

Research Article

Considering the Attitudes toward the COVID-19 Vaccine, the Levels of Vaccine Hesitancy among Family Healthcare Center (FHC) Employees: A Cross-Sectional Study

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Aim. The primary objective of this study was to investigate the attitudes towards the COVID-19 vaccine, the extent of vaccine hesitancy, and the factors influencing the Family Healthcare Center staff who are responsible for delivering primary healthcare services. **Methods.** The research, which employed a cross-sectional design, was carried out with a sample of 102 healthcare professionals employed at family healthcare centers located in the city center. The study data were collected using three instruments: the “Personal Information Form,” the “Vaccination Hesitancy in Pandemic Scale,” and the “Attitudes towards COVID-19 Vaccine Scale.” **Results.** A total of 13.7% of the participants said that they were hesitant about having themselves vaccinated. The mean total score of vaccine hesitancy in the pandemic was found to be 22.760 ± 8.323 , and the attitude towards the COVID-19 vaccine was 3.640 ± 0.831 . A negative and weak relation was detected between the total score of vaccine hesitancy and the total score of attitude towards the COVID-19 vaccine in the pandemic. It was also found that the situation of considering the vaccine as partially necessary increases the vaccine hesitancy in the pandemic and the decrease in the degree of considering the childhood vaccines as necessary decreases the attitude towards the COVID-19 vaccine. **Discussion.** Despite the relatively low prevalence of vaccination hesitancy among healthcare workers, it remains a noteworthy concern. It is imperative to conduct a thorough investigation into the various factors that contribute to vaccine hesitancy and the attitudes held by healthcare professionals, with a particular focus on those factors having a negative impact.

1. Introduction

The global pandemic caused by the novel coronavirus, officially known as coronavirus disease 2019 (COVID-19), has posed a significant threat to the international community since its initial emergence in 2019 [1]. Based on the findings presented in the report by the World Health Organization (WHO), a cumulative total of 591,683,619 cases and 6,443,306 deaths have been recorded globally as of August 19, 2022 [2]. It is widely acknowledged that vaccination is a highly effective strategy in combating COVID-19. This preventive measure has proven to be instrumental in reducing both mortality and morbidity associated with the disease [3]. Vaccines have consistently

emerged as a prominent symbol of preventive health services, demonstrating remarkable efficacy and serving as a cornerstone of successful public health practices throughout history [4]. Vaccines have demonstrated efficacy in the management of diseases that can be prevented through immunization, as evidenced by their successful utilization over an extended period of time. Despite the extensive utilization and remarkable efficacy of vaccines in disease management, there persists a notable degree of hesitancy among a significant portion of the population [5, 6]. In 2019, the World Health Organization (WHO) identified vaccine hesitancy as one of the top ten significant challenges in the field of global health [7].

The term “vaccine hesitancy” refers to a broad range of reactions to all vaccines that are recommended to a person, including acceptance, postponement, and rejection of every COVID-19 vaccine. The structure of vaccine hesitancy is intricate and multilayered. It is a unique condition that changes depending on place, time, and vaccinations [8]. Another group that has hesitations about vaccination as much as society is healthcare employees. Because of the high likelihood that they will come into contact with the infection and spread it to their surroundings and patients, healthcare workers are more likely to contract COVID-19 [9]. Healthcare workers are among the priority groups for immunization because of [10].

The acceptance of vaccines is influenced strategically by healthcare professionals [11]. Because of this, the effectiveness of current international immunization campaigns may be hampered by unfavorable attitudes and indications of vaccine hesitancy toward COVID-19 vaccine [12, 13]. Employees of Family Healthcare Centers (FHC), also known as primary healthcare providers, have significant responsibilities in reducing vaccination hesitations of all kinds and boosting public confidence in vaccines [14]. Family Healthcare Centers (FHC) are one of the most crucial components of preventive healthcare services. They are frequently the first points of contact for vaccination services, are trusted resources for vaccine-related information, and are in a special position to offer ongoing, reasonably priced, and easily accessible services to all facets of society [15].

