DOI: https://doi.org/10.53350/pjmhs22162533

ORIGINAL ARTICLE

Evaluation of Attitudes of Students Studying at a Healthcare University Toward COVID-19 Vaccinations

BİRKAN TAPAN[1], TUĞÇE ELBÜKEN[2], BÜŞRA ÖZÇELİKÇİ[3], NURDAN YILDIRIM[4]
[1]Associate Professor, Department of Health Management, Demiroğlu Bilim University, Istanbul.
[2]Public Health Master's Degree Student, Vocational School of Health Services, Demiroğlu Bilim University, Istanbul.
[3]Research Associate, Department of Nutrition and Dietetics, Demiroğlu Bilim University, Istanbul.
[4]MD, Faculty Member, Florence Nightingale Hospital School of Nursing, Demiroğlu Bilim University, Istanbul.
Correspondence to: Büşra Özçelikçi, Email: busraozcelikci@gmail.com, Cell: 0535 217 20 06.

ABSTRACT

Purpose: In this study, it is aimed to evaluate the perspectives of individuals who will provide health services in the future, about the vaccine, which is created as a method of protection against the disease that affects the whole world.

Methods: Demographic information, health information form and informed attitude scale towards COVID-19 vaccination were prepared by the researchers and used in the research conducted with 532 students of the University of Health in November-December 2021.

Findings: Educational level in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully lower than the group having an attitude score above 31 towards COVID-19 vaccination($p < 0.05$). The rate of diseases diagnosed by a doctor in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully higher than the group having an attitude score above 31 towards COVID-19 vaccination($p < 0.05$).

Results: According to the data obtained from our study, it was found out that attitude scores of students increased as their knowledge level increased. Even though healthcare professionals tend to accept vaccination, they should primarily be informed and educated on vaccination in an attempt to increase vaccination rates. It not only protects healthcare professionals that are exposed to high risk of infection but also reduces communication of the disease to their families. Their attitude towards vaccination also serves as a model for the vaccination of their patients and society.

Keywords: Attitude Towards Vaccination, COVID-19, COVID-19 Vaccination, University Students.

INTRODUCTION

Fair access to safe and effective vaccines is critical to ending the COVID-19 pandemic. For this reason, it is extremely promising to see that many vaccines are proven and developed today[1]. The world is in the COVID-19 pandemic, and WHO and partners are working together to develop and distribute safe and effective vaccines as they work together on the response, such as tracking the pandemic, advising on critical interventions, distributing vital medical supplies to those in need. In the meantime, vaccines save millions of lives each year. Vaccines work by preparing the body's natural defense, the immune system, to recognize and fight the viruses and bacteria they target. WHO states that as of November 15, 2021, seven vaccines meet the criteria for safety and efficacy against COVID-19: AstraZeneca/Oxford, Johnson and Johnson, Moderna, Pfizer/BioNTech, Sinopharm, Sinovac, COVAXIN[2].

Studies show that COVID-19 vaccine hesitancy and refusal is a worldwide problem. Indeed, different age groups may have different and specific attitudes and concerns regarding the acceptance of the COVID-19 vaccine. For an effective immunization plan, it is essential to investigate the sociodemographic and psychosocial factors that affect vaccine acceptance. Thus, policymakers and practitioners need to address the concerns of high-risk groups by evaluating the perceived risks of COVID-19 in cognitive and emotional dimensions, adapting their vaccine-related messages according to the decision-making dynamics of university students[3]. Studies emphasize that individuals are more willing to be vaccinated when they think that vaccination is recommended by health care providers[4].

The students studying in a healthcare department will be able to use their knowledge and personal experience about the COVID-19 vaccine to educate their relatives, friends, the patients they will provide care for in the hospital, and the community on the importance of getting vaccinated. As students, if their attitude towards vaccination is positive, they will be able to encourage other students to get vaccinated. Thus, it is important to examine the relevant factors that affect their willingness to have COVID-19 vaccinations because it is important to understand the perceptions and attitudes of students studying in a healthcare department towards vaccination, and this can help educational institutions to develop effective interventions to increase the vaccination rate, and provide evidence to improve vaccination rates[5]. There is a limited number of studies that evaluated the attitudes of students studying in a healthcare department toward vaccination. This study aims to evaluate the attitudes of students in a healthcare university toward COVID-19 vaccinations.

MATERIAL AND METHODS

Demographic information, health information form and informed attitude scale towards COVID-19 vaccination were prepared by the researchers and used in the research conducted with 532 students of the University of Health in November-December 2021. SPSS 28.0 program was used in the analyses.

