Nobel Med 2025; 21(2): 97-104

COVID-19 VACCINE HESITANCY AMONG OLDER ADULTS: COMMUNITY-BASED STUDY

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ABSTRACT

Objective: *This study aims to determine the factors that influence vaccine hesitancy in individuals aged 60 and older who have not received the COVID-19 vaccine. Additionally, it seeks to provide knowledge and recommendations to hesitant individuals about getting vaccinated, emphasizing that scientific studies indicate the vaccine's safety and that vaccination is the most effective strategy for protecting against the effects of COVID-19. The study also explores these individuals' ideas for future COVID-19 vaccines in accordance with the guidelines offered.*

Material and Method: *This cross-sectional investigation was carried out between April and May 2022 on 440 older adults aged 60 and up who had not been vaccinated against COVID-19. Researchers prepared a three-part survey. The first section examined socio-demographic factors. The second section included questions about the risk of getting COVID-19, past COVID-19 infection, and hospitalization history. As a final question, it was asked if there were any other vaccines that older adults should take, as well as reasons for not getting vaccinated. Finally, participants were told of the necessity of the COVID-19 vaccine and questioned about their vaccination strategies.*

Results: *This study included 440 participants. The study had 58.4% female and 41.6% male participants, with an average age of 69.11±8.15. "Individuals previously infected with COVID-19 were 4.5 times more likely to refuse vaccination. ($p<0.05$). When asked about their reasons for not getting vaccinated, the most popular responses were fear of adverse effects, followed by unnecessary vaccinations.*

Conclusion: *We observed that many factors are effective in older adults who are not vaccinated against COVID-19. While the most effective factor was being previously infected, factors such as education level, marital status, previous hospitalization, and receiving advice from anyone not to get vaccinated were also effective. This study raised awareness about the COVID-19 vaccine among older adults and impacted the participants' attitudes toward vaccination.*

Keywords: *COVID-19, vaccine, older adults, acceptance.*

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DELIVERING DATE: 06 / 05 / 2024 • **ACCEPTED DATE:** 16 / 09 / 2024

YAŞLILARDA COVID-19 AŞI KARŞITLIĞI: TOPLUM TABANLI ÇALIŞMA

ÖZET

Amaç: Bu çalışmanın amacı, COVID-19 aşısı olmayan 60 yaş ve üzeri yetişkinlerin aşı tereddütlerine etki eden faktörleri belirlemek, tereddüt eden bireylere aşının yapılan çalışmalarla güvenilir olduğunun kabul edildiği ve COVID-19'un etkilerinden korunmada en önemli yöntem olduğu anlatılarak, aşı olmalarına yönelik tavsiyelerde bulunmak ve önerilerin ardından gelecekte COVID-19 aşısı olmaya ilişkin kararlarını saptamaktır.

Materyal ve Metot: Bu kesitsel çalışma, İstanbul'un Sultanbeyli ilçesinde COVID-19 aşısı olmayan 60 yaş ve üzeri, 440 yaşlı yetişkin arasında, Nisan-Mayıs 2022 tarihleri arasında gerçekleştirildi. Araştırmacılar tarafından hazırlanan anket üç bölümden oluşmaktadır. Anketin ilk bölümünde sosyo-demografik özellikler değerlendirildi. İkinci bölümde ise COVID-19'a yakalanma riski, geçirilmiş COVID-19 enfeksiyonu ve hastaneye yatış öyküsü soruldu. Son bölümde ise yaşlıların yaptırması gereken diğer aşıların olup olmadığı ve aşı olmama nedenleri soruldu. Anketin sonunda katılımcılara, COVID-19 aşısının önemi hakkında bilgi verildi ve aşı olmaya yönelik yaklaşımları soruldu.