It is well known that there are regional differences in healthcare professionals’ reluctance to receive the COVID-19 vaccine and attitudes toward it. For instance, a review study found that COVID-19 vaccine hesitancy among healthcare workers worldwide ranged from 4.3% to 72.0% [12]. In addition, it was noted that approximately a quarter of healthcare employees had vaccine hesitancy and provaccine attitudes reduced COVID-19 vaccine hesitancy in the UK [16]. Healthcare workers in Turkey frequently express doubt about vaccinations [17, 18]. In a study with primary healthcare workers, 50.4% of the participants said they would be willing to receive the COVID-19 vaccine, while 29.0% were unsure and 20.7% said they would not [19]. Previous studies reported a number of causes for people’s unfavorable attitudes and vaccine reluctance toward the COVID-19 vaccine. The lack of trust in vaccines is the most significant of these [20, 21].

The majority of the participants in the earlier studies in this field were healthcare professionals in general. There have been few studies carried out with FHC employees, who are the main application points for vaccination services in Turkey. In addition, there are no studies in the literature that discuss vaccine hesitancy in the pandemic and attitudes of the COVID-19 vaccine concurrently. We believe that the current study will add to the body of knowledge, encourage further investigation, and pave the way for the creation of significant policies in this area. In order to better understand attitudes toward the COVID-19 vaccine, levels of vaccine hesitancy and influencing factors among FHC employees providing primary healthcare in Mardin’s city center, a cross-sectional study has been conducted.

2. Methods

2.1. Study Design and Population. The research, designed as a cross-sectional study, was carried out from 01 January to 01 May 2022. The participants included healthcare professionals employed in Family Health Centers (FHCs) located in the city center of Mardin, situated in the Southeastern Anatolia Region of Turkey. The central area of Mardin accommodates a collective count of 20 Family Health Centers (FHCs), which cater to a population of 186,622 individuals. The study population comprised 110 healthcare professionals employed in 20 Family Health Centers (FHCs) located in the city center of Mardin. An attempt was made to contact all healthcare personnel in the FHCs, rather than selecting a single sample. A total of five individuals declined to partake in the study, while three participants were excluded from the evaluations due to incomplete responses on the questionnaire. A comprehensive survey was completed by a total of 102 healthcare professionals. The study yielded a participation rate of 92.7%. The data were gathered using the method of conducting face-to-face interviews. The questionnaire was distributed to the participants by the researchers and received back from the respondents within an envelope. Information about the objective of the research, confidentiality, and anonymity was added to the beginning of the questionnaire. They were also verbally informed that participation was voluntary and that they could withdraw from the study at any time, and that the information would not be used for purposes other than the purpose of the research. Participants who volunteered for the research answered and returned the questionnaire. Participants were not given any incentives for participating in the study. A pilot study of the research was not conducted. The duration of the data collection process ranged from 10 to 15 minutes.

2.2. Participants. The inclusion criteria for this study encompass individuals who meet the following requirements: employment at any of the Family Health Centers (FHCs) located in the city center of Mardin, occupation as a healthcare employee, and willingness to participate as a volunteer.

The exclusion criteria for this study include individuals who are employed by the FHC but are located outside the city center of Mardin, those who are not healthcare employees, individuals who are not volunteers, and those who have not completed the questionnaire.

2.3. The Tools Utilized for Data Collection. The study data were collected using three instruments: the “Personal Information Form,” the “Vaccination Hesitancy in Pandemic Scale,” and the “Attitudes Towards COVID-19 Vaccine Scale.” The Personal Information Form was created by researchers through a comprehensive review of the existing literature. The survey included an 8-item demographic information form that assessed variables such as age, gender, marital status, and economic status of the participants. In addition, it comprised 9 questions aimed at exploring the participants’ perspectives on vaccination [22].

The Vaccine Hesitancy Scale, originally developed by Larson et al., underwent modifications to become the “Vaccination Hesitance Scale in Pandemic” specifically tailored for the pandemic. This adaptation was made following a Turkish study conducted by Çapar and Çınar, which assessed the scale’s validity and reliability [23, 24]. The measurement tool utilized in this study employs a 5-point Likert-style scale. The scoring system utilized in this study ranges from 1, indicating complete disagreement, to 5, indicating complete agreement. High scores obtained on the scale are indicative of a significant level of vaccine hesitancy during the pandemic. The scale comprises a total of ten items, which are further divided into two subdimensions. The initial subdimension, labeled as “Lack of Confidence,” comprises a total of eight items, specifically denoted as M1-T, M2-T, M3-T, M4-T, M5-T, M6-T, M7-T, and M8. The items that are marked with the letter “T” adjacent to them have been subjected to a reversal process. Within this particular subdimension, it is observed that elevated scores are indicative of an escalation in the level of mistrust towards vaccines during periods of the pandemic. The second subdimension, denoted as “Risk,” is comprised of two items, namely, M9 and M10. High scores from this subscale indicate a high risk of vaccination in the pandemic. Cronbach’s alpha value of the scale was found to be 0.901. In this study, Cronbach’s alpha value of the scale was 0.914.

