ARAŞTIRMA / RESEARCH

Investigation of the Relationship between COVID-19 Illness Perceptions and Vaccine Attitudes of Midwives and Nurses Working in the Field of Women's Health

Kadın Sağlığı Alanında Çalışan Ebe ve Hemşirelerin COVID-19 Hastalık Algısı ve Aşıya Yönelik Tutumu Arasındaki İlişkinin İncelenmesi

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Geliş tarihi/Received: 18.06.2022
Kabul tarihi/Accepted: 23.09.2022

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Abstract

Objective: It is known that negative attitudes toward COVID-19 vaccines and unwillingness to vaccinate are higher in women than in men. Therefore, it is seen that the attitude of midwives and nurses working in the field of women's health toward vaccination is important in influencing women's attitudes toward vaccination. This study aims to investigate the relationship between COVID-19 disease perceptions and attitudes toward vaccination of midwives and nurses working in the field of women's health.

Material and Method: The study was conducted in March 2021 in hospitals and primary healthcare institutions in the center of a province in the Black Sea region of Turkey. A cross-sectional research design was used in the study. The study sample consisted of 75 midwives and nurses working in the field of women's health. The data were collected using the Descriptive Characteristics Form, the Attitudes Scale towards the COVID-19 Vaccine, and the COVID-19 Illness Perception Questionnaire, and analyzed using the Mann-Whitney-U, Kruskal Wallis H test, and Spearman correlation.

Results: Almost all the participants (94%) were female and most of them (86.7%) had received the COVID-19 vaccine. Participants' COVID-19 disease perception was high (23.37±4.57), and their attitudes towards vaccination were positive (3.79±0.85). It was found that the difference between the Attitudes Scale towards the COVID-19 Vaccine scores and the Hazards sub-scale score of the COVID-19 Illness Perception Questionnaire and COVID-19 vaccination status was significant ($p<0.05$).

Conclusion: The midwives and nurses working in the field of women's health were found to have high COVID-19 disease perception and positive attitudes toward vaccination, but there was no significant relationship between COVID-19 disease perception and attitude towards COVID-19 vaccination. The study is believed to contribute to the literature as a guide for midwives and nurses working in the field of women's health.

Keywords: Midwife, nurse, COVID-19, vaccine, disease, perception.

Öz

Amaç: COVID-19 aşılarına yönelik olumsuz tutum ve aşılama isteksizliğinin kadınlarda erkeklere oranla daha yüksek olduğu bilinmektedir. Bu nedenle kadın sağlığı alanında çalışan ebe ve hemşirelerin aşıya karşı tutumunun, kadınların aşıya karşı tutumunu etkileme noktasında önemli olduğu görülmektedir. Bu çalışmada kadın sağlığı alanında çalışan ebe ve hemşirelerin COVID-19 hastalık algısı ve aşıya yönelik tutumu arasındaki ilişkinin incelenmesi amaçlanmıştır.

Gereç ve Yöntem: Çalışma, Türkiye'nin Karadeniz bölgesindeki bir ilin merkezinde bulunan hastanelerde ve birinci basamak sağlık kurumlarında 2021 yılının Mart ayında, kesitsel araştırma tasarımı kullanılarak yapılmıştır. Çalışmanın örneklemini kadın sağlığı alanında çalışan 75 ebe ve hemşire oluşturmuştur. Veriler, tanımlayıcı özellikler formu, COVID-19 Aşısına Yönelik Tutumlar Ölçeği ve COVID-19 Hastalık Algısı Ölçeği kullanılarak toplanmış ve Mann- Whitney-U, Kruskal Wallis H testi ve Spearman korelasyonu ile analiz edilmiştir.

Bulgular: Katılımcıların tamamına yakını (%94) kadın ve büyük kısmı (%86,7) COVID-19 aşısı yaptırmıştır. Katılımcıların COVID-19 hastalık algısı yüksek (23,37±4,57) ve aşıya karşı tutumları olumlu (3,79±0,85) bulunmuştur. COVID-19 Aşısına Yönelik Tutumlar Ölçeği puanları ve COVID-19 Hastalık Algısı Ölçeği'nin Tehlike alt boyutu puanı ile COVID-19 aşılanma durumu arasındaki farkın anlamlı olduğu belirlenmiştir ($p<0,05$).