Bulgular: Bu çalışma 440 katılımcı ile tamamlandı. Katılımcıların %58,4'ünü kadın, %41,6'sını erkek cinsiyet oluşturmakta olup, ortalama yaş 69,11±8,15'dir. Daha önce COVID-19 enfeksiyonu geçirenlerin aşıyı reddetme olasılığı 4,5 kat daha fazlaydı (p<0,05). Aşı olmama nedenleri sorgulandığında, en sık yan etki korkusu ve ardından gereksiz aşılar olduğu belirtildi.

Sonuç: Bu çalışmanın sonucunda, yaşlı yetişkinlerde COVID-19 aşısı olmama üzerine bir çok faktörün etkili olduğu gözlenmektedir. Yaşlıların daha önce enfeksiyonu geçirmiş olması en etkili faktörü oluşturmakta iken, eğitim düzeyi, medeni durumu, daha önce hastane yatışı olması, herhangi birisinden aşı olmaması yönünde tavsiye alması gibi faktörler de aşı kararsızlıklarında etkili olmuştur. Bu çalışma sayesinde yaşlı yetişkinler arasında COVID-19 aşısı hakkında farkındalık oluşturulmuş ve katılımcıların aşı olmaya yönelik tutumları üzerine etkili olunmuştur.

Anahtar kelimeler: COVID-19, aşı, yaşlılar, kabullenme.

INTRODUCTION

The COVID-19 pandemic continues globally and has maintained its severity. As of December 2022, this coronavirus had resulted in over 650 million worldwide reported cases and approximately 7 million deaths. This growing global problem caused many negative economic and social consequences.[1] Although the COVID-19 epidemic has caused millions of infections and deaths all over the world, those most critically affected have been middle-aged and older adults.[2] A study conducted in China reported that the rates of hospitalization with a diagnosis of COVID-19 increased with age: 1% for those aged 20-29, 4% for those aged 50-59, and 18% for those aged over 80.[3]

Vaccination has played a significant role in the fight against this epidemic; it is the most effective way to control most infectious diseases.[4] Even though vaccination programs have led to a significant reduction in the global burden of disease and death, a degree of vaccine hesitancy continues in society for a variety of reasons. Vaccine hesitancy as a result of this distrust can cause more severe infections for individuals, threaten community immunity, and lead to a surge in cases.[5] Studies have indicated that vaccine hesitancy is still a common phenomenon globally, and the reasons for vaccine hesitancy vary greatly.[6-8] Fear of side effects, certain religious beliefs, and lack of knowledge or awareness are the most commonly cited reasons for general vaccine hesitancy.[9-11] These reasons align with the reasons reported for negative attitudes towards the COVID-19 vaccine, including doubts about the vaccine's safety and religious beliefs.[12]

Other factors contributing to vaccine hesitancy are psychological, cognitive, cultural, and socio-demographic.[13] Anti-vaccine publications made during the pandemic period increase vaccine hesitancy.[14] A study found that 27.5% of social media videos about COVID-19 did not contain accurate information and had 60 million views.[15] Alongside research into the extent and magnitude of the ongoing COVID-19 public health threat, it is also necessary to investigate COVID-19 vaccine hesitancy to develop effective interventions and guide response measures.[16,17]

In Turkey, there have been approximately 17 million confirmed cases of COVID-19 infection, and more than 100,000 deaths have been reported.[18] In our country with such high mortality rates, vaccination is of paramount importance, particularly among high-risk groups. In a general public opinion survey conducted by a research company in Turkey between June 3-21, 2021, and including 800 participants over the age of 18, it was reported that the rate of those who

have been vaccinated or want to be vaccinated was 76%, the rate of those who have not been vaccinated and will not be vaccinated was 11%, and the rate of those who have not been vaccinated and are hesitant about whether to be vaccinated was 13%.[19,20]

The COVID-19 pandemic has placed older adults at significant risk of severe illness and mortality. However, high rates of vaccine hesitancy within this population have posed challenges to achieving widespread immunity. Therefore, understanding the reasons behind vaccine hesitancy in older adults is crucial for developing strategies to improve vaccination uptake. This study was designed to ascertain the underlying reasons for the lack of COVID-19 vaccination in older at-risk adults, inform them about the importance of the vaccine, and observe any changes in their attitudes towards vaccination.