The measurement of individuals’ attitudes towards the COVID-19 vaccine: the scale was formulated in the year 2020 in the country of Turkey by Geniş et al. [25]. The scale consists of nine items that are categorized into two subdimensions, namely, positive and negative attitudes. The statements within the scale are assessed using a rating system that ranges from “I strongly disagree (1)” to “I strongly agree (5).” The subdimensions pertaining to negative attitudes are assessed using reverse scoring. To calculate a value within the range of 1–5, one must divide the sum of the item scores within a given subdimension by the number of items present in that subdimension. The acquisition of high scores derived from the subdimension pertaining to positive attitude signifies a favorable disposition towards the vaccine. The scoring process involves reversing the items within the negative attitude subdimension, and higher scores within this subdimension are indicative of a reduced negative attitude towards the vaccine. The questions pertaining to positive attitude in the first to fourth positions correspond to the questions related to negative attitude in the fifth to ninth positions. Cronbach’s alpha value in this study was determined to be 0.884.

2.4. Statistical Analyses. The data collected in this study were analyzed using the SPSS 22.0 statistical software package. Descriptive characteristics of the participants were determined through the use of frequency and percentage analyses, while the scale was analyzed using mean and standard deviation statistics. The examination of Kurtosis and Skewness values was conducted to ascertain the presence of a normal distribution in the study variables. The utilization of parametric analysis techniques was justified

due to the observation of normal distribution in the study variables. This study employed correlation and regression analyses to investigate the relationships among the dimensions that determine the scale levels of the participants. Dependent variables are present in this research. It is the level of vaccine hesitancy in the pandemic and the level of attitude towards the COVID-19 vaccine. Independent variables are all other variables. First of all, the *T*-test and one-way analysis of variance (ANOVA) were employed to assess the variations in scale based on their descriptive attributes. The variables that exhibited statistical significance in both the *T*-test and ANOVA were subsequently incorporated into the regression analysis. The variables that were significant in these analyses were for the dependent variable of vaccine hesitancy in the pandemic; opinion about vaccines, opinion about childhood vaccines, thinking that not having vaccine is a parents’ right, seeing vaccine necessary, and having negative information about vaccination. For the dependent variable of attitude towards the COVID-19 vaccine, these were opinions about vaccines, opinions about childhood vaccines, thinking that not having vaccine is a parents’ right, hesitation about getting vaccinated, seeing vaccine necessary, and having negative information about vaccination. The researchers employed multiple linear regression analysis to forecast the levels of vaccine hesitancy and attitudes towards the COVID-19 vaccine during the pandemic, utilizing a set of independent variables. The calculation of Cronbach’s alpha coefficient was performed during the analysis of internal consistency for the scales. All analyses were performed one-sided. The significance level for all findings was set at $p < 0.05$.

3. Results

The study yielded a participation rate of 92.7%. In the present study, 45.1% of the participants were in the 31–40 age group, 61.8% were women, and 39.2% had more than 10 years of professional experience. A total of 61.8% of the participants considered vaccinations very necessary, 95.0% had their children vaccinated, 96.7% did not hesitate to vaccinate their children, 95.0% did not hesitate to vaccinate themselves, and 13.7% said that they had hesitancy (Table 1).

The mean of the Vaccine Hesitancy in Pandemic Total Score of the participants was found to be 22.760 ± 8.323 , the mean of “lack of confidence” was 16.750 ± 7.430 , and the mean of “risk” was 6.020 ± 1.840 . Also, the mean of “Attitude towards COVID-19 Vaccine Total Score” was found to be 3.640 ± 0.831 , the mean of “positive attitude” was 3.790 ± 0.947 , and the mean of “negative attitude” was 3.530 ± 1.025 (Table 2).