Sonuç: Kadın sağlığı alanında çalışan ebe ve hemşirelerin COVID-19 hastalık algısının yüksek olduğu ve aşılamaya yönelik olumlu tutumlara sahip olduğu, ancak COVID-19 hastalığı algısı ile COVID-19 aşısına yönelik tutum arasında anlamlı bir ilişki olmadığı saptanmıştır. Çalışmanın kadın sağlığı alanında çalışan ebe ve hemşirelere yol gösterici olması açısından literatüre katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Ebe, hemşire, COVID-19, aşı, algı, tutum.

1. Introduction

SARS-CoV-2 (COVID-19) infection has been declared a pandemic by the World Health Organization (WHO) on March 11th, 2020, and has affected the entire world (1). The pandemic, which has led to a great number of deaths, unemployment, and the absence of billions of children from school in more than a year (2), continues to threaten human life and social life significantly. As of March 6th, 2022, there were more than 433 million confirmed cases and more than 5.9 million deaths worldwide (3). This indicates that the standard measures and restrictions proposed to prevent the transmission of SARS-CoV-2 (COVID-19) infection are not sufficient to control the COVID-19 outbreak (4). The development of vaccines that are believed to reduce severe morbidity and mortality in the pandemic and the initiation of vaccination studies is the most positive development during the pandemic. In this context, COVID-19 mass vaccination was first launched in the United Kingdom in December 2020 (2). As of January 2021, Turkey has started a mass vaccination program with the Sinovac CoronaVac COVID-19 vaccine (4). While the Sinovac CoronaVac vaccine application continues, the Pfizer-BioNTech vaccine started to be used in Turkey as of April 2nd, 2021. (5). For emergency use in people over 16 years of age to prevent COVID-19, the Pfizer-BionTech vaccine (Comirnaty®) received approval from the Medicines and Healthcare products Regulatory Agency (MHRA) on December 2nd, 2020, Food and Drug Administration (FDA) on December 11th, European Medicines Agency (EMA) on December 21st, 2020, WHO on December 31st, 2020 (3). While the total number of vaccinations in Turkey reached 146,285,560 as of March 15th, 2022, the number of those who received the first dose of vaccine reached only 57,738,923, and the number of those who received the second dose of vaccine reached 52,904,302 (5). As part of the National COVID-19 Vaccination Strategy, healthcare professionals were designated as a priority group, without any obligation (Ministry of Health, 2021). Despite the expected benefits of vaccination, there are concerns about the effectiveness, reliability, and rapid development/approval of the vaccines developed (6). These concerns also cause vaccine hesitancy. Vaccine hesitancy is an obstacle to the success of the vaccination program, and it has been identified by the WHO as one of the top 10 global health threats in 2019 (7).

As the vaccine development and vaccination process continue, it is important to investigate the COVID-19 vaccine acceptance in individuals (8). The main barriers to vaccination include lack of knowledge and trust, disease perception, lack of access to vaccines, concerns about the effectiveness of vaccines, conspiracy theories, and religious beliefs (9, 10, 11). The socio-demographic determinants of negative attitudes toward vaccines and vaccine hesitancy include the female gender and low socio-economic status (12). It is reported in the literature that vaccine acceptance rates are lower in females than in males (13, 14, 15). Moreover, it has been stated in the literature that the vaccine hesitancy of healthcare professionals may affect the level of public hesitation to get the vaccine (16, 17).

Kurtuluş and Can (18) evaluated the views of healthcare professionals regarding vaccination in their study and reported that the vaccine hesitancy of healthcare professionals, who are seen as role models by society, will harm the success of vaccination. Likewise, Oruç and Öztürk (19) evaluated the attitudes of healthcare professionals toward the COVID-19 vaccine and reported that positive and negative attitudes are almost equally distributed and that the views and attitudes of healthcare professionals regarding the safety and effectiveness of vaccines can affect the perception of the vaccine in the community. Midwives and nurses working in the field of women's health are important healthcare professionals involved in disease prevention, health protection, training, guidance/counseling, evidence-based professional care, research, and the production of scientific knowledge, who provide a women-centered holistic approach to the health problems that arise throughout the lives of women (20). Moreover, healthcare professionals are a reliable and reputable source of information about vaccines for patients (21). In this context, the attitudes of midwives and nurses toward the vaccination are an important determinant in influencing women's attitudes to the vaccine. There has been no study in the literature investigating the effect of COVID-19 illness perceptions of midwives and nurses working in the field of women's health on their attitude to the vaccine. This study aims to investigate the relationship between COVID-19 illness perceptions and vaccine attitudes of midwives and nurses working in the field of women's health.

