

Awareness of Undergraduate Students towards COVID 19 Vaccine and their Willingness to be Vaccinated

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ABSTRACT

In order to satisfactorily control the COVID-19 pandemic, the vaccination program against it must be successful, so the aim of this study was to assess the awareness and desire to vaccinate for undergraduate students and the factors that influence the levels of that knowledge. A cross-sectional study was conducted with the participation of 554 undergraduate students from September 19 to October 20, 2021 through online survey. It proved that the vaccination acceptance rate was high (84.1%) and that the majority of their family members are ready to receive the vaccination (64.3%). They also have good knowledge of the vaccine except for the belief in the safety of the vaccine (64.35%). We concluded that despite the belief that vaccines are not safe; the vaccination has been widely accepted. Health education and adequate information about immunizations are important to build confidence about immunizations among nursing students. Thus, the increased vaccination campaigns among nursing students make it one of the ways to combat this epidemic.

Keywords: Vaccination, COVID 19, health safety.

INTRODUCTION

Corona virus disease (COVID-19) affects the respiratory system, causing advanced pneumonia, which may result in multi-organ failure to death [1,2]. The first infection was recorded at the end of 2019 in Wuhan, China, and then infections increased rapidly around the world, which consumed a huge impact on health care workers [3,4].

WHO announced it a global pandemic in early 2020, and it has become a serious international concern for community health [5]. This disease negatively affected the livelihood in general and health care services in particular [6]. To date, there is no effective treatment for this infection [7]. Therefore, vaccinations are the only way to protect the population from COVID-19 [8]. Vaccination can help achieve herd immunity if a large section of the population is vaccinated [9].

It is worth noting that Iraq started the vaccination campaign in March 2021 with priority given to health workers on the front lines, and later the government developed a comprehensive vaccination strategy for anyone over the age of twelve. In the academic year 2021-2022, the Iraqi Ministry of Higher Education decided that the study system would be integrated between electronic distance learning and attendance at educational institutions. Therefore, the Ministry instructed under graduates' students to choose between annual vaccination and bringing a negative test result for the PCR analysis every 14 days.

With the start of vaccination campaigns in various countries of the world, some began to spread fear and incite people not to vaccinate and try to convince them of the ineffectiveness of vaccination and its harmful effects [10]. Nursing and health care students are considered the core of student groups, who are responsible for spreading community health education and awareness [11]. Therefore, the current study aimed to determine students' awareness of the COVID 19 vaccination also to assess the extent of readiness to receive it among students of the College of Nursing and Kirkuk Technical Institute.

METHODOLOGY

An online cross-sectional survey was conducted to appreciate the awareness of 554 participants towards the COVID-19 vaccine and their willingness for vaccination during the period from September 19 to October 20, 2021. The inclusion criteria were for both genders and ages 18 years old and over for students of the College of Nursing/University of Kirkuk and Nursing Techniques/Kirkuk Technical Institute located in Kirkuk Governorate, northern Iraq. The questionnaire included 3 main axes as follows: the demographic characteristics of the participants, the vaccination status of the family, the willingness of the participants to be vaccinated, and the participants' knowledge of COVID-19

vaccines. Before the participants filled out the online questionnaire, the purpose of the study was explained to them, and the duration of answering the questionnaire was set at 3 weeks. The questionnaire used a closed-ended Likert-scale question that was measured on two rating scales (yes and no). The linguistic scale was used to rank items of knowledge, (2) for the answer (yes) and (1) for the answer (no). The level of knowledge was estimated by calculating the average score and cut-off point for the general scale of knowledge and recorded as follows: weak knowledge: (1 - 1.50) and good knowledge: (1.51- 2). The alpha coefficient was used to determine the reliability of the current study instrument by applying the SPSS statistical package.

RESULTS AND DISCUSSION

Table (1) shows the distribution of participants in the study according to their social and demographic characteristics. The results proved that the majority of the participants were females (60.6%) and the rest (39.4.0%) were males. As for the age variable, the largest percentage was for the age group (20-21) years, with an amount of (43.0%). This finding was in agreement with previous study by Fontenot and companions (2021) in the United States, which indicated that the average age of a nursing student was (18-22) years with a proportion of (78.8%) [12]. More than half of the participants (84.8%) lived in urban areas while (15.2%) of them lived in rural areas and the majority of them did not graduate from college of nursing (69.5%).

