

## Level of Acceptance of COVID-19 Vaccine and Attributes Influencing Vaccination - A Study among the Multi-national Population in the UAE

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Accepting a new vaccine is influenced by several variables. The purpose of this study was to evaluate the factors influencing the use and non-use of the COVID-19 vaccine as well as the participants' perceptions of the COVID-19 vaccine. Additionally, the study enabled us to ascertain the degree of acceptance of the COVID-19 vaccine by the study population. This was cross-sectional research and UAE's general populace was surveyed for the study. A multi-national population of 671 people took part in the study and the information was gathered through a self-administered questionnaire. For categorical variables, the findings were expressed as frequencies and percentages; and for numerical variables, they were expressed as mean/median and standard deviation. To ascertain the relationship between independent and dependent variables, the Chi-square test was performed. Of the total participants in this trial, 627 (96.6%) received vaccinations; 160 (25.5%) experienced mild side effects, and 29 (18.1%) had severe side effects. Participants who were unwilling to receive the vaccination cited "No trust in the vaccine" as their main justification. Other explanations included allergies, pregnancy, vaccination side effects, and a lack of interest. The statistically significant associations observed with vaccination were, concern about the vaccine's side effects, precautions to ward off the virus, the belief that vaccination cannot prevent COVID-19, having had COVID-19, lack of confidence in the vaccine, and the belief that natural exposure to corona gives the safest protection. Among those who have received vaccinations, the majority disapproved or strongly disagreed with all the assertions made regarding the attitude. Among the people who aren't/weren't immunized, many agreed or strongly agreed with the assertions. More than 68% of people, regardless of vaccination status, agreed with the "pandemic impact on work" and "pandemic impact on income"; 59% of those who are vaccinated and 69% of those who do not, agreed with this statement. The observed immunization rate was 96.6%. The main deterrent to vaccination was a lack of trust in the vaccine. Other explanations included allergies, pregnancy, vaccination's side effects, and a lack of interest

**Keywords:** Acceptance; COVID-19; United Arab Emirates; Vaccination



The COVID-19 virus is a serious hazard, and its rapid spread necessitates vaccinations and other medical procedures in place. People of all ages may be at risk for this global public health due to vaccine reluctance. Though health workers are at a high risk of exposure, it is important to have a strategy to prioritize people for vaccination and it is imperative to assess the level of acceptance of the vaccine and attributes influencing the vaccination among the people of the United Arab Emirates.

A new vaccine's adoption is influenced by several factors, such as its effectiveness, negative health effects, misunderstandings about the vaccination mandate, a lack of trust, and ignorance. Reluctance to receive a vaccine could endanger public health and could delay the necessary rapid action. Naturally, the community would have pre-conceived behavior in vaccine acceptance and it varies according to time and place. According to a study conducted in Indonesia with 1,359 participants, 93.3% of participants would prefer to receive a vaccination that was 95% effective, while this acceptance fell to 67.0% for a vaccination that was 50% effective.<sup>1</sup> 53.1% of those polled in Kuwait's general adult population said they would take the COVID-19 vaccination when it became available. Male subjects (58.3% vs 50.9%) were more open to receiving the COVID-19 vaccine than female subjects. Only a minority was willing to take immunization when they believed that vaccines generally carried dangers to their health.<sup>2</sup> In a study of US people, political views and traits relevant to vaccination were linked to both self-reported preferences for a fictitious COVID-19 vaccine and self-reported willingness to receive the shot.<sup>3</sup>

Hand washing and immunizations are two public health measures that assist stop the transmission and effects of illnesses. However, there is a significant burden of infection worldwide, necessitating further action.<sup>4</sup> Though the spread rate seems to vary from country to country, possibly reflecting differences in how rapidly local health authorities respond to isolate and effectively care for the affected population.<sup>5</sup> According to a survey conducted in China, 52.2% of participants desired to receive the vaccine as soon as it was made available. In contrast, 47.8% of people would put off getting vaccinated until they were certain it was safe. The majority of responders (49.4%) favored routine immunization schedules before

the outbreak to emergency immunization (9.0