Research Questions

- What is the COVID-19 disease perception among midwives and nurses working in the field of women's health?

- How do nurses and midwives who work in the field of women's health feel about the COVID-19 vaccine?

- Is there a relationship between the COVID-19 disease perceptions and attitudes toward the COVID-19 vaccine of midwives and nurses working in the field of women's health?

2. Materials and Methods

2.1. Study design

A cross-sectional research design was used to investigate the relationship between the COVID-19 disease perception and the attitude toward the vaccine of midwives and nurses working in the field of women's health.

2.2. The study population and sample

The study population consisted of 82 midwives and nurses working in the field of women's health in a public hospital (21 people), a private hospital (12 people), and primary healthcare institutions (49 people) located in the city center. There are a training and research hospital, a private hospital, and 11 primary health care institutions in the city center of Kastamonu, which has a population of 125622. The number of employees in the institutions was officially determined by the Provincial Health Directorate and Hospital administration. The study sample consisted of 75 midwives and nurses, who met the research inclusion criteria. For the sample of the study, according to the formula of the frequency of occurrence of the events in cases with a known study population, the frequency of the event studied was accepted as 58% and as a result of the calculation made, it was concluded that a minimum sample size of 68 people was sufficient (23). At the end of

the study, post hoc analysis was performed. As a result of the analysis, 75 people were selected for an incidence rate of 58%, a margin of error of 3.33%, and a 95% confidence interval.

Inclusion Criteria

- Volunteering to participate in the research
- Working in healthcare institutions in the Kastamonu city center

Exclusion Criteria

- Unwilling to participate in the research
- Pregnancy
- History of allergy

2.3. Data collection

The research data were collected in the healthcare institutions using the face-to-face interview technique between March 1st, 2021, and March 26th, 2021. As the data collection tools in the research, a Descriptive Characteristics Form, the Attitudes Scale towards the COVID-19 Vaccine, and the COVID-19 Illness Perception Questionnaire were used.

2.4. Descriptive characteristics form

The form prepared by the researchers consists of questions about gender, age, marital status, educational status, title, employment year, and vaccination status (8, 12, 15).

2.5. The attitudes scale towards COVID-19 vaccine and the COVID-19 illness perception questionnaire

The scales developed by Çırakoğlu for Swine Flu (H1N1) in 2011, and adapted by Geniş et al. to COVID-19 in 2020 (24,25). The instruments are 5-point Likert-type scales. The COVID-19 Illness Perception Questionnaire consists of 7 items grouped under two factors of "Hazard" and "Contagion". The Attitudes Scale towards the COVID-19 Vaccine consists of 9 items grouped under two factors: "Positive Attitudes" and "Negative Attitudes". Each of the items in the factors is rated as "(1) Strongly disagree", "(2) Disagree", "(3) Neutral", "(4) Agree", and "(5) Strongly agree". Negative expressions were reverse-coded. In the study, Cronbach's alpha value was found to be 0.86.

A higher score on the COVID-19 Illness Perception Questionnaire indicates a higher perception of hazards related to the disease for the first factor (Hazard, items no: 1-3), and a higher perception of contagion of the virus in the second factor (Contagion, items no:4-7). The reliability coefficients (Cronbach's alpha) were 0.71 for the total scale ($F1\alpha = 0.85$ for the first factor, and $F2\alpha = 0.70$ for the second factor). In the Attitudes Scale towards COVID-19 Vaccine, however, higher scores indicate a positive attitude toward the vaccine for the first factor (Positive Attitudes, items no 1-4), and low scores indicate a negative attitude for the second factor (Negative Attitudes, items no 5-9). The reliability coefficients (Cronbach's alpha) were 0.89 for the total scale ($F1\alpha = 0.91$ for the first factor, and $F2\alpha = 0.78$ for the second factor). In the study, Cronbach's alpha value of the scale was 0.82.

