

Demographic Factors Affecting the Attitudes of İnegöl State Hospital Healthcare Workers Towards COVID-19 Vaccine: Cross-Sectional Study

İnegöl Devlet Hastanesi Sağlık Çalışanlarının COVID-19 Aşısına Karşı Tutumlarını Etkileyen Demografik Faktörler: Kesitsel Çalışma

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ABSTRACT Objective: To investigate the attitudes of health care professionals involved within the coronavirus disease-2019 (COVID-19) pandemic process towards the COVID-19 vaccine in line with their demographic characteristics. **Material and Methods:** A questionnaire consisting of 16 questions was conducted to 510 healthcare professionals working in İnegöl State Hospital between December 2021-January 2022 and who agreed to participate in the study, to determine their approach to the COVID-19 vaccine. The data were collected with Student's t-test and Mann-Whitney U Test. Chi-square test was used in comparison of categorical variables. **Results:** While 54.3% of the respondents said that they don't want to have the COVID-19 vaccine, 69% answered that "Since there is not any adequate research on the vaccine, the vaccine is not reliable". Were observed that vaccine rejection was most common in the 20-29 age group (72.7%) and pregnant women (100%). In addition, as the education level increased, the number of people considering vaccination increased. The desire to be vaccinated was seen more in married, and it was noted that non-smokers had more COVID-19 (80.3%). **Conclusion:** Healthcare professionals who participated in study were found to have a negative attitude towards COVID-19 vaccine. Although healthcare professionals have hesitations about vaccine, in fact, noteworthy that they're afraid of the disease (43.8%). Despite of the pandemic, more than half (54.3%) of healthcare professionals working in İnegöl State Hospital stated that they didn't think about getting a COVID-19 vaccine. Providing hospital staff with more education about the safety, efficacy, and value of currently available COVID-19 vaccines is critical to vaccine acceptance in this population.

ÖZET Amaç: Bu çalışmanın amacı, koronavirüs hastalığı-2019 [coronavirus disease-2019 (COVID-19)] pandemi sürecinde yer alan ve aşılanma oranının düşük görüldüğü sağlık çalışanlarının, demografik özellikleri doğrultusunda COVID-19 aşısına yönelik tutumlarının araştırılmasıdır. **Gereç ve Yöntemler:** İnegöl Devlet Hastanesinde Aralık 2021-Ocak 2022 tarihleri arasında çalışan ve araştırmaya katılmayı kabul eden 510 sağlık çalışanına, COVID-19 aşısına karşı yaklaşımlarını tespit etmek amacıyla 16 sorudan oluşan bir anket yapıldı. Veriler; Student t-testi ve Mann-Whitney U testi ile analiz edildi. Kategorik değişkenlerin karşılaştırmasında ise ki-kare testi kullanıldı. **Bulgular:** Ankete katılanların %54,3'ü COVID-19 aşısını olmak istemediklerini ifade ederken, %69'u "Aşıyla ilgili yeterli çalışma olmadığından güvenilir değil." yanıtını vermiştir. Aşı reddinin en fazla 20-29 yaş grubunda (%72,7) ve gebelerde (%100) olduğu gözlemlenmiştir. Ayrıca eğitim durumu arttıkça aşı olmayı düşünen kişi sayısı artmıştır. Aşı yapma isteği evli bireylerde daha fazla görülmüş olup, sigara kullanmayanların daha fazla COVID-19 olması (%80,3) dikkat çekmiştir. **Sonuç:** Çalışmaya katılan sağlık çalışanlarının COVID-19 geçirip geçirmemesinin aşı olmaya yatkınlığını etkilemediği tespit edildi. Aslında sağlık personelinin aşı hakkında tereddütleri olmasına rağmen hastalıktan korkmaları (%43,8) dikkat çekmektedir. İnegöl Devlet Hastanesinde çalışan sağlık personelinin yarısından fazlası (%54,3) salgına rağmen COVID-19 aşısı olmayı düşünmediğini söyledi. Hastane çalışanlarına şu anda mevcut olan COVID-19 aşılarının güvenliği, etkinliği ve değeri hakkında daha fazla eğitim verilmesi, bu popülasyonda aşı kabulü için kritik öneme sahiptir.