RESULTS

A total of 532 university students as 104 males and 428 females participated in the study. As the statistical method, mean, standard deviation, median, minimum, maximum, frequency, and ratio values were used in the descriptive statistics of the data. The distribution of variables was measured with the Kolmogorov-Smirnov test. The Mann-Whitney u test was used in the analysis of quantitative independent data. The Chi-square test was used in the analysis of qualitative independent data, and the Fisher test was used when the chi-square test conditions were not met. SPSS 28.0 program was used for analysis.

Table 1:

		Attitude Scale Towards COVID-19 Vaccination							p	
		Point ≤ 31				Point > 31				
		Avrg.±ss/n-%				Avrg.±ss/n-%				
Age		21.0	±	3.6		20.8	±	3.7	0.051	m
Gender	Female	216		79.1%		212		81.9%	0.427	x^2
	Male	57		20.9%		47		18.1%		
Which academic unit you are receiving education at?	Associate Degree	169		61.9%		146		56.4%	0.001	x^2
	Bachelor's Degree	90		33.0%		74		28.6%		
	Faculty of Medicine	14		5.1%		39		15.1%		
Do you have any diseases diagnosed by a doctor?	No	248		90.8%		220		84.9%	0.038	x^2
	Yes	25		9.2%		39		15.1%		
Chronic diseases	Hypertension	0		0.0%		1		2.6%	1,000	x^2
	Diabetes	1		4.0%		2		5.1%	1,000	x^2
	Asthma	4		16.0%		6		15.4%	0.652	x^2
	Other	8		32.0%		17		43.6%	0.652	x^2
	No information	12		48.0%		13		33.3%		
Do you take any medications regularly?	No	251		91.9%		227		87.6%	0.101	x^2
	Yes	22		8.1%		32		12.4%		

Table 2:

		Attitude Scale Towards COVID-19 Vaccination							p	
		≤ Cut off 31				> Cut off 31				
		n		%		n		%		
Did you have COVID-19 infection before?	No	191		70.0%		188		72.6%	0.504	x^2
	Yes	82		30.0%		71		27.4%		
Do you have a relative that was treated in intensive care unit due to COVID-19?	No	196		71.8%		164		63.3%	0.037	x^2
	Yes	77		28.2%		95		36.7%		
Were you vaccinated?	No	5		1.8%		1		0.4%	0.115	x^2
	Yes	268		98.2%		258		99.6%		
Vaccinated people should be positively discriminated.	No	102		37.4%		44		17.0%	0.000	x^2
	I have no idea	103		37.7%		74		28.6%		
	Yes	68		24.9%		141		54.4%		
Do you think vaccination is required to go abroad?	No	56		20.5%		4		1.5%	0.000	x^2
	Yes	217		79.5%		255		98.5%		
Only unvaccinated people should be subject to restrictions from now on.	No	110		40.3%		63		24.3%	0.000	x^2
	I have no idea	45		16.5%		31		12.0%		
	Yes	118		43.2%		165		63.7%		
Unvaccinated citizens should not be allowed to enter indoor areas.	No	77		28.2%		17		6.6%	0.000	x^2
	I have no idea	35		12.8%		18		6.9%		
	Yes	161		59.0%		224		86.5%		
I find inactivated vaccines sufficiently safe.	No	96		35.2%		44		17.0%	0.000	x^2
	I have no idea	152		55.7%		135		52.1%		
	Yes	25		9.2%		80		30.9%		
I find mRNA vaccines sufficiently safe.	No	79		28.9%		27		10.4%	0.000	x^2
	I have no idea	149		54.6%		112		43.2%		
	Yes	45		16.5%		120		46.3%		
The country where the vaccine is produced is important for its reliability.	No	35		12.8%		53		20.5%	0.023	x^2
	I have no idea	83		30.4%		59		22.8%		
	Yes	155		56.8%		147		56.8%		

Table 3:

	Min-Max Median	Mean±SD/n-%		
The Scale of Attitudes Towards COVID-19 Vaccine 9.0 - 45.0	31.0	31,0	±	6,5
I want my family members to have the vaccine developed for this disease.	I strongly disagree	21		3,9%
	I do not agree	33		6,2%
	I'm undecided	125		23,5%
	I agree	216		40,6%
	I strongly agree	137		25,8%