2.6. Data analysis

The data obtained in the study were analyzed using the SPSS program (ver:23.0). Of the descriptive statistical tests, number and percentage distributions, mean, interval, standard deviation, and maximum and minimum values were used in the analysis of the descriptive, socio-demographic characteristics of the participants. The normal distribution of the data was tested by Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests. In the study, the Mann-Whitney U test was used for testing the differences between the averages for the comparison of two groups with non-normal distribution, and the Kruskal-Wallis H test and one-way analysis of variance were used for the comparison of more than two independent groups. To reveal the relationship between the variables, Spearman correlation coefficient analysis was applied to the variables that conform to the normal distribution. $p<0.05$ was used for the level of statistical significance.

3. Results

Almost all participants were female (94%), 45.3% were in the 35-44 age group, most were single (80%), more than half (54.7%) had a bachelor's degree, 22.7% were working in the profession for 16-20 years, and most of them (87.7%) got the COVID-19 vaccine (Table 1).

Table 1. Descriptive Characteristics of the Participants

Characteristics	n	%
Gender		
Female	71	94.7
Male	4	5.3
Age		
18-24	10	13.3
25-34	13	17.3
35-44	34	45.3
45-54	16	21.3
55 year and above	2	2.8
Marital Status		
Married	60	80.0
Single	15	20.0
Title		
Midwife	43	57.3
Nurse	32	42.7
Education Level		
High school	9	12.0
Associate degree	21	28.0
Bachelor's degree	41	54.7
Post graduate	4	5.3
Working Years		
Less than 1 year	6	8.0
1-5 years	7	9.3
6-10 years	13	17.3
11-15 years	9	12.0
16-20 years	17	22.7
21-25 years	11	14.7
>25 years	12	16.0
COVİD-19 Vaccination Status		
Yes	65	86.7
No	10	13.3

The COVID-19 Illness Perception Questionnaire total score average of the participants was 23.37±4.57, and their COVID-19 illness perception was found to be high. Considering the sub-scale scores of the scale, the Contagion sub-scale score average was 12.16±3.28, and the Hazard sub-scale score average was 11.21±2.34. Participants' total scores were 3.79±0.85 on the Attitudes Scale towards the COVID-19 Vaccine, 3.96±1.03 on the Positive Attitudes sub-scale, and 3.65±0.86 on the Negative Attitudes sub-scale, and their attitude toward the COVID-19 vaccine was found to be positive (Table 2).

Table 2. Scores of the Participants on the COVID-19 Illness Perception Questionnaire and the Attitudes Scale towards the COVID-19 Vaccine

Scale and Sub-Scales	n	Number of Items	Min.-Max	Median	Avg.±SD.
COVID-19 Illness Perception Questionnaire Total	75	7	7-31	24	23.37±4.57
Contagion Sub-Scale	75	3	3-15	13	12.16±3.28
Hazard Sub-Scale	75	4	4-18	11	11.21±2.34
Attitudes Scale towards COVID-19 Vaccine Total	75	9	1.33-5	4	3.79±0.85
Positive Attitudes Sub-Scale	75	4	1-5	4.25	3.96±1.03
Negative Attitudes Sub-Scale	75	5	1.60-5	3.80	3.65±0.86

No significant correlation was found between the COVID-19 Illness Perception Questionnaire total score and Attitudes Scale towards COVID-19 Vaccine total and sub-scale scores of the participants (p>0.05). A weak and positive correlation was found between the Contagion sub-scale score of the COVID-19 Illness Perception Questionnaire and the Positive Attitudes sub-scale score of the Attitudes Scale towards COVID-19 Vaccine (p<0.05), but no significant correlation was found with the Negative Attitudes sub-scale score of the scale (p>0.05). No significant correlation was found between the COVID-19 Illness Perception Questionnaire Hazard sub-scale score and Attitudes Scale towards COVID-19 Vaccine total and sub-scale scores (Table 3).