MATERIAL AND METHOD

Type of Research

This is a cross-sectional study that has been used as a telephone-based survey design.

Study Population

This study was conducted between April and May 2022 in a district of Istanbul. According to the socio-economic development index, the district has the lowest socio-economic level among other districts of Istanbul.[21] Our district's total population is 349,485 and the population of 60-75 aged consists of 9060 people. The universe of this study consists of 1212 older adults aged above 60 years who had never received any of the COVID-19 vaccines. No Mini-Mental Status Examination (MMSE) was administered to participants aged 60 and above. However, during the informed consent process, it was ensured that participants did not exhibit any cognitive impairments that would prevent their participation in the study. The study did not calculate the sample size, as it aimed at reaching all unvaccinated older adults. We couldn't reach 531 participants for several reasons (they did not have a valid number on the system, or they did not reply when we called twice a day). In addition, 123 participants with foreign nationalities could not be included in the study due to the language barrier, and 118 of the participants refused to participate. The refusal rate among individuals contacted was found to be 9.7%. The refusal rate can be attributed to factors such as general distrust during the pandemic, participants' reluctance to engage in research, and the widespread circulation of vaccine misinformation. The study was completed with 440 older adults. Figure 1 shows the selection of the participants in detail.

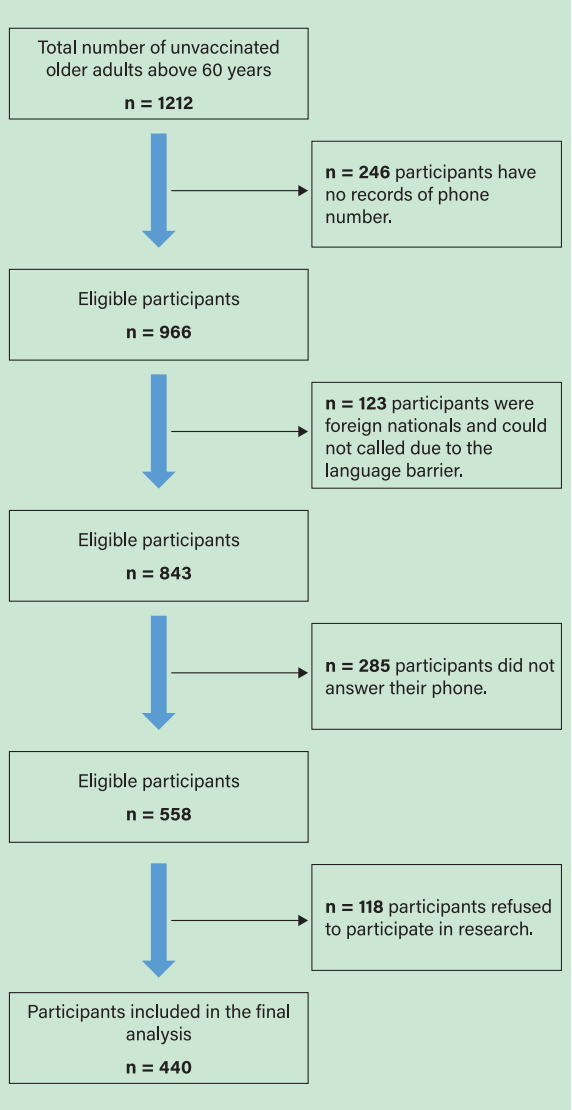

Figure 1. Flow chart on participants' inclusion.

Measuring Tools

Researchers prepared a three-part questionnaire and applied it to the older adults using a telephone. The telephone surveys were conducted by two trained healthcare personnel. Each personnel received standardized training at the beginning of the study, covering telephone survey techniques and the ethical and methodological aspects of the research. The training program was consistent for all healthcare personnel and was completed over one day. Each telephone interview lasted approximately 10-15 minutes. During the interviews, the purpose of the study was explained to the participants, and informed consent was obtained before proceeding.