Keywords: Pandemic; COVID-19; COVID-19 vaccines; health personnel

Anahtar Kelimeler: Pandemi; COVID-19; COVID-19 aşısı; sağlık çalışanı

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Peer review under responsibility of Türkiye Klinikleri Journal of Medical Sciences.

Received: 07 Feb 2022

Received in revised form: 01 Mar 2022

Accepted: 17 Mar 2022

Available online: 22 Mar 2022

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Although coronavirus disease-2019 (COVID-19) is a very contagious disease caused by a newly discovered type of coronavirus, the agent has not been detected in humans before. Therefore the virus has been identified as a 2019-nCoV later on due to the similarity to severe acute respiratory syndrome-coronavirus (SARS-CoV), the virus has been named SARS-CoV-2 (COVID-19). COVID-19 appeared for the first time in January 31, 2019 in Wuhan, China, the research related to the virus was started in 10 January and first victim of COVID-19 was detected in 11 March.¹⁻⁴

World Health Organization (WHO) has reported that according to the latest data COVID-19 has spreaded in more than 200 countries, the virus has been identified in almost 200 million people, and almost 5 million people died. Since March 11, 2020, when the first case was detected, more than 9 million people have been identified with the virus and more than 80,000 people died due to the virus.^{4,5} Although vaccination has started, COVID-19 pandemic, which is still spreading rapidly around the world, causes an increase in morbidity and mortality every day.^{6,7} At this point, the distinction between 2 concepts becomes even more important: anti-vaccination and inadequacy in vaccination rate caused by vaccine indecision.⁸

Health services and hospitals has been recognized as high-risk places for exposure and transmission of COVID-19 virus.⁹ For this reason, healthcare professionals are both potential victims and spreaders of the disease. Protecting healthcare workers from COVID-19 will be beneficial for themselves, their household contacts and their patients.

In the pre-vaccine decision-making process, healthcare professionals played an important role in the acceptance of the vaccine in the general population. Therefore, the WHO has listed healthcare workers as the priority group for COVID-19 vaccination.¹⁰⁻¹³

A number of studies conducted in some countries have shown that up to 30-40% of the general population have negative attitudes towards COVID-19 vaccines. In addition, some previous studies have shown that demographic factors affect people's tendency to be vaccinated.

Therefore, in the planned study; it is aimed to determine the attitudes of healthcare professionals to-

wards the COVID-19 vaccine, to compare this attitude according to demographic characteristics, and to determine the ways to be followed for effective vaccination with the results.

MATERIAL AND METHODS

The research is a cross-section type survey study applied to the personnel working in İnegöl State Hospital between December 1, 2021-January 1, 2022. The population of the study consists of 1,040 healthcare professionals working in İnegöl State Hospital. However, all healthcare workers who were on temporary assignment, on unpaid leave and on annual leave but did not do active duty and did not accept the study were excluded from the study. Convenience sampling method was used while determining the sample of the study. While determining the sample size, Raosoft web base was used. The sample size was calculated as at least 281 people based on the 95% confidence interval, 515 people were reached and 510 questionnaires were included in the study by removing the questionnaires with missing data from the analysis. 510 health workers who agreed to participate in the research constitute the sample of the research. The 16 question questionnaire, which was created by the researchers, was distributed to the healthcare professionals who agreed to participate in the research. At the beginning of the questionnaire, an explanation was given to the volunteers and their informed consent was obtained. The answers of the volunteers who accepted to participate in the study and filled all the questions completely were included in the study.

The data of the research were transferred to the SPSS IBM 20.0 (SPSS Inc, Chicago, IL) statistical program, and data control and analysis were carried out in this program. Descriptive findings of the data were expressed as frequency distribution and percentages. Whether the data showed normal distribution was determined by Kolmogorov-Smirnov test, normally distributed (parametric) data were analyzed with Student's t-test, and non-normally distributed (nonparametric) data were analyzed with Mann-Whitney U test. Chi-square test was used in the comparison of categorical variables. Statistically, $p < 0.05$ level was accepted as significant.

The study was conducted in accordance with the principles of the Declaration of 2008 Helsinki. Protocol number of this study (2011-KAEK-25 2021/11-16) was obtained from the ethics committee of Bursa Training and Research Hospital Clinical Research Ethics Committee for approval (date: November 17, 2021). Also this approval for the study was obtained from the Ministry of Health.