Table 3. Relationships between the Scores of the Participants on the COVID-19 Illness Perception Questionnaire and the Attitudes Scale towards the COVID-19 Vaccine

		Attitudes Scale towards COVID-19 Vaccine and Sub-Scales		
COVID-19 Illness Perception Questionnaire and Sub-Scales		**Attitudes Scale towards COVID-19 Vaccine Total Score**	**Positive Attitudes**	**Negative Attitudes**
COVID-19 Illness Perception Total Score	r[a]	0.129	0.215	0.010
	p	0.272	0.064	0.934
Contagion Sub-Scale	r[a]	0.235	0.308	0.113
	p	0.043*	0.007*	0.336
Hazard Sub-Scale	r[a]	0.024	0.093	-0.073
	p	0.838	0.428	0.531

[a] Spearman correlation analysis was applied, *p<0.05.

A significant difference was found between the participants' COVID-19 vaccination status and the Attitudes Scale towards COVID-19 Vaccine total and sub-scale scores (p<0.05). In addition, the difference between the number of working years and the Negative Attitude sub-scale score of the Attitudes Scale towards the COVID-19 Vaccine was found to be significant (p<0.05). It was found that negative attitudes towards the COVID-19 vaccine were higher in those who worked in the profession for 6-10 years than those who worked for 1-5 years in the profession; and, negative attitudes of those who were working in the profession for 16-20 years were statistically significantly higher than those who were working in the profession for 1-5 years, 21-25 years, and 25 years and above. No statistically significant difference was found between the other descriptive characteristics and the Attitudes Scale towards COVID-19 Vaccine total and sub-scale scores of the participants (Table 4).

Table 4. Comparison of Descriptive Characteristics of the Participants and Attitudes Scale towards the COVID-19 Vaccine Total and Sub-Scale Scores

	Attitudes Scale towards COVID-19 Vaccine and Sub-Scales		
Descriptive Characteristics	**Positive Attitudes Sub-Scale**	**Negative Attitudes Sub-scale**	**Attitudes Scale towards COVID-19 Vaccine Total Score**
Age	**Median**	**Median**	**Median**
18-24 years	4.38 (2.5-5)	3.4 (1.6-4.6)	3.66 (2.56-4.67)
25-34 years	4.5 (3-5)	4.20 (2.4-5.0)	4.22 (2.67-5)
35-44 years	4.5 (1-5)	3.80 (1.8-5.0)	4 (1.67-5)
45-54 years	3.38 (1-5)	3.5 (1.6-5)	3.66 (1.33-5)
55 years and above	2.5 (2-3)	3.1 (2.4-3.8)	2.83 (2.67)
KW[a]	5.791	8.475	7.651
p	0.215	0.076	0.105
Gender			
Female	4.25 (1-5)	3.8 (1.6-5)	4 (1.33-5)
Male	3.63 (2.5-4.75)	3 (2-4.2)	3.27 (2.22-4.44)
Z[b]	-0.800	-1.207	-1.063
p	0.424	0.227	0.288
Marital Status			
Married	4 (1-5)	3.8 (1.6-5)	3.94 (1.33-5)
Single	4.5 (2.75-5)	3.6 (1.6-5)	4 (2.56-5)
Z[b]	-1.294	-0.632	-0.318
p	0.196	0.528	0.750
Title			
Midwife	4 (1-5)	3.8 (1.6-5)	3.88 (1.33-5)
Nurse	4.5 (1-5)	3.6 (1.6-5)	4 (1.67-5)
Z[b]	-1.117	-0.048	-0.408
p	0.264	0.961	0.684
Education Level			
High School	4.75 (2-5)	3.8 (1.6-5)	3.44 (2.56-5)
Associate degree	4.5 (1-5)	4 (1.6-5)	4.22 (1.33-5)
Bachelor's degree	4 (1-5)	3.6 (1.8-5)	3.88 (1.67)
Post graduate	4.63 (4-5)	4.1 (3.4-5)	4.27 (3.78-5)
[a]KW	3.590	2.299	3.091
p	0.309	0.513	0.378
Working Years			
Less than 1 year	4.63 (1-5)	3.7 (1.6-5)	4.11 (1.33-5)
1-5 years	4.25 (2.5-5)	2.8 (1.6-4)	3.11 (2.56-4.22)
6-10 years	4.5 (3-5)	4 (3-5)	4.11 (3-5)
11-15 years	4 (1-5)	3.8 (2.20-5)	3.77 (1.67-5)
16-20 years	4.5 (1.5-5)	4.2 (2.20-5)	4.33 (2.44-5)
21-25 years	4.25 (.5-5)	3.4 (1.8-5)	3.77 (2.11-5)
>25 years	3.75 (1-5)	3.5 (2-4.8)	3.38 (2.22-4.89)
KW[a]	3.150	13.930	8.627
p	0.790	0.030*, 3>2, 5>2-6-7	0.196
COVID-19 Vaccination Status			
Yes	4.5 (1-5)	3.8 (1.6-5)	4 (1.67-5)
No	2.63 (1-4.25)	2.4 (1.6-5)	2.66 (1.33-3.89)
Z[b]	-3.897	-4.240	-4.394
p	0.000*	0.000*	0.000*