In the first part of the questionnaire, socio-demographic features such as education level, income level, age, smoking status, and employment status were evaluated. The income level was determined based on 4682 TL (the hunger limit of a single person in Turkey at the

Table 1. Characteristics of participants by intention to receive the COVID-19 vaccination.

		Intention to receive vaccination						*p* value*
		Yes		Unsure		No		
n=440		n	%	n	%	n	%	
Sex	Woman (n=257)	22	8.6	103	40.1	132	51.4	0.803
	Man (n=183)	19	10.4	73	39.9	91	49.7	
Education	Illiterate (n=162)	20	12.3	53	32.7	89	54.9	0.033§
	Literate (n=278)	21	7.6	123	44.2	134	48.2	
Marital Status	Married (n=320)	28	8.8	133	41.6	159	49.7	0.009§
	Single (n=14)	1	7.1	11	78.6	2	14.3	
	Divorced or Widow (n=106)	12	11.3	32	30.2	62	58.5	
Employment	Yes (n=32)	1	3.1	12	37.5	19	59.4	0.370
	No (n=408)	40	9.8	164	40.2	204	50.0	
April-May 2022 Income Status	Below 4682 TL (n=385)	38	9.9	159	41.3	188	48.8	0.423
	Between 4682-5878 TL (n=21)	0	0.0	7	33.3	14	66.7	
	Above 5878 TL (n=6)	1	16.7	1	16.7	4	66.7	
	No answer (n=17)	1	5.9	4	23.5	12	70.6	
	Don't know (n=11)	1	9.1	5	45.5	5	45.5	

§p<0.05. CI– and CI+ are the lower and upper bounds of the 95% confidence interval. *Chi-Square Test

Table 2. Comparison of participants' health perceptions and approaches to getting a COVID-19 vaccine.

		Intention to receive vaccination						*p* value*
		Yes		Unsure		No		
n=440		n	%	n	%	n	%	
Chronic Disease	Yes (n=282)	25	8.9	117	41.5	140	49.6	0.679
	No (n=158)	16	10.1	59	37.3	83	52.5	
Ever consulted a family doctor in the last two years	Yes (n=292)	24	8.2	121	41.4	147	50.3	0.451
	No (n=148)	17	11.5	55	37.2	76	51.4	
Bowel Cancer Screening in the last two years	Yes (n=43)	6	14.0	19	44.2	18	41.9	0.361
	No (n=397)	35	8.8	157	39.5	205	51.6	
Ever Had Pneumonia Vaccine	Yes (n=13)	1	7.7	5	38.5	7	53.8	0.964
	No (n=437)	40	9.4	171	40.0	216	50.6	
Ever Had Flu Vaccine	Yes (n=34)	4	11.8	16	47.1	14	41.2	0.509
	No (n=406)	37	9.1	160	39.4	209	51.5	
Smoking	Yes (n=29)	2	6.9	12	41.4	15	51.7	0.897
	No (n=411)	39	9.5	164	39.9	208	50.6	

*Chi-Square Test

time of data collection). In the second part, the risk of contracting COVID-19, previous COVID-19 infection, and history of hospitalization were asked. The last section asked if older adults should receive other vaccines and the reasons for being unvaccinated. At the end of the questionnaire, researchers gave information to the participants about the importance of COVID-19 vaccination, and they were asked whether they wanted to get vaccinated. The replies were evaluated as "I definitely will", "I am unsure," or "I definitely will not".

Statistical Analysis

Descriptive data are presented as standard deviation values, means and frequency tables. Chi-Square test was used for statistical analysis of the data, to compare variables. The normal distribution of variables was examined using histogram and Kolmogorov-Smirnov/Shapiro-Wilk tests. Confounders have been controlled by Logistic Regression analysis. SPSS Statistics 20.0 (Armonk, New York: IBM Corp.) statistical program trial version was used. p<0.05 was considered statistically significant.