I want to have the vaccine developed for this disease at the first opportunity.	I strongly disagree	32		6,1%
	I do not agree	56		10,6%
	I'm undecided	163		30,9%
	I agree	180		34,1%
	I strongly agree	97		18,4%
I think everyone should have the vaccine developed for this disease.	I strongly disagree	24		4,5%
	I do not agree	41		7,7%
	I'm undecided	134		25,2%
	I agree	209		39,3%
	I strongly agree	124		23,3%
I trust the explanations made about the developed vaccine.	I strongly disagree	34		6,4%
	I do not agree	56		10,5%
	I'm undecided	272		51,2%
	I agree	138		26,0%
	I strongly agree	31		5,8%
The developed vaccine may cause the transmission of the disease.	I strongly disagree	54		10,2%
	I do not agree	173		32,7%
	I'm undecided	230		43,5%
	I agree	57		10,8%
	I strongly agree	15		2,8%
I think that the developed vaccine does not have a protective effect.	I strongly disagree	78		14,7%
	I do not agree	219		41,3%
	I'm undecided	169		31,9%
	I agree	46		8,7%
	I strongly agree	18		3,4%
The developed vaccine is dangerous.	I strongly disagree	73		13,8%
	I do not agree	219		41,4%
	I'm undecided	214		40,5%
	I agree	14		2,6%
	I strongly agree	9		1,7%
I think the effectiveness of the developed vaccine has not been adequately tested.	I strongly disagree	28		5,3%
	I do not agree	130		24,6%
	I'm undecided	220		41,6%
	I agree	107		20,2%
	I strongly agree	44		8,3%
I think I can get over the pandemic without vaccination.	I strongly disagree	116		22,0%
	I do not agree	164		31,1%
	I'm undecided	147		27,9%
	I agree	72		13,7%
	I strongly agree	28		5,3%

The patients' age, gender distribution, marital status distribution, monthly income and presence of an individual above the age of 55 in the same house did not show a meaningful difference in the groups having an attitude score under and above 31 towards COVID-19 vaccination ($p > 0.05$). Educational level in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully lower than the group having an attitude score above 31 towards COVID-19 vaccination ($p < 0.05$) (Table-1).

The rate of diseases diagnosed by a doctor in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully higher than the group having an attitude score above 31 towards COVID-19 vaccination ($p < 0.05$) (Table-2).

The rate of having had COVID-19 infection before, the rate of looking after someone infected with COVID-19, the rate of having a relative that died due to COVID-19 infection, the rate of being vaccinated, vaccine dose and adverse effects of the vaccine did not show a meaningful difference in the groups having an attitude score under and above 31 towards COVID-19 vaccination ($p > 0.05$).

The rate of those having a relative that was treated in intensive care unit due to COVID-19 in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully lower than the group having an attitude score above 31 towards COVID-19 vaccination ($p < 0.05$) (Table-2).

The rate of agreeing to the phrases "Vaccinated people against COVID-19 should be positively discriminated", "Vaccination is required to go abroad", "Only unvaccinated people should be subject to restrictions from now on", "Unvaccinated citizens should not be allowed to enter indoor areas", "I find inactivated vaccines sufficiently safe", "I find mRNA vaccines sufficiently safe", and "The country where the vaccine is produced is important for its reliability" in intensive care unit due to COVID-19 in the group having an attitude score under 31 towards COVID-19 vaccination was found out to be meaningfully lower than the group having an attitude score above 31 towards COVID-19 vaccination ($p < 0.05$) (Table-2).

DISCUSSION

When the attitude of students toward COVID-19 vaccination is examined in the literature, in a study conducted in 2021 with students studying in a healthcare