[a] Kruskal Wallis H test, [b]Mann-Whitney U test, *p<0.05.

A significant difference was found between the COVID-19 vaccination status of the participants and their COVID-19 Illness Perception Questionnaire Hazard sub-scale scores ($p<0.05$). There was no statistically significant difference between the COVID-19 vaccination status of the midwives and nurses participating in the study and the COVID-19 Illness Perception Questionnaire total score and Contagion sub-scale score ($p>0.05$). It was found that the difference between the participants' other descriptive characteristics and the COVID-19 Illness Perception Questionnaire total score and Contagion sub-scale score and Hazard sub-scale score was not statistically significant ($p>0.05$) (Table 5).

Table 5. Comparison of Descriptive Characteristics of the Participants and COVID-19 Illness Perception Questionnaire Total And Sub-Scale Scores

Descriptive Characteristics	COVID-19 Illness Perception Questionnaire and Sub-Scales		
	Contagion	Negative Attitudes Sub-scale	Attitudes Scale towards COVID-19 Vaccine Total Score
Age	**Median**	**Median**	**Median**
18-24 years	14 (8-15)	12 (9-16)	24 (19-31)
25-34 years	13 (8-15)	11 (9-14)	24 (20-29)
35-44 years	13 (3-15)	11 (4-18)	24 (7-31)
45-54 years	13 (3-15)	10 (8-14)	25 (11-29)
55 years and above	9.5 (7-12)	10 (7-13)	19.5 (14-25)
KW[a]	2.454	2.246	0.901
p	0.653	0.691	0.924
Gender			
Female	13 (3 -15)	11 (4-18)	24 (7-31)
Male	12 (10-14)	13 (8-14)	24.5 (19-28)
Z[b]	-0.816	-1.027	-0.202
p	0.414	0.304	0.840
Marital Status			
Married	13 (3-15)	11 (4-18)	24.5 (7-31)
Single	13 (7-15)	10 (7-13)	24 (14-27)
[b]Z	-0.040	-1.248	-0.886
p	0.968	0.212	0.376
Title			
Midwife	13 (3-15)	11 (7-18)	24 (11-31)
Nurse	12.5 (3-15)	11 (4-16)	24 (7-31)
Z[b]	-1.571	-0.461	-0.781
p	0.116	0.645	0.435
Education Level			
High School	11 (3-15)	11 (7-14)	22 (11-29)
Associate degree	13 (3-15)	12 (8-16)	25 (11-31)
Bachelor's degree	13 (3-15)	11 (4-18)	24 (7-31)
Post graduate	11.5 (7-15)	11 (10-16)	24 (20-25)
KW[a]	2.765	4.38	3.143
p	0.429	0.222	0.370
Working Years			
Less than 1 year	14 (8-15)	11 (9-13)	24 20-27()
1-5 years	14 (10-15)	12 (9-16)	26 (23-31)
6-10 years	13 (7-15)	12 (9-16)	24 (19-31)
11-15 years	12 (7-15)	10 (7-16)	23 (14-27)
16-20 years	14 (3-15)	11 (4-16)	24 (7-31)
21-25 years	13 (7-15)	11 (9-18)	25 (21-29)
>25 years	12 (3-15)	10 (8-14)	25 (11-27)
KW[a]	4.474	6.598	4.784
p	0.613	0.360	0.572
COVID-19 Vaccination Status			
Yes	13 (3-15)	11 (4-16)	24 (7-31)
No	13 (7-15)	12 (8-18)	25.5 (19-31)
Z[b]	-0.024	-2.337	-1.481
p	0.981	0.019*	0.139

[a] Kruskal Wallis H test, [b]Mann-Whitney U test,* $p<0.05$.