Ethical Approval

Ethical approval was obtained for this study from Istanbul Medipol University Clinical Research Ethics Committee with the decision dated 13.04.2022 and numbered 340. Participants were informed about the research and permits before the study. This study was conducted according to the Declaration of Helsinki.

RESULTS

This research was completed with 440 participants. 58.4% of the participants were female and 41.6% were male, and the mean age was 69.11±8.15. Considering the distribution of the participants according to their literacy status, 36.8% were illiterate. When evaluated according to the per capita income, 87.5% of the participants' monthly income level is below 4682 TL. Among the participants 35.9% stated that they had at least one chronic disease, the most of chronic diseases were diabetes, hypertension, respiratory and neurologic diseases. When the participants were asked how they evaluated their health, 45.2% rated it as good. When the participants were asked whether they had bowel cancer screening, which should be done because they are over the age of 65, in the last two years, a large percentage of 90.2% stated that they did not. At the end of the questionnaire, information was given to the participants about the importance of the COVID-19 vaccine, and as a result, their decisions on receiving the COVID-19 vaccine in the upcoming period were asked. Regarding this, 9.3% of them stated that they definitely will, 40.0% of them stated that they are unsure, and 50.7% of them stated that they definitely will not. The relationship between the sociodemographic characteristics of the participants and their intention to be a COVID-19 vaccine is shown in detail in Table 1.

The effect of the answers given by the participants to the questions about their attitudes and perceptions toward their health on their decision to be vaccinated is shown in detail in Table 2. No relationship was

found between the participants' approaches to getting vaccinated after information and the questions about their health perceptions.

When the participants in this study were asked whether they had received a recommendation from anyone not to be vaccinated, 274 answered yes. A significant difference was found between those who received advice not to be vaccinated and those who did not in terms of the approach to deciding to be vaccinated ($p<0.05$). Those who received advice about not getting vaccinated stated that they would be vaccinated at a significantly lower rate after the information and showed more hesitancy. The relationships of other COVID-19-related variables with approaches to getting vaccinated are shown in detail in Table 3.

Participants were asked why they did not get vaccinated. The reasons why the vaccine was unnecessary were stated because they were most afraid of the side effects. Figure 2 shows the distribution of causes. Other reasons were given as religious reasons, thinking that there is a conspiracy theory, ineffectiveness of the vaccine, lack of time, or disabilities. After the information, the analysis of the participants' decisions to get vaccinated according to the reasons is shown in Table 4 in detail. According to this, it was determined that people who were not vaccinated significantly more accepted not to be vaccinated due to disability, distrust of authorities, ineffectiveness, distrust of companies, disbelief in the pandemic, and unnecessary. It was determined that the participants, who cited lack of time and other reasons, agreed to be vaccinated significantly more.

Multivariate logistic regression (backward LR) analysis was performed with significant variables. As a result of the analysis, those infected by COVID-19 during the pandemic period stated that they would not be vaccinated 4.5 times more. It was determined that those who were not vaccinated due to lack of time, disability, and other reasons were acceptable to be vaccinated. Table 5 shows the results of the multivariate analysis of the variables in detail.

DISCUSSION

This study was conducted to determine COVID-19 vaccine hesitancy and effective factors in older adults, who are the at-risk population during the pandemic period, to inform those who are hesitant in the light of the literature on the protection of the vaccine and then to observe the change in their decisions. The most important factor affecting the decisions of older adults who have never received a COVID-19 vaccine is

Table 3. Characteristics of participants related to COVID-19 by intention to receive the COVID-19 vaccination.