When the correlation analysis between the total and subscale scores of vaccine hesitancy in the pandemic and the total and subscale scores of the attitude towards COVID-19 vaccine were examined, a negative and weak relation ($r = -0.347$, $p \leq 0.001$) was found between the total score of vaccine hesitancy in the pandemic and the total score of attitude towards the COVID-19 vaccine. The relationship between the other scale total and subscales is given in Table 3.

TABLE 1: The distribution of the employees according to descriptive characteristics ($n = 102$).

Characteristics	<i>n</i>	%
Age		
20–25 years	15	14.7
26–30 years	25	24.5
31–40 years	46	45.1
<40 years	16	15.7
Gender		
Female	63	61.8
Male	39	38.2
Marital status		
Married	69	67.6
Single	33	32.4
Income level		
Income more than expenses	27	26.5
Income equal to expenses	33	32.4
Income less than expenses	42	41.1
Duty		
Doctor	45	44.1
Nurse	31	30.4
Midwife	20	19.6
Emergency medical technician (EMT)	6	5.9
Professional years		
<1 year	4	3.9
1–5 years	24	23.5
6–10 years	34	33.3
>10 years	40	39.3
Time spent at first-step healthcare institution		
<1 year	6	5.9
1–5 years	40	39.2
6–10 years	29	28.4
>10 years	27	26.5
Educational status		
High school	15	14.7
Associate degree	6	5.9
Undergraduate/medicine	75	73.5
Postgraduate	6	5.9
Opinions about vaccines		
Very necessary	63	61.8
Necessary	34	33.3
I have no idea/I do not know	5	4.9
Opinions about children's age vaccines		
Very necessary	76	74.5
Necessary	26	25.5
Thinking that not having vaccine is the right of parents		
Yes	20	19.6
No	61	59.8
I am indecisive	21	20.6
Having received in-service training about vaccine rejection		
Yes	37	36.3
No	65	63.7
Having children		
Yes	60	58.8
No	42	41.2
Having the compulsory vaccines of the child ($n = 60$)		
Yes	57	95.0
No	3	5.0
Having hesitancy about having their children vaccinated ($n = 60$)		
No	58	96.7
Yes	2	3.3
Having hesitancy about having the vaccine		
No	88	86.3

TABLE 1: Continued.

Characteristics	<i>n</i>	%
Yes	14	13.7
Considering the vaccine necessary		
Yes	93	91.2
Partly	9	8.8
Having negative information about vaccination		
Yes	31	30.4
No	71	69.6

TABLE 2: The mean scores of vaccine hesitancy and attitude towards COVID-19 vaccine in pandemics.

	<i>N</i>	Ort	SD	Min.	Max.
Vaccine hesitation in pandemics total	102	22.760	8.323	10.000	48.000
Lack of confidence	102	16.750	7.430	8.000	40.000
Risk	102	6.020	1.840	2.000	10.000
Attitude towards COVID-19 vaccine total	102	3.640	0.831	2.000	5.000
Positive attitude	102	3.790	0.947	1.000	5.000
Negative attitude	102	3.530	1.025	1.000	5.000

The results of the regression analysis made to determine the cause-effect relationship between thinking about vaccines, thinking about childhood vaccines, thinking that not being vaccinated is a parent's right, considering the vaccine necessary, having negative information about vaccination, and the total score of vaccine hesitancy in the pandemic were found to be significant ($F=6.898$; $p \leq 0.001$). The total change in the level of hesitancy about vaccination in the pandemic was explained by 22.6% of thinking about vaccines, thinking about childhood vaccines, thinking that not being vaccinated is a parent's right, considering the vaccine as necessary, and obtaining negative information about vaccination ($R^2 = 0.226$). Considering the vaccine as partially necessary increases vaccine hesitancy in the pandemic ($\beta = 3.894$) (Table 4).