4. Discussion

Illness perception is a dynamic process that directly affects individuals' emotional response to illness, and behaviors, such as compliance with treatment (26). Individual illness perception and coping strategies lead to an increase in rates of compliance with official recommendations and the development of positive health behavior during viral outbreaks (27). Assessing the disease perception of healthcare professionals, who are at the forefront of the fight against COVID-19, is very important in better handling the disease and managing the pandemic. In this study, it was found that midwives and nurses working in the field of women's health had a high level of COVID-19 disease perception.

This result is believed to be caused by the fact that midwives and nurses are the health personnel who spend the most time with patients, closely follow the prognosis and treatment of the disease, and that the stress, heavy responsibility, intense work tempo, fatigue, and insomnia leads to a higher sensitivity to the disease. Similar to this study, it has also been reported that nurses' perception of illness against COVID-19 was high (28, 29).

Healthcare professionals play an important role in the success of the vaccination program, and studies have shown that the knowledge and attitudes of healthcare professionals determine their status in getting vaccinated and recommending the vaccine (30, 31). When the attitudes toward the COVID-19 vaccine of the midwives and nurses participating in our study were evaluated, it was found that they have positive attitudes towards the vaccine. Although there are studies in the literature that show that the attitudes of healthcare professionals toward the vaccine are positive, similar to our study results (32, 33), there are also studies that report the opposite (30, 34, 35). In this study, it is believed that the idea of contributing to the control of the epidemic, the fear of transmission to relatives and patients, and the desire to protect themselves against the disease were effective in the positive attitudes of midwives and nurses toward vaccination.

A key determinant in people's vaccination decisions is the risk they associate with the disease that the vaccine protects (9). Studies show that the willingness to get vaccinated is low in individuals who perceive a low risk of vaccine-preventable infection, who assess the symptoms of the disease as mild, and who have little concern about the disease (9, 36, 37). In the present study, no significant relationship was found between the COVID-19 illness perception and the attitudes toward the COVID-19 vaccine ($p>0.05$). Although there are similar studies in the literature that show no relationship between COVID-19 illness perception and COVID-19 vaccination status (38, 39), there are also conflicting studies that show a relationship between COVID-19 illness perception and intention to get vaccinated (40, 41). This result can be attributed to the fact that the COVID-19 vaccine is a newly developed vaccine and healthcare personnel is concerned about its short-term and long-term effects. Furthermore, in our study, a positive weak-level correlation was found between the COVID-19 Illness Perception Questionnaire Contagion sub-scale score and the total score of the Attitudes Scale towards COVID-19 Vaccine ($r=0.235$, $p=0.043$). Similar to our study, Raftopoulos et al. (33) reported in their study

that the contagion of the disease was effective in the COVID-19 vaccine acceptance among medical personnel and that they want to prevent transmission to themselves, their families, and patients. In addition, a weak and positive relationship was found between the Contagion sub-scale score of the COVID-19 Illness Perception Questionnaire and the Positive Attitudes sub-scale score of the Attitudes Scale towards COVID-19 Vaccine (r=0.308, p=0.043) (p<0.05), but no significant relationship was found with the Negative Attitudes sub-scale score of the Attitudes Scale towards COVID-19 Vaccine (p>0.05). In the study by Özkan and Yiğit (29), a positive, weak, and significant relationship was found between positive attitudes towards the vaccine and the sub-scales of hazards and infectiousness, and between negative attitudes towards the vaccine and the sub-scales of hazards and infectiousness. The results of the study are similar to our study. It is believed that this is caused by the lack of effective treatment for the disease, which can prevent individuals from transmitting the disease to their relatives, and so far, the newest and most effective protection method is vaccination. In the literature, it has been reported that the perceived contagious risk to individuals for their health is not effective in healthcare personnel's acceptance of the COVID-19 vaccine (42). Likewise, it has been found that the contagiousness of the disease is effective and they have a positive attitude toward accepting the COVID-19 vaccine or a vaccine in the testing phase for getting protection against transmission to themselves, their families, and patients (38, 44).