		Intention to receive vaccination						*p*-value*
		Yes		Unsure		No		
n=440		n	%	n	%	n	%	
Anyone suggested getting vaccinated	Yes (n=81)	5	6.2	25	30.9	51	63.0	0.233
	No (n=359)	36	10.0	151	42.1	172	47.9	
Anyone suggested not getting vaccinated	Yes (n=274)	25	9.1	118	43.1	131	47.8	0.048§
	No (n=166)	16	9.6	58	34.9	92	55.4	
Risk Of Contracting COVID-19	No Risk (n=98)	7	7.1	35	35.7	56	57.1	0.010§
	Low Risk (n=227)	18	7.9	84	37.0	125	55.1	
	Moderate and High Risk (n=115)	16	13.9	57	49.6	42	36.5	
Relatives Ever Infected By COVID-19	Yes (n=343)	31	9.0	143	41.7	169	49.3	0.396
	No (n=97)	10	10.3	33	34.0	54	55.7	
Been Hospitalized	Yes (n=81)	11	13.6	39	48.1	31	38.3	0.037§
	No (n=359)	30	8.4	137	38.2	192	53.5	
Infected By COVID-19 During The Pandemic	Yes (n=248)	27	10.9	109	44.0	112	45.2	0.028§
	No (n=192)	14	7.3	67	34.9	111	57.8	
PCR Test For COVID-19 Before	Yes (n=306)	27	8.8	137	44.8	142	46.4	0.008§
	No (n=134)	14	10.4	39	29.1	81	60.4	

§$p<0.05$. CI– and CI+ are the lower and upper bounds of the 95% confidence interval. *Chi-Square Test

that they have previously had a COVID-19 infection. Another important factor is that they receive advice from anyone not to get vaccinated. Regarding the reasons for not being vaccinated, the most common reasons were fear of side effects and distrust of the ingredients of the vaccines.

The COVID-19 pandemic has caused a great deal of economic, sociological, and psychological damage to society as a result of its epidemiological features (prevalence, lethality, and contagiousness), and these effects continue.[22] COVID-19 still does not have a fully effective treatment, and vaccine hesitancy and rejection are among the top ten threats to global health.[23] In this context, the use of the COVID-19 vaccine needs to be better understood in order to limit the transmission and severe effects of this disease.

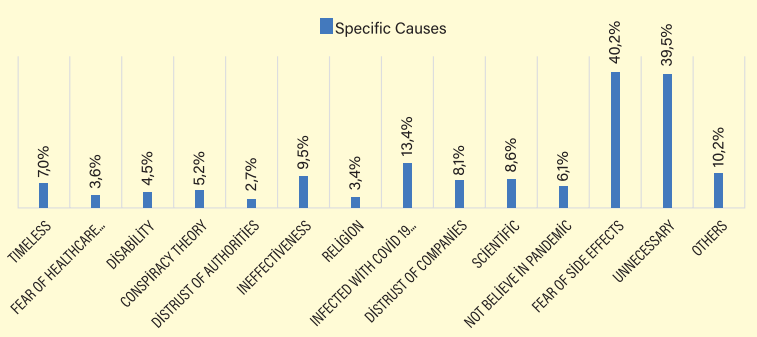

Figure 2. Identification of specific causes of vaccination refusal in unvaccinated older adults. Identification of specific causes of vaccination refusal in unvaccinated older adults.

Table 4. Approaches of the participants according to the reasons for not being vaccinated