The results of the regression analysis, which was made to determine the cause-effect relationship between the total score of thinking about vaccines, thinking about childhood vaccines, thinking that not being vaccinated is a parent's right, having hesitations about having vaccinated before, considering the vaccine necessary, having negative information about vaccination, and the attitude towards the COVID-19 vaccine were found to be significant ($F=4.396$; $p \leq 0.001$). The total change in the level of attitude towards the COVID-19 vaccine was explained at a rate of 16.8% by thinking about vaccines, thinking about childhood vaccines, thinking that not being vaccinated is a parent's right, hesitating to have the vaccination before, considering the vaccine necessary, and obtaining negative information about vaccination ($R^2 = 0.168$). The decrease in the degree of considering childhood vaccines as necessary decreases the attitude towards the COVID-19 vaccine ($\beta = -0.453$) (Table 5).

4. Discussion

The investigation of vaccine hesitancy and healthcare professionals' attitudes towards the COVID-19 vaccine, as well as the factors influencing these attitudes, holds significant

importance in attaining the targeted vaccination rates [26]. The objective of the current study was to investigate the attitudes towards the COVID-19 vaccine, levels of vaccine hesitancy, and the factors influencing employees of the Family Health Center (FHC) who provide primary healthcare services. A small number of participants expressed reservations regarding the administration of vaccines. Divergent findings were documented in prior research. In conjunction with the outcomes congruent with our investigation [27–29], a report indicated that the incidence of COVID-19 vaccine hesitancy varied between 4.3% and 72.0% among healthcare personnel globally [13]. It was stated that 41.0% of healthcare workers in South Africa were hesitant about the COVID-19 vaccine [30]. In contrast to previous research, the current study presents a cautious stance towards all vaccines, acknowledging that the levels of vaccine hesitancy may vary due to the data being collected subsequent to the widespread administration of COVID-19 vaccines globally and within our specific country.

The current investigation revealed that participants' total scores for vaccine hesitancy and lack of confidence in the context of the pandemic were found to be below the mean, while their risk subscore was above the mean, indicating a high level of risk perception. This finding provides further support to prior research that has documented the apprehensions expressed by healthcare professionals regarding novel vaccines. One of the identified factors contributing to vaccine hesitancy among healthcare workers in Italy was a perceived lack of confidence in the efficacy and safety of the COVID-19 vaccine [31]. The study conducted in Ethiopia revealed a significant prevalence of COVID-19 vaccine hesitancy among healthcare workers [22]. In China, distrust of the COVID-19 vaccine among healthcare professionals has shown as the main reason for vaccine hesitancy [32]. One of the reasons cited by healthcare professionals in Turkey for their hesitancy towards the COVID-19 vaccine was a lack of trust in its efficacy [33, 34]. The observed phenomenon of vaccine hesitancy and low levels of mistrust

TABLE 3: The correlation between vaccine hesitancy and attitude scores towards COVID-19 vaccine in pandemics.

	Vaccine hesitancy in pandemic total		Lack of confidence		Risk		Attitude towards COVID-19 vaccine total		Positive attitude		Negative attitude	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Vaccine hesitancy in pandemic total	1.000	0.000										
Lack of confidence	0.979**	0.000	1.000	0.000								
Risk	0.570**	0.000	0.391**	0.000	1.000	0.000						
Attitude towards COVID-19 vaccine total	-0.347**	0.000	-0.312**	0.001	-0.306**	0.002	1.000	0.000				
Positive attitude	-0.433**	0.000	-0.412**	0.000	-0.296**	0.003	0.777**	0.000	1.000	0.000		
Negative attitude	-0.186	0.062	-0.151	0.129	-0.228*	0.020	0.888**	0.000	0.394**	0.000	1.000	0.000

** $p < 0.01$; correlation analysis.

TABLE 4: The multiple linear regression analysis between vaccine hesitancy and independent variables in pandemic.

Dependent variable	Independent variable	β	t	p	F	Model (p)	R^2
Vaccine hesitancy in pandemic total	Constant	14.171	2.786	0.006			
	Opinion about vaccines	1.955	1.269	0.207			
	Opinion about childhood vaccines	3.723	1.843	0.068	6.898	0.000	0.226
	Thinking that not having vaccine is a parents' right	-0.180	-0.154	0.878			
	Seeing vaccine necessary	3.894	2.665	0.009			
Linear regression analysis	Having negative information about vaccination	-1.826	-1.038	0.302			

The significant p values are in bold (constant, model, and other significant variables).

TABLE 5: The multiple linear regression analysis between attitude towards COVID-19 vaccine and independent variables.

