public servant	51**a**	38.3	51**b**	38.3	31**a**	23.3	
Retired	175**a**	26.6	361**a**	54.9	121**a**	18.4	

*Pearson Chi-square.

the male ones; they were less vaccinate acceptance compared to the male participants. The participants with a post-graduate degree had a significantly higher vaccinate acceptance than other groups. It was seen that students were more indecisive than civil servants.

Table 4. Correlation Matrix for Scales of Perception of COVID-19 and Attitudes toward the COVID-19 Vaccine

Scale	Perception of COVID-19	Attitudes toward the COVID-19 vaccine
Perception of COVID-19		
Pearson correlation	1.000	.341**
Sig. (2-tailed)		.000
Attitudes toward the COVID-19 vaccine		
Pearson correlation	.341**	1.000
Sig. (two-tailed)	.000	

**Correlation is significant at the 0.01 level (two-tailed).

There was a positive correlation between the mean scores of the participants on the Perception of COVID-19 Scale and the Scale of Attitudes toward the COVID-19 Vaccination ($P < 0.001$) (Table 4). In line with this result, increased disease perception about COVID-19 in the individuals increased their positive attitudes toward COVID-19 vaccination.

Discussion

The COVID-19 outbreak is in the news networks and numerous online media 24 h a day.[13] The COVID-19 pandemic has affected the entire global community, and therefore, it is necessary to be aware of the seriousness of the disease and to implement emergency vaccination programs to protect from the morbidity and mortality associated with the pandemic.[15] In this study, it was examined of COVID-19 vaccine acceptance and the effect of the perception of COVID-19 on attitude toward vaccination in Türkiye.

Our study has shown that there was a significant higher women with respect to the examined the level of perception of COVID-19. This finding supported by some recent study conducted throughout several different countries.[16,17] In addition, participants with higher degrees

of education seem to have a better perception of COVID-19 treatments as portrayed by their higher scores. Such observation seems appropriate as participants with higher degrees are more likely to self-educate themselves. Similar results were demonstrated in the literature.[18,19] In our study results, younger age seemed to statistically correlate with higher perception. However, this observation might be an inherent limitation of that data collection tool as online surveys are more popular toward a younger pool of participants. In a study investigating COVID-19 awareness levels, it was stated that there was a significant relationship between age and awareness level.[18] It is seen that there is a significant relationship between the occupational groups in the level of perception of COVID-19. When the results of the pairwise analysis are evaluated, the perceptions of health workers and students are significantly higher. Similar to our study, a study in the literature shows that students' perceptions of COVID-19 are higher.[20]

In our study results, there was a significant relationship between Attitudes toward the COVID-19 Vaccine scale and the state thinking about getting the COVID-19 vaccine, but there was no significant relationship between other descriptive variables. Similar to our study, in the study of Tahir et al.,[21] no significant relationship was found between age, gender, educational status, occupation, and attitude toward vaccination. Due to factors such as the new emergence of the COVID-19 epidemic during the data collection dates and the rapid progress of vaccine studies for this virus, it is thought that sociodemographic factors such as education, age, and occupation will not affect the attitude toward the vaccine, as people's opinions on this issue may be similar.

In our study, more than half of the participants wanted to be vaccinated for COVID-19, while nearly a quarter of them were neutral about vaccination. Akarsu et al.[22] found that 49.7% of the participants wanted to be vaccinated while 35.9% were neutral about vaccination.[22] In other studies, the rates of willingness to be vaccinated were 69%[23] and 67%.[13] In a similar study conducted on society, 31% of the respondents in Türkiye and 14% of the respondents in the United Kingdom were not sure about the vaccination for COVID-19. In both countries, 3% of the participants refused to be vaccinated.[24] As can be seen from the results of the study, many persons have hesitation about vaccination, and these groups should be determined and sufficient information should be given to them about vaccination.

This study evaluated the participants according to age groups and determined that the participants over the age of 40 wanted to be vaccinated more compared to those under the age of 25. The participants under the age of 25 were more doubtful about vaccination than those over the age of 40. Another study found that individuals over the age of 30 were more willing to be vaccinated for COVID-19.[23] Another study stated that adults are more likely to agree to be vaccinated than young persons.[13]

According to our findings, the female participants experienced more fear of vaccination than the male ones; they were less vaccination acceptance compared to the male participants. Similarly, another Turkish study determined that men are more likely to accept being vaccinated for COVID-19 than women.[24] Other studies similarly reported that women are less likely to be willing to be vaccinated compared to men.[13,23,25] It is noted that women may also be more likely to search for information on vaccines and be exposed to anti-vaccine content online since women are more likely to make health-care decisions for their children.[26] The information obtained from wrong sources about vaccination may be the reason why women are less likely to be willing to be vaccinated than men.