		Intention to receive vaccination						*p* value*
		Yes		Unsure		No		
n=440		n	%	n	%	n	%	
Timeless	Yes (n=31)	9	29.0	15	48.4	7	22.6	<0.001§
	No (n=409)	32	7.8	161	39.4	216	52.8	
Fear of Healthcare Professional	Yes (n=16)	0	0.0	4	25.0	12	75.0	0.110
	No (n=424)	41	9.7	172	40.6	211	49.8	
Disability	Yes (n=20)	5	25.0	5	25.0	10	50.0	0.035§
	No (n=420)	36	8.6	171	40.7	213	50.7	
Conspiracy theory	Yes (n=23)	2	8.7	7	30.4	14	60.9	0.588
	No (n=417)	39	9.4	169	40.5	209	50.1	
Distrust of authorities	Yes (n=12)	0	.0	1	8.3	11	91.7	0.016§
	No (n=428)	41	9.6	175	40.9	212	49.5	
Ineffectiveness	Yes (n=42)	1	2.4	12	28.6	29	69.0	0.030§
	No (n=398)	40	10.1	164	41.2	194	48.7	
Religion	Yes (n=15)	1	6.7	5	33.3	9	60.0	0.757
	No (n=425)	40	9.4	171	40.2	214	50.4	
Infected with COVID-19 before	Yes (n=59)	8	13.6	25	42.4	26	44.1	0.368
	No (n=381)	33	8.7	151	39.6	197	51.7	
Distrust of companies	Yes (n=36)	1	2.8	4	11.1	31	86.1	<0.001§
	No (n=404)	40	9.9	172	42.6	192	47.5	
Scientific	Yes (n=38)	0	.0	9	23.7	29	76.3	0.002§
	No (n=402)	41	10.2	167	41.5	194	48.3	
Not believing in the Pandemic	Yes (n=27)	1	3.7	5	18.5	21	77.8	0.015§
	No (n=413)	40	9.7	171	41.4	202	48.9	
Fear of side effects	Yes (n=177)	12	6.8	65	36.7	100	56.5	0.090
	No (n=263)	29	11.0	111	42.2	123	46.8	
Unnecessary	Yes (n=174)	10	5.7	55	31.6	109	62.6	<0.001§
	No (n=266)	31	11.7	121	45.5	114	42.9	
Others	Yes (n=45)	8	17.8	28	62.2	9	20.0	<0.001§
	No (n=395)	33	8.4	148	37.5	214	54.2	

§p <0.05. CI– and CI+ are the lower and upper bounds of the 95% confidence interval. *Chi-Square Test

Table 5. Multivariate analysis of variables*

	p value	OR	95% C.I. for OR	
			Lower	Upper
Timeless (ref: no)	<0.001§	0.192	0.076	0.486
Scientific (ref: no)	0.998	1.068	0.209	44.302
Disability (ref: no)	0.006§	0.185	0.056	0.610
Others (ref: no)	0.003§	0.242	0.094	0.622
Education (ref: illiterate)	0.079	1.859	0.930	3.719
Risk Of Contracting COVID-19 (ref: no risk)	0.034§	0.553	0.320	0.955
Infected By COVID-19 During The Epidemic (ref: no)	0.015§	4.554	1.338	15.496
PCR Test For COVID-19 Before (ref: no)	0.010§	0.192	0.054	0.679
Constant	0.005§	21.874		

*Education status, marital status, risk of contracting COVID-19, being infected by COVID-19 during the epidemic, Pcr test for COVID-19 before, Hospitalization status for COVID-19, whether someone did not recommend the COVID-19 vaccine, and the significant reasons included the analysis. Bold values are significant with §$p < 0.05$. CI– and CI+ are the lower and upper bounds of the 95% confidence interval.

Vaccination levels that will create community immunity and the reasons underlying COVID-19 vaccine hesitancy must be analyzed, and people must be directed to trustworthy and comprehensive information sources.

This study focused on older, at-risk adults who had never been vaccinated for COVID-19. Our findings show that, after learning about the vaccine from a healthcare worker, 50% stated that they still would not get vaccinated, 40% stated that they would think about it, and 10% decided that they would. Although we could not follow up on their statements, it seems that even this short briefing had some positive effects.

The educational status of the participants was also taken into consideration, as this may have an impact on their attitudes toward getting vaccinated. We found that illiterate people were significantly likelier to refuse vaccinations. Similarly, a study conducted in Portugal determined that individuals with lower education levels were more likely not to be vaccinated than individuals with university degrees.[24] The results are similar to those of other studies evaluating the relationship between vaccination hesitancy and education.[25,26] When the participants were asked to categorize their risk level for COVID-19, it was seen that those who defined themselves as high risk were likelier to accept vaccination, while those who identified as not at risk were significantly likelier to refuse. Consistent with this study, a study evaluating COVID-19 vaccine hesitancy in Israel reported that people accepting vaccination were significantly more likely than those at high risk.[27] It should be noted that risk perception is a significant factor affecting risky behaviors, and people who perceive low risk tend to have riskier behaviors or reduce preventive behaviours.