RESULTS

While the total number of active employees of our hospital is 1,040, the number of active employees during the research period is 1,016 people. Twenty four people out of 1,040 were not included in the study because they could not be reached because they were on unpaid leave, annual leave or on temporary duty and 501 people did not accept to participate in the study. Five hundred fifteen participants were included in the study and 5 were excluded due to lack of data. 55.1% of the sample was reached.

The distribution of the thoughts of the healthcare professionals participating in the research about the COVID-19 vaccine is shown in Table 1.

When the health workers' thinking about getting vaccinated is examined; 233 (45.7%) of the 510 participants who participated in the study thought about

getting vaccinated; 134 (57.5%) of them stated that they wanted to be vaccinated "I do not want to infect my family". 277 (54.3%) of the participants did not think of getting vaccinated; 191 (69%) of them marked "Not reliable because there are not enough studies on the vaccine" (Table 1).

The demographic data of the participants and the rates of considering getting vaccinated according to their demographic characteristics are shown in Table 2.

35.5% of the participants were in the age range of 40-49, 62.4% were female, 42.2% were nurse-midwife-health officer- emergency health technician occupational group, 54.9% were university graduates, 76% are married, 74.9% have children, 78% have a nuclear family, 43.7% are non-clinical personnel such as operating room, delivery room, blood collection, infection, education, and, it was found that 64.1% of them did not smoke (Table 2).

When the demographic characteristics of the participants and their willingness to be vaccinated are compared in Table 2, the number of those who say they want to be vaccinated among the age groups was observed to be higher in the 40-49 age group (50.8%). 72 (72.7%) of 99 people in the 20-29 age group said that they did not want to be vaccinated.

TABLE 1: Distribution of healthcare workers considering and not considering getting the COVID-19 vaccine by reasons.

Reasons	Do you consider getting vaccinated?	
	Yes n (%)	No n (%)
I am afraid of getting sick	102 (43.8)	
I do not want to infect my family	134 (57.5)	
I have a chronic disease	42 (18)	
I do not want to get sick again	34 (14.6)	
Others	29 (12.4)	
Total	233 (45.7)	
Not reliable because there are not enough studies on the vaccine		191 (69)
Due to the origin of the vaccine		53 (19.1)
I do not think the vaccine is protective		45 (16.2)
I can get over the disease without the vaccine		29 (10.5)
I went through the disease		43 (15.5)
I don't think COVID-19 is as big a health problem as it is discussed		8 (2.9)
Others		41 (14.8)
Total		277 (54.3)

TABLE 2: Comparison of healthcare professionals considering vaccination according to demographic characteristics.

		Do you consider getting vaccinated?			p value
		Yes n (%)	No n (%)	Total n (%)	
Age	20-29	27 (27.3)	72 (72.7)	99 (19.4)	0.002
	30-39	86 (49.7)	87 (50.3)	173 (33.9)	
	40-49	92 (50.8)	89 (49.2)	181 (35.5)	
	50- +	28 (49.1)	29 (50.9)	57 (11.2)	
Gender	Female	137 (43.1)	181 (56.9)	318 (62.4)	0.129
	Male	96 (50)	96 (50)	192 (37.6)	
Profession	Doctor	36 (70.6)	15 (29.4)	51 (10)	0.075
	Nurses, midwives, health officers and emergency medical technician	94 (43.7)	121 (56.3)	215 (42.1)	
	Clinical support	8 (66.7)	4 (33.3)	12 (2.4)	
	Data collection	36 (43.9)	46 (56.1)	82 (16.1)	
	Cleaning staff	9 (20.5)	35 (79.5)	44 (8.6)	
	Officer	18 (54.5)	15 (45.5)	33 (6.5)	
	Others	32 (43.8)	41 (56.2)	73 (14.3)	
Educational background	Primary school	23 (31.9)	49 (68.1)	72 (14.1)	0.003
	High school	47 (46.8)	55 (53.2)	102 (20.0)	
	University	128 (45.7)	152 (54.3)	280 (54.9)	
	Postgraduate	35 (62.5)	21 (37.5)	56 (11.0)	
Marital status	Married	188 (48.1)	203 (51.9)	391 (76.7)	0.049
	Single	45 (37.8)	74 (62.2)	119 (23.3)	
Working unit	Pandemic clinic	25 (46.3)	29 (53.7)	54 (10.6)	0.802
	Other clinic	32 (51.6)	30 (48.4)	62 (12.2)	
	Intense care	23 (44.2)	29 (55.8)	52 (10.2)	
	Emergency	17 (37.8)	28 (62.2)	45 (8.8)	
	Policlinic	32 (43.2)	42 (56.8)	74 (14.5)	
	Others	104 (46.6)	119 (53.4)	223 (43.7)	
Children	Yes	188 (49.2)	194 (50.8)	382 (74.9)	0.002
	No	45 (36.9)	77 (63.1)	122 (23.9)	
	Pregnant	0 (0)	6 (100)	6 (1.2)	
Type of family	Nuclear family	184 (46.2)	214 (53.8)	398 (78)	0.342
	Extended family	35 (47.9)	38 (52.1)	73 (14.3)	
	Living alone	11 (36.7)	19 (63.3)	30 (5.9)	
	Living with a partner	3 (33.3)	6 (66.7)	9 (1.8)	
Smoking	Yes	83 (45.4)	100 (56.6)	183 (35.9)	0.911
	No	150 (45.9)	177 (54.1)	327 (64.1)	
Have you had COVID-19?	Yes	47 (40.2)	70 (59.8)	117 (22.9)	0.173
	No	186 (47.3)	207 (52.7)	393 (77.1)	
Is there anyone who had COVID-19 in your family?	Yes	58 (43)	77 (57)	135 (26.5)	0.460
	No	175 (46.7)	200 (53.3)	375 (73.5)	
	Total	233 (45.7)	277 (54.3)	510 (100)	