Dependent variable	Independent variable	β	t	p	F	Model (p)	R^2
Attitude towards COVID-19 vaccine total	Constant	4.800	7.919	$P = 0.000$			
	Opinion about vaccines	-0.238	-1.474	0.144			
	Opinion about childhood vaccines	-0.453	-2.143	0.035			
	Thinking that not having vaccine is a parents' right	0.124	1.012	0.314	4.396	0.001	0.168
	Being hesitant about getting vaccinated	-0.448	-1.744	0.084			
Linear regression analysis	Seeing vaccine necessary	-0.047	-0.285	0.776			
	Having negative information about vaccination	0.040	0.220	0.827			

The significant p values are in bold (constant, model, and other significant variables).

in the current study may potentially be attributed to the extensive utilization of vaccines and their associated impacts. Previous research has posited that prior to the emergency use authorization, a mere one-third of healthcare personnel expressed their willingness to promptly receive the vaccine upon its availability. Subsequently, upon reevaluation of vaccination intentions several months after the commencement of vaccine administration, a mere 7.9% of participants exhibited hesitancy towards receiving either the initial or subsequent doses of the vaccine [35]. No relevant data pertaining to the risk subscale among healthcare employees could be located in the existing literature. However, our findings align with a previous Canadian study involving parents, which indicated that the scores on the “risks” subscale were higher compared to those on the “Lack of confidence” subscale [36].

Previous studies have consistently reported high average scores on the total, positive, and negative attitude subscales among healthcare professionals regarding the COVID-19 vaccine. There is a prevailing acceptance of the COVID-19 vaccine among healthcare personnel [10, 12, 37]. The findings presented herein corroborate the outcomes of the current investigation pertaining to the perspectives held by FHC personnel regarding the COVID-19 vaccine. Healthcare professionals play a crucial role in shaping societal attitudes towards vaccines, as evidenced by their significant involvement in various healthcare practices [11]. For this reason, their attitudes towards vaccines might affect society's perspective on vaccines significantly.

The findings of the current study indicate a statistically significant association between the overall score and nearly all subscales of the vaccine hesitancy scale in the pandemic, as well as the attitude scale towards the COVID-19 vaccine. There was no observed correlation between the scale measuring vaccine hesitancy during the pandemic and the subscale assessing negative attitudes. Similarly, no significant relationship was identified between the subscale measuring lack of confidence and the subscale assessing negative attitudes. Within the scope of these findings, one could posit that there exists a negative correlation between vaccine hesitancy and the attitude towards the COVID-19 vaccine among employees of the FHC. Despite the absence of the existing literature specifically examining the relationship between attitudes towards the COVID-19 vaccine and the vaccine hesitancy scale during the pandemic, previous studies have provided support for the current investigation [34, 38]. A prior investigation conducted in the United Kingdom revealed that healthcare workers who exhibited vaccine hesitancy demonstrated elevated scores on the COVID-19 conspiracy belief scale [16]. The findings of this study indicate that there is a correlation between the reluctance of healthcare workers at FHC to receive vaccinations and their overall attitudes towards the COVID-19 vaccine. In order to obtain more precise and comprehensive data, it is imperative to conduct studies that simultaneously examine both the prevailing attitudes towards the COVID-19 vaccine and the phenomenon of vaccine hesitancy.

The current investigation reveals that the perception of vaccines as only partially necessary contributes to an increase in vaccine hesitancy during the pandemic. A study conducted in the United Kingdom revealed that around 25% of healthcare professionals reported experiencing vaccine hesitancy. Furthermore, the study found that individuals who held provaccine attitudes were less likely to exhibit hesitancy towards COVID-19 vaccines [16]. It has been observed that slightly more than half of the healthcare workers who have not received the second dose of the COVID-19 vaccine are willing to receive the vaccine [39]. In the context of France, it was observed that general practitioners (GPs) who exhibited moderate to high levels of vaccine hesitancy demonstrated lower rates of vaccination compared to their counterparts who displayed minimal vaccine hesitancy [40]. According to a separate study, it was found that healthcare professionals who had received vaccinations were more inclined to endorse and advocate for vaccinations to others [11]. The study conducted in Turkey revealed a higher rate of COVID-19 vaccination acceptance among primary care employees who consistently received annual seasonal influenza vaccinations [19]. Nevertheless, certain healthcare professionals who expressed reluctance towards vaccination contended that their hesitancy towards COVID-19 vaccines should be considered distinct from their previous decisions to vaccinate themselves and their children [41]. In addition, the belief that the COVID-19 vaccine should be mandatory for healthcare workers was found to be higher among healthcare professionals who used scientific journals as a source of information about COVID-19 preventive measures [42]. Healthcare professionals may exhibit variations in their approaches towards the COVID-19 vaccine. Therefore, it is imperative to conduct an investigation into the factors contributing to the vaccine hesitancy observed among employees of FHC, who belong to the high-risk population during the ongoing pandemic.