When the participants were asked about any previous COVID-19 infection, 56% stated that they had been infected. After talking with a healthcare worker, we found that those who had been previously infected were likelier to hesitate about vaccination; the rate of vaccine acceptance was 4.5× higher in those who had not had a COVID-19 infection. In contrast, in a review that evaluated multiple studies, no significant difference in vaccine acceptance was found between those who had been infected with COVID-19 and those who had not.[28] They postulated that this result was due to people having had COVID-19 either recently or mildly. Looking past infection to hospitalization, our study found that the relationship between hospitalization and intention to be vaccinated was significant; those who had been hospitalized for COVID-19 tended to accept vaccination more readily.

Based on this, it can be inferred that those who have more severe COVID-19 are likelier to agree to vaccination.

When asked why they were not vaccinated, the participants gave answers such as lack of time, disability, distrust of vaccines, religious reasons, not believing in its efficacy, and not believing in the pandemic. The primary reason given was a fear of side effects, and the next most common reason was considering the vaccine ineffective. In a study evaluating vaccine hesitancy among hospital personnel, the most common reasons given were distrust of the vaccine and lack of belief in its efficacy.[29] In an Israeli study evaluating the reasons for vaccine hesitancy in 1941 participants, concerns about the quality of the vaccine and side effects were the first and second most common reasons, respectively.[27]

For these reasons, their approaches to vaccination were evaluated. According to this, it was determined that those who stated a lack of time, disability, and other reasons were more inclined to accept being vaccinated. In this respect, it is essential to determine the reasons behind the older population, which is stated to be a risky group for COVID-19, not being vaccinated. Vaccination services should be provided to older adults with disabilities, and those who state that it is untimely should be given time. Again, distrust of pharmaceutical companies, distrust of authorities, and scientific reasons were also found to be significantly related to the intention to be vaccinated. In a study conducted in England and Ireland, it was stated that distrust of healthcare professionals, scientists, authorities, and conspiracy theories was significantly associated with vaccine hesitancy.[13]

This study was limited by several factors. First, the data were collected based only on participant declarations, with no verification of their statements. It could not be determined whether they received COVID-19 vaccine after the research. Secondly, it has been conducted in a single center. Despite these limitations, there are also strengths. First, this study provides information about the potential barriers to taking vaccines and attitudes towards vaccination of older adults, who are a significant risk group for COVID-19. This study is also strong with older adults who have never been vaccinated against COVID-19. Vaccination intention may be higher given the actual vaccination rate; therefore, vaccine intention and hesitancy should be continuously monitored and evaluated to modify strategies as necessary.

CONCLUSION

During the COVID-19 pandemic, older adults are risk groups for severe complications of infection. It is the most important way to be protected from the serious effects of COVID-19, and older adults should be supported to get vaccinated. In our study, the high rates of vaccine hesitancy (40%) and refusal (50%) were observed, and it reflects the prevalent lack of trust and knowledge regarding vaccines in the community. This phenomenon, which is well-documented in the literature, appears to have been exacerbated by the unique concerns surrounding the COVID-19 pandemic. Additionally, it was observed that participants who had not previously received any recommendation to get vaccinated were more likely to refuse vaccination. This finding highlights the significant influence that healthcare professionals have on individuals' vaccination decisions. It should be done by healthcare professionals to raise awareness among older adults about vaccination. Information on vaccine applications and effects in older adults has been presented to them without judgment, understanding their concerns with a sensitive approach. When implemented as part of the public health policies, vaccination of older adults has a significant role in achieving success against the COVID-19 pandemic.

*The authors declare that there are no conflicts of interest.

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