Among the participants, the 20-29 age group was found to be significantly different from the other age groups ($p < 0.05$). Although there were more women (56.9%) who said they do not want to be vac-

inated, there was no significant difference in terms of gender ($p > 0.05$). It was revealed that clinical support (66.7%) and doctor (70.6%) groups of health workers thought positively about getting vaccinated,

while cleaning personnel (79.5%) thought negatively about getting vaccinated. There was no significant difference between the occupational group and the idea of getting vaccinated ($p>0.05$).

When the health workers were examined according to their education level, 23 (31.9%) of the primary school graduates said they wanted to be vaccinated and 35 (62.5%) of the postgraduates said they wanted to be vaccinated. It was determined that as the education level increased, the rate of thinking about getting vaccinated also increased, and the difference between education status and willingness to get vaccinated was found to be statistically significant ($p<0.05$).

Compared to health personnel working in specialized units such as clinics with pandemics (46.3%), emergency (37.8%), intensive care units (44.2%), other clinical (non-pandemic) healthcare personnel (neurology...) (51.6%) were found to have a higher tendency to be vaccinated. There was no significant difference between the unit they work in and their willingness to get vaccinated ($p>0.05$).

When we compare the employees' perspective on having, not having children and being pregnant, and their perspective on vaccination, it is seen that all of the pregnant women (100%) do not want to be vaccinated, and 49.2% of those who have children and 36.9% of those who do not have children tend to be vaccinated was detected. A significant difference was observed in the pregnant group between the status of having a child and the desire to be vaccinated ($p<0.05$).

The desire to be vaccinated was higher in married individuals (48.1%) than in singles (37.8%), and there was a significant difference between marital status and vaccination ($p<0.05$). In terms of family

structure, it was observed that individuals with nuclear and extended families were more inclined to be vaccinated.

Of the 183 smokers, 83 (45.4%) said they were considering getting vaccinated, and 100 (54.6%) said they were not considering getting vaccinated. There was no significant relationship between smoking and the desire to be vaccinated ($p>0.05$).

Out of 117 (22.9%) people who had COVID-19, 70 (59.8%) said they did not want to be vaccinated, and there was no significant difference between having COVID-19 disease and wanting to be vaccinated ($p>0.05$).

When Table 3 is examined, only 23 (19.7%) of 183 smokers among the participants had COVID-19, 160 (40.7%) did not have COVID-19, and 94 out of 327 (64.1%) non-smokers. It was determined that (80.3%) of them had COVID-19 and 233 (59.3%) had not had COVID-19. There was a significant difference between smoking and passing on COVID-19 because non-smokers were more likely to have COVID-19 ($p<0.05$).

As seen in Table 4; it was determined that 20 of 73 healthcare workers with extended families and 24 of their families had COVID-19. There was no significant difference between the status of having COVID-19 and the family structure.