We found that the participants with a post-graduate degree had a significantly higher vaccinate acceptance than other groups. We also observed that the individuals with primary and high school education were more hesitant about being vaccinated. Malik et al.[13] showed that people with bachelor's and post-graduate degrees are more likely to accept vaccination.[13] Another study stated that the participants with low education levels found vaccines more ineffective than the other participants with higher education levels.[25] A study conducted in Italy between 2012 and 2013 reported that the vaccination rate fell from 17% to 7.8% in pandemics.[27] The studies showed that anti-vaccination is unexpectedly widespread and it is also ironically common in those who do not trust modern medicine, advocate a natural life, and have a high educational and intellectual level. There are many anti-vaccine groups, including academics and physicians.[28,29]

The main reason for the refusal of vaccination by families in developed countries may be that they did not experience the harms and fatal consequences of infectious diseases that had been experienced before vaccination widely.[25] However, many people experience respiratory distress in intensive care units and many people die because of the pandemic. The reason why the public is more willing to vaccinate in the past may be due to their awareness of the seriousness of the situation. Therefore, we can suggest that there was a linear relationship between the educational level of the participants and their willingness to be vaccinated.

Vaccine refusal occurs in certain segments of populations globally. However, the trend is variable; some segments refuse to be vaccinated; some of them sent it back; others accept to be vaccinated without sureness.[30] In our study, there was a significant difference between the occupational groups in COVID-19 vaccination acceptance. It is seen that students are more indecisive than civil servants. Although there is no statistical significance among other occupational groups, the indecision rates were found to be very close to half. Similar to our study, Akarsu et al.[22] stated that students and health-care professionals were more willing to be vaccinated while those who were unemployed were more indecisive than other occupational groups.[22] In another study, those who declared their employment status as unemployed reported lower COVID-19 vaccine acceptance than those who declared their employment status as employed or retired.[13]

One of our interesting findings was that there was no significant difference between the health-care workers and other groups in the COVID-19 vaccination acceptance. It has also been found that more than half of the health-care professionals were indecisive about being vaccinated. In a similar study, a significant difference was found between the health-care workers' knowledge of cervical cancer and the non-health-care workers' knowledge of cervical cancer. However, they found no significant difference between the health-care workers and the non-health-care workers in terms of HPV vaccination rates.[31]

Vaccine acceptability of individuals is reported to be related to the recommendation of vaccination for COVID-19 by health-care providers. It is stated that vaccination recommendations by health-care professionals are important in increasing the rate of vaccination in society.[25,32] Health-care professionals have great responsibilities in

maintaining public health, informing individuals about diseases, and directing them to the right resources. In this sense, health-care professionals should be aware of the benefits and risks of COVID-19 vaccination.

The individuals' level of perception of health is effective on both their physical and psychological health. In this context, health anxiety affects many healthy lifestyle behaviors such as the perception of health status, demand for health services, and preventive health measures.[33] As Pakistan is already experiencing severe resistance to polio vaccination, any negative perception of COVID-19 vaccines among the public is thought to cause devastating consequences for efforts to end the pandemic.[34] According to the result of the correlation analysis, the improvement in the perception of COVID-19 disease of individuals increased positive attitudes toward COVID-19 vaccination. A study reported that the perceived severity of COVID-19 infection and the attitude toward vaccination could be better.[23] Another study reported that the increase in the perceived risk of infecting with the SARS-COV2 virus has positive effects on vaccine acceptance.[24]

Limitations

There are some limitations in this study. As access to a smartphone is required to participate in the study, our findings may be affected by possible selection bias, which may limit the generalizability of our results. Another limitation is that the study was carried out at a certain time. Individuals' perceptions change over time due to the changing situation throughout the country, the measures, and practical applications.

Conclusion

It was found that the young age group, women, married, the a high level of education, those who are health workers and students, those with chronic diseases, those who had a positive coronavirus test before, and those who were considering getting vaccinated had a better perception of coronavirus than other groups. It is seen that the attitude toward the COVID-19 vaccine is only more positive in those considering the COVID-19 vaccine, and there is no significant difference in terms of other variables. In addition, more than half of our participants considered being vaccinated for COVID-19, but the rate of those who were neutral was substantially high. The individuals' perceptions of COVID-19 disease may also affect their attitudes toward COVID-19 vaccination. It is thought that the factors affecting the perception and attitudes of the COVID-19 disease should be taken into consideration in informing and counseling the society about the COVID-19 disease and vaccine. Policymakers and stakeholders should focus on evidence-based community messaging to improve uptake and break the transmission dynamics. We think that sharing the scientific consensus on COVID-19 disease with the public more widely can prevent their hesitation of them about COVID-19 vaccination. In this study, we suggested that the training programs for vulnerable groups can be planned by determining which segment of the society perceives the disease better and the rate of vaccine refusal.

Ethics Committee Approval: This study was approved by Ethics Committee of Burdur Mehmet Akif Ersoy University, (Approval Number: GO2020/330, Date: 02.12.2020).

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

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