The current investigation found that a diminished level of perceiving childhood vaccines as essential was associated with a decrease in the inclination towards accepting the COVID-19 vaccine. The recommendations provided by family physicians play a crucial role in influencing families' decisions regarding the vaccination of their children. A separate study conducted in France revealed varying attitudes among family physicians regarding vaccination policies for their relatives and patients [43]. A research study conducted in Turkey revealed that healthcare employees who expressed a desire to receive the COVID-19 vaccination exhibited significantly higher positive and negative attitude scores compared to their counterparts who did not wish to be vaccinated or were undecided [44]. In contrast to the results obtained in the current study, a separate study revealed that healthcare workers who expressed hesitancy towards the COVID-19 vaccine had previously received annual influenza vaccinations and ensured that their children were vaccinated as well [41]. The aforementioned findings indicate that the attitude towards COVID-19 vaccines and the presence of vaccine hesitancy exhibit a multifaceted

framework. Due to the novelty and expedited development of the COVID-19 vaccine, variations in vaccine hesitancy and attitudes can be observed.

4.1. Limitations and Strengths. It is imperative to assess the findings of the current study in light of certain limitations. The inability to establish causal relationships is a limitation of this study due to its cross-sectional design. It is important to note that the findings of this study cannot be extrapolated to the entire city or country due to the limited scope of the research, which solely focused on employees of FHC in the central area of Mardin. Since the information was collected through a self-answered survey by the participants, the reliability of the information and the recall factor should be taken into account. Furthermore, participants may not have revealed their true stance on a sensitive issue regarding COVID-19 vaccine attitudes. Notwithstanding these factors, the study's notable strength lies in its high response rate, as it successfully reached a significant proportion of the population. Moreover, a notable aspect of this study is its pioneering investigation into the correlation between vaccine hesitancy and attitudes towards COVID-19 vaccines during the pandemic within the specific country and region. The significance of this study lies in the emergence of vaccine hesitancy as a prominent issue during the COVID-19 pandemic. The importance of addressing vaccine hesitancy is widely acknowledged in academic and public health discourse.

5. Conclusion

In conclusion, FHC employees had low vaccine hesitancy and high COVID-19 vaccine attitudes. As FHC employees become more hesitant about the COVID-19 vaccine, their attitudes change. Considering the vaccine as partially necessary increases vaccine hesitancy in the pandemic and decreases the attitude towards the COVID-19 vaccine as the degree of needing childhood vaccines decreases. The present study found low vaccination hesitancy and a positive attitude toward the COVID-19 vaccine, but the rate of 13.7% is still important for FHC employees, who are society's role models and the primary application for vaccination. Thus, FHC staff vaccination hesitancy and attitude must be thoroughly examined. Policies must be developed to give them more transparent information on the COVID-19 vaccine and to combat vaccine hesitancy. Methods must be developed to reduce the lack of confidence and risk perception toward vaccines, and firm steps must be taken in this regard.

Data Availability

The datasets used and/or analyzed during the study are available from the corresponding author upon reasonable request.

Ethical Approval

The study adhered to the Declaration of Helsinki principles. The study was approved by the Noninvasive Clinical Research Ethics Committee of a university (13.12.2021/36846).

Consent

Informed consent was obtained from all participants before their participation.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Authors' Contributions

VBD and GY conceptualized the study; VBD and GY supervised the study; VBD and GY were responsible for materials; VBD and GY were responsible for data collection and/or processing; VBD and GY performed analysis and/or interpretation; VBD and GY wrote the original manuscript; VBD initiated the draft of the article and approved the final draft.

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