DISCUSSION

A series of studies conducted in some countries have indicated that up to or exceeding 30-40% of the general population have negative attitudes towards future COVID-19 vaccines.¹⁴ The reason of these negative attitudes is considered to be the concern that new vaccines will not be safe.¹⁵

TABLE 3: Comparison of smoking and COVID-19 transmission.

Have you had COVID-19?	Do you smoke?		Total n	p value
	Yes n	No n		
Yes	23 (19.7)	94 (80.3)	117 (22.9)	0.000
No	160 (40.7)	233 (59.3)	393 (77.1)	
Total	183 (35.9)	327 (64.1)	510 (100)	

TABLE 4: Comparison of family structure and COVID-19 status of healthcare professionals and their families.

	Family type				Total n (%)	p value
	Nuclear family n (%)	Extended family n (%)	Living alone n (%)	Living with a partner n (%)		
Have you had COVID-19?						
Yes	89 (76)	20 (17.1)	5 (4.3)	3 (2.6)	117 (22.9)	0.549
No	309 (78.6)	53 (13.5)	25 (6.4)	6 (1.5)	393 (77.1)	
Is there anyone who had COVID-19 in your family?						
Yes	105 (77.8)	24 (17.8)	4 (2.9)	2 (1.5)	135 (26.5)	0.232
No	293 (78.1)	49 (13.1)	26 (6.9)	7 (1.9)	375 (73.5)	
Total	398 (78)	73 (14.3)	30 (5.9)	9 (1.8)	510 (100)	

In our study, we aimed to understand how our hospital staff view COVID-19 vaccine in ongoing pandemic by comparing the reasons for vaccine acceptance and rejection with socio-demographic data. Vaccine acceptance data: In a study conducted on 609 healthcare professionals in Los Angeles, it was 32.2%, and in a study on 829 healthcare professionals in Israel, it was 61%.^{16,17} In our study, the rate of vaccination intention among healthcare professionals was 45.7%, was quite similar to the 42-75% range reported in other studies in the general population. This suggests that a significant number of healthcare professionals may have reservations about a new vaccine.

In addition, although vaccine rejection is an ongoing problem for years, there are many studies conducted for this. In Yakşı's study, the biggest reason for vaccine rejection was found to be insecurity in the vaccine content (84%), and Arıcan et al. in the study, it was found that among the reasons for not getting vaccinated, the thought that the vaccines were not tested enough (17.0%).^{18,19} In our study, 69% of those who did not want to be vaccinated stated that "It is not reliable because there are not enough studies on the vaccine".

According to the results of the study of Coconel and research conducted in the USA, elderly individuals and males are more tend to get vaccinated.^{20,21} In addition, a research conducted in Israel and France has revealed that females have less tendency to get vaccinated against COVID-19 than males.^{16,22} In the study of Mete et al., the risk of vaccine hesitancy was found to be 1.42 times higher in women, and 2.20

times higher in persons under 65 years of age.²³ In our study, it was observed that the tendency to be vaccinated increases with age and the 20-29 age group (72.7%) has a negative attitude towards the vaccine to a large extent ($p < 0.05$). This is probably due to a perceived higher risk of contracting an infection and developing a serious illness in older people. Again in our study, although the intention to be vaccinated and not to be vaccinated was found to be equal with 96 (50%) in men, 181 (56.9%) out of a total of 318 women stated that they did not want to be vaccinated. Several independent reports indicate that higher risks for COVID-19 complications, infection, and death in men.²⁴ Therefore, men may be more prone to vaccination. The reason why vaccine hesitancy is higher in women may be wrong beliefs about vaccines (infertility, autism...).

According to the study conducted in Israel; a difference in COVID-19 vaccine acceptance rates was observed between doctors and nurses, and the vaccine acceptance rate was higher in the doctor group.¹⁶ In the study conducted our country in 2017 in which dealt with the attitudes of healthcare professionals towards seasonal influenza vaccination, 64.5% of the physicians participating in the study stated that they did not believe in the necessity of influenza vaccination, and 39.1% did not recommend it because they were afraid of its side effects.²⁵ In our study, the results were similar to previous studies. Intention to vaccinate against COVID-19 differed significantly between occupations, with doctors tending to be the most vaccinated (7.1%). One hundred twenty one out of a total of 215 nurse-midwife-health officer-emer-

gency medical technician staff, 35 out of 44 cleaning staff said they didn't want to be vaccinated. However, we were expecting more tendency to get vaccinated from the professionals like nurses who contact with patients very closely in our hypothesis. Because in the previous study, it was revealed that doctors and nurses are the group that caught the COVID-19 more.²⁶ Since nurses contact with patients longer than doctors, this observation might become a problem in healthcare settings.