This result supported what was reached in a previous study conducted in Bangladesh, which found that the majority of the study members lived in an urban area (65.6%) and the remaining were living in rural areas (34.4%) and most of them were at an educational level (82.6%) [13]. Also, results showed that the majority of them were infected with the Corona virus (72.2%), while (27.8%) were not previously infected. This result is not related to the European study, which found that the majority of participants (88.2%) were uninfected with COVID-19, and only (11.8%) of them were previously suffering from this disease [14].

As for frequent contact with people infected with COVID-19, most of them were already in contact with an infected person (85.9%) and (14.1%) of them were not in contact. This finding supported the result of a study conducted in Warsaw, Poland where it confirmed that most participants (49.4%) had COVID-19 infection in the lineal environment [15]. Regarding family members or friends who died from COVID-19 infection, the majority of participants showed a high percentage (72.6%) of members who died familiar to the participants in this study. This is similar to the results of a previous study conducted in Palestine, which found that about (50.6%) of the sample knew personally someone who had died of COVID-19 infection [16].

Finally, for the main source of information about the Corona vaccine, the highest percentage was from those who depended on (36.1%) health care workers, followed by (35.4%) from the World Health Organization. This is similar to the study conducted in southwest China, which found that (65.3%) of the study sample get their vaccine information from healthcare staff [17].

Table 1: Distribution of participants according to their basic demographic characteristics.

Variable	Frequency	Percent%	
Gender	39.4	218	Male
	60.6	336	Female
	100.0	554	Total
Age	33.2	184	18-19 years
	43.0	238	20-21 years
	7.9	44	22-23 years
	5.4	30	24-25 years
	10.5	58	26 years and more
	100.0	554	Total
Residence	84.8	470	Urban
	15.2	84	Rural
	100.0	554	Total
Level of education	69.5	385	Nursing college
	30.5	169	Nursing institute
	100.0	554	Total
Do you infected with COVID-19 previously	72.2	400	Yes
	27.8	154	No
	100.0	554	Total
Do you contact with COVID-19 patients frequently	85.9	476	Yes
	14.1	78	No
	100.0	554	Total
Has a family member or friend died of COVID-19	72.6	402	Yes
	27.4	152	No
	100.0	554	Total
What was your main source of information regarding the COVID-19 vaccine	35.4	196	WHO
	18.1	100	Internet and social media
	36.1	200	Health care workers
	10.5	58	Family/friend
	100.0	554	Total

Table (2) shows the vaccination status of the family and the participants' willingness for vaccination. The results proved that the majority of the participants' families were vaccinated with about (64.3%) and the rest (35.7%) did not receive the vaccination. This result was similar to another study conducted in New Jersey, which found that the majority (72.0%) of participating family members and friends had received the COVID-19 vaccine [14].

Table 3: Participants' knowledge about COVID -19 vaccines.

No.	Items	Yes		No.		M.S	Ass. level
		F	%	F	%		
1	Do you think COVID -19 vaccines useful in controlling disease?	362	65.3	192	34.7	1.65	G
2	Do you think COVID -19 vaccines important to the health of the individual and society?	432	78.0	122	22.0	1.78	G
3	Do you think COVID -19 vaccines reduce morbidity and mortality rates for individuals?	380	68.6	174	31.4	1.69	G
4	The newly discovered COVID-19 vaccine is safe.	214	38.6	340	61.4	1.39	P
5	Impossible decrease COVID-19 infections without vaccination	264	47.7	290	52.3	1.48	P
6	Do you think the COVID-19 vaccines have more benefits than risks?	270	48.7	284	51.3	1.49	P
7	Do you think that the COVID-19 vaccines may reduce symptoms of infection?	394	71.1	160	28.9	1.71	G
8	Do you think you can receive the vaccine if you have previously been infected with Corona virus and have fully recovered?	384	69.3	170	30.7	1.69	G
9	Do you think that nursing students need to be vaccinated against COVID-19?	292	52.7	262	47.3	1.52	G
10	Do you think COVID -19 vaccines prevent the transmission of infection?	212	38.3	342	61.7	1.38	P

No. = number, F. = Frequency, % = Percentages, M.S = Mean score, Ass. Level = Assessment level scored as: poor knowledge: (1 – 1.50) and good knowledge: (1.51 – 2).