In the present study, no statistically significant difference was found between age, gender, marital status, title, and education level and the Attitudes Scale towards COVID-19 Vaccine total and sub-scale scores of the midwives and nurses (p>0.05). In their study, Güngör et al. (44) reported that age, marital status, having a child, chronic illness, and celebrities' vaccination against COVID-19 were effective in their acceptance of the COVID-19 vaccine and attitudes toward the vaccine. In the study by Gangneux-Burnoun (45), age, gender, vaccine refusal, and perceived risk levels were not found to be effective in getting the COVID-19 vaccine. In the study by Kwok et al. (23), however, it was found that factors such as young age, higher awareness, and feel of responsibility, and anxiety were effective in getting the COVID-19 vaccine (32, 34, 44). The difference between the number of working years of the midwives and nurses participating in the study and the Negative Attitude sub-scale score of the Attitudes Scale towards the COVID-19 Vaccine was found to be significant (p<0.05). It can be stated that individual experiences, education level, in-service training, up-to-date literature knowledge, personal perceptions, and experiences are effective in this finding. Moreover, a significant difference was found between the COVID-19 vaccination status of the midwives and nurses and the Attitudes Scale towards COVID-19 Vaccine total score and the Negative Attitudes sub-scale score in this study (p<0.05). This result is important since it shows that vaccination success is affected by attitudes toward the COVID-19 vaccine. It can be stated that the health literacy of individuals regarding COVID-19 affects their attitude toward the vaccine, and their perceptions about the severity of the disease affect the likeliness of accepting the vaccine.

Illness perception is an important predictor of how individuals will behave during disease and is directly related to several health outcomes. In general, more positive illness perception is related to more positive disease management and health outcomes (46, 47). In the present study, a significant difference was found between the COVID-19 vaccination status and the COVID-19 Illness Perception Questionnaire Hazard sub-scale scores of the midwives and nurses (p<0.05). It can be stated that this result is caused by the fact that the perception of disease-related hazards affects the protective behavior of individuals.

5. Conclusion And Recommendations

The study results showed that midwives and nurses working in women's health had a high level of COVID-19 illness perception, and positive attitudes toward vaccination. In the study, no significant correlation was found between the COVID-19 illness perception and the attitudes toward the COVID-19 vaccine. No significant differences in COVID-19 vaccine acceptance and COVID-19 illness perception were found in terms of the demographic data. Given the critical role of nurses and midwives in vaccination, it is critical to eliminate vaccine hesitancy. Information about vaccine safety should be disseminated to eliminate misinformation and beliefs to ensure the success of vaccination, and to reach those who are undecided or against the vaccine. Public service announcements explaining the effects of the vaccine on COVID-19 should be made through the mass media. In the fight against vaccine hesitancy, the most effective approach is to make the community feel a sense of trust. In-service training on vaccination should also be given to healthcare professionals, and the rates of vaccination should be monitored.

6. Contribution to the Field

The COVID-19 pandemic has affected the whole world. For patients, healthcare professionals are reliable and reputable sources of information about vaccines. Determining the disease perception and vaccination attitudes of midwives and nurses working in the field of women's health will contribute to the fight against the pandemic.

Ethical considerations

Before conducting the study, written permission was obtained from the relevant institutions, and approval of the Ethics Committee was obtained from the Clinical Research Ethics Committee (date:25.02.2021 and no:2020-KAEK-143-56). In addition, information about the research, its purpose, and the terms of confidentiality was given to the study participants, and their written and oral consent was obtained regarding their participation in the research.

Acknowledgement

We thank all the midwives and nurses who participated in the study .

Conflict of Interest

This article did not receive any financial fund. There is no conflict of interest regarding any person and/or institution.

Authorship Contribution

Concept: NA, ŞŞÇ, ŞK, DG, AD; **Design:** NA, ŞŞÇ, ŞK, DG, AD; **Supervision:** NA; **Funding:** NA; **Materials:** ŞK, DG; **Data Collection/Processing:** ŞK, DG; **Analysis/Interpretation:** ŞŞÇ **Literature Review:** ŞŞÇ, NA, AD; **Manuscript Writing:** ŞŞÇ, NA, AD; **Critical Review:** NA.

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