university in Romania, 88.5% of the students were in favor of vaccination, 7.8% were undecided and 3.7% were opposed to vaccination. The main reason for vaccine refusal has been identified as the perceived speed of vaccine development. Concern for long-term adverse reactions was present in only 11.5% of participants, and this was significantly more common in those who were undecided individuals and opponents[6]. Due to the spread of the second coronavirus wave in Slovakia, a cross-sectional study was conducted in 2021. The research was carried out on 1228 students, 880 (71.7%) vaccinated and 348 (28.3%) unvaccinated. The lowest vaccination rates were observed for the first and second-year students, students living at home with their families, and students living in urban areas. Only 22.4% of medical students were concerned about the serious side effects of the COVID-19 vaccine and 38.8% believed that the COVID-19 vaccine might not be effective[7]. In another study, the group with and without medical students was examined. In this study, it was seen that most of the medical students demanded to be vaccinated and it was among the biggest concerns that the elderly individuals were more affected by this infection[8]. Many of those who wanted to get the COVID-19 vaccine in India stated that it was important for them to attend face-to-face classes and get back to their personal lives. About three-quarters of medical students felt that the COVID-19 vaccine should be made mandatory for both healthcare professionals and international travelers[9]. In another study conducted in Canada, two surveys were conducted in June and September to determine university students' perspectives, vaccination plans, and hesitations about the COVID-19 vaccine. While 77.8% (n=483) of the students who participated in the survey in June were willing to have the COVID-19 vaccine, in September, 79.6% (n=1269) were found to be willing. The first survey was found to predict the likelihood of being willing to receive the COVID-19 vaccine. In the second survey, students who stated that they would be encouraged to get the COVID-19 vaccine if their physician/pharmacist recommended it were 76 times more likely to be willing to get the vaccine compared to those not encouraged with medical advice. The study results have raised concerns about the speed of release, safety, and efficacy of the vaccine. The majority of college students are considering getting the COVID-19 vaccine. However, there are concerns about efficacy and safety that should be considered by public health officials when the vaccine is offered to this group. Ensuring that family physicians, pharmacists, and other front-line healthcare professionals have consistent and clear information about the benefits of vaccination will be critical to promoting vaccination among young adults[10].

CONCLUSION

According to the results obtained from our study, it has been observed that the attitude towards the COVID-19 vaccine increases with the educational level. In addition, there is an increase in the attitudes of the group with chronic disease towards vaccination compared to the group without chronic disease. The vaccination attitudes of individuals with relatives who received intensive care treatment during the pandemic are low. In the group with low attitudes towards the vaccine, the opinion that there should be positive discrimination against those who have been vaccinated, that the vaccine is necessary for traveling abroad, and that the restrictions should only be for the non-vaccinated individuals, were found to be low. In the group with low attitudes towards the vaccine, the idea that non-vaccinated citizens should not be taken into closed areas, that inactivated and mRNA vaccines are safe enough, and that the country where the vaccine was produced is important in terms of safety was found to be low. In the group with low attitudes towards the vaccine, the idea that unvaccinated citizens should not be taken indoors, the idea that inactivated and mRNA vaccines are safe enough, and the opinion that the country where the vaccine was produced is important in terms of safety were found to be low. There are studies supporting the results of our study in the literature. We think that more comprehensive studies on this subject should be conducted in the future.

REFERENCES

1 World Wide Web Home page World Health Organization. [Homepage of the World Health Organization] [online] [cited 2021 December 12]. Available from: URL: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines

2 World Wide Web Home page World Health Organization. [Homepage of the World Health Organization] [online] 2021 November 15 last update. [cited 2021 December 12]. Available from: URL: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines/advice/

3 Qiao S, Tam CC, Li X. Risk exposures, risk perceptions, negative attitudes toward general vaccination, and COVID-19 vaccine acceptance among college students in South Carolina. Am J Health Promot 2022; 36(1): 175-9.

4 Reiter PL, Pennell ML, Katz ML. Acceptability of a COVID-19 vaccine among adults in the United States: How many people would get vaccinated? Vaccine 2020; 38(42): 6500-7.

5 Jiang N, Wei B, Lin H, Wang Y, Chai S, Liu W. Nursing students' attitudes, knowledge and willingness of to receive the coronavirus disease vaccine: A cross-sectional study. Nurse Educ Pract 2021; 55: 103148.

6 Bălan A, Bejan I, Bonciu S, Eni CE, Ruță S. Romanian medical students' attitude towards and perceived knowledge on COVID-19 vaccination. Vaccines 2021; 9(8): 854.

7 Sovicova M, Zibolenova J, Svihrova V, Hudeckova H. Odds ratio estimation of medical students' attitudes towards COVID-19 vaccination. Int J Environ Res Public Health 2021; 18(13): 6815.

8 Szmyd B, Bartoszek A, Karuga FF, Staniecka K, Błaszczyk M, Radek M. Medical students and SARS-CoV-2 vaccination: attitude and behaviors. Vaccines 2021; 9(2): 128.

9 Jain J, Saurabh S, Kumar P, Verma MK, Goel AD, Gupta MK, et al. COVID-19 vaccine hesitancy among medical students in India. Epidemiol Infect. Published Online First: 20 May 2021 doi: 10.1017/S0950268821001205.

10 Mant M, Aslemand A, Prine A, Jaagumägi Holland A. University students' perspectives, planned uptake, and hesitancy regarding the COVID-19 vaccine: A multi-methods study. PloS One. Published Online First: 3 August 2021 doi:10.1371/journal.pone.0255447.