Table (4) presents the relationship between the willingness to be vaccinated and some variables, where the results proved a significant difference between the willingness to vaccinate and their gender as well as the previous infection. These results were supported by a previous study conducted in the United States, which found a significant association between acceptances of vaccination against MERS-CoV and their gender and prior virus infection at a p-value > 0.001[22].

As for willingness to vaccinate, the results showed an increase in the level of vaccination acceptance (64.3%) compared to (15.9%) refusal to take the vaccination. A similar result was obtained through a study conducted in Uganda, which found that the majority of the study sample about 224 (37.3%) had taken the COVID-19 vaccine, while (8.0%) had refused to take the vaccine, while (30.0%) were not sure of received the vaccine and (26.0%) were awaiting review about it [15].

Table 2: vaccination status of the family and participants' willingness to be vaccination.

Variable	Frequency	Percent%	
Family member vaccinated against COVID-19	Yes	356	64.3
	No	198	35.7
	Total	554	100.0
Do you want to be vaccinated against COVID-19 in the future?	Yes	466	84.1
	No	88	15.9
	Total	554	100.0

As for table (3), it illustrates the participants' level of knowledge about COVID-19 vaccines, where the results showed a positive response and a generally high level of knowledge about COVID-19 vaccines. Approximately (65.3%) of participants knew that vaccines are useful in controlling disease, and about (78%) of them were aware of their importance to the health of individuals and society. About 68.6% knew that vaccines reduce morbidity and mortality for individuals. On the other hand, almost(71.1 %) believed that vaccines could reduce symptoms of infection and about (69.3%) were aware that they could receive the vaccine if they were previously infected with the Corona virus and fully recovered. Finally, almost (52.7%) of them believed that nursing students need to be vaccinated against COVID-19. Regarding vaccine safety, most participants (61.4%) were afraid and unsure about vaccine safety due to the fact that the COVID-19 vaccines were newly discovered and had not been tested on people for a long time. Nearly (52.3%) answered that it is probable to diminish infection from COVID-19 without vaccination, while about (51.3%) believed that vaccines have risks that outweigh their benefits. Finally, (61.7%) believed that vaccination does not prevent transmission. These findings are similar with other studies conducted in Egypt, China, and central and southern Italy that found that participants were aware that COVID-19 vaccines are beneficial and that the way to overcome the COVID-19 pandemic is mass vaccination, although no decision was made about the safety of the vaccine [18-21].

Finally, table (5) shows the correlation between the family vaccination status and the participants' willingness to be vaccinated. The results demonstrated a significant relationship between family vaccination status and willingness to follow up vaccination (p value > 0.05). These results were similar to a study conducted in Uganda, which showed that there is a significant correlation between them at (p value > 0.05) [23].

Table 4: Correlation of willingness to vaccination with some variables.

Variable	Students' willingness to be vaccinated			P.
	No.	Mean ± S.D.		
Age	18-19	184	1.83±.380	0.247
	20-21	238	1.82±.382	
	22-23	44	1.95±.211	
	24-25	30	1.87±.346	
	26 and more	58	1.86±.348	
Gender	Male	218	1.88 ± .325	0.033
	Female	336	1.82±.388	
Do you infected with Coronavirus previously?	Yes	400	1.90 ± .306	0.015
	No	154	1.82 ± .385	

No. = number, S.D. = Stander deviation, P. = probability

Table 5: Correlation between family vaccination status and participants' willingness to be vaccination.

Variables	willingness to be vaccination	
	Mean ±S.D.	Correlation p-Value
Family vaccination status	1.84±.366	0.541**

S.D. = Stander deviation, P. = probability

CONCLUSIONS

The majorities of participants were infected with COVID-19 viruses and had frequent contact with coronavirus patients, the main source of student information about the vaccine being health care workers. Despite the belief that vaccines are unsafe, there has been significant acceptance of vaccination. There was also a high level of knowledge about COVID-19 vaccines except for the belief that they are safe and that the vaccines have more benefits than risks. A significant association was observed between willingness to vaccinate and gender as well as previous infection and family vaccination status. This study came out with several recommendations, including increasing information about vaccines with actual and proactive innovations to fight misinformation, creating skilled groups of healthcare professionals to participate in COVID-19 vaccinations to provide honest and understandable data to reduce misunderstanding and distrust and rebuild a relationship of trust with the community using Social media. Also scrutinize and confront distortion and false news about Corona vaccines, especially on social media platforms

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