According to the research conducted in Philadelphia, it was found that as the educational level increased, the tendency to get vaccinated increased.⁹ In the study of Erkekoğlu et al., it was mentioned that education level and vaccine rejection are inversely proportional.²⁷ In the study of Mete et al., it was stated that vaccine instability was found 1.40 times more in those with less than high school education.²³ Similarly, in the results of our survey, as the level of education increased, it was seen that the number of those who said yes (62.5%) to be vaccinated among the postgraduate health personnel increased ($p<0.05$). The reason for this is that as the level of education increases, the access to information and the evaluation of the acquired knowledge also increases. Based on this result, we understand how great the importance of health literacy is.

In the study conducted by Mete et al., it was found that married people had more tendency to get COVID-19 vaccine than singles.²³ In addition, Sarıgül et al. could find no significant difference in terms of marital status and vaccine rejection behavior.²⁸ Güngör et al. detected that the desire to be vaccinated was higher in those who were married and had children.²⁹ In Yakşi's work; almost all of the vaccines administered during pregnancy are tetanus vaccines, and only one person stated that they had the flu vaccine during pregnancy.¹⁸ According to our hypothesis, as a result of the research, we expected that the desire of married people and those with children to be vaccinated would be high and in our results; the difference between those who think about getting vaccinated and those who do not, was less in married people and those with children, compared to those who are single and without children. In addition, vaccine opposition was detected in 100% of the pregnant

women and the difference was found to be significant ($p<0.05$). It was determined that the reason for the high tendency to vaccination in married people and those who have children was the fear of transmitting the virus to their family. More than half (57.5%) of those who were considering getting vaccinated marked the option "I do not to infect my family".

In a study carried out in Israel, it has been found that healthcare personnel involved in the care of COVID-19 positive patients are more likely to be interested in vaccination.¹⁶ We expected that the intention of getting vaccinated would change by the working unit and would be more in people who work in pandemic. However, it was determined that the desire to be vaccinated was higher in non-pandemic clinics (neurology...) (51.6%) compared to other units. This is because; it may be that those in the non-pandemic clinic may see themselves as high-risk because they do not have access to the same level of personal protective equipment as their colleagues working in the pandemic, and therefore feel less protected against the COVID-19 virus.

In the study of Sarıgül et al., it was found that the rate of getting vaccinated increased in those who quit smoking.²⁸ Liu et al. stated that COVID-19 disease is 14.28 times more common in smokers than in non-smokers.³⁰ In our study, there was a significant difference because non-smokers had more COVID-19 ($p<0.05$). However, most studies have found a direct link between smoking and COVID-19. In this regard, larger samples should be researched and smoking status should be systematically recorded and analyzed in the data of COVID-19 patients.

It was determined that the health workers who participated in our survey did not have an impact on the susceptibility to vaccination. Another important issue is that although 59.8% of healthcare professionals had COVID-19, they stated that they did not want to be vaccinated. Although healthcare professionals have hesitations about the vaccine, it is, in fact, noteworthy that they are afraid of the disease (43.8%). Despite the pandemic, more than half (54.3%) of healthcare professionals working in İnegöl State Hospital stated that they did not think about getting a COVID-19 vaccine.

CONCLUSION

In 2019, WHO defined the hesitancy of getting vaccinated as one of the biggest 10 threat to global health.³¹ Many studies have been conducted on vaccine hesitancy and rejection, which are both national and international problems. The studies reviewed show that the biggest reasons for vaccine rejection are lack of knowledge and insecurity. In addition, it has been determined that the power of the media plays an important role in vaccine rejection.³² The ongoing COVID-19 outbreak is best controlled through vaccination, and healthcare workers are an important group in COVID-19 vaccination to sustain healthcare. Therefore we have to search the indecision about the vaccine in healthcare professionals, listen to them, understand their concern, and take their con-

cerns seriously and trainings and activities should be organized in line with the results of these.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

All authors contributed equally while this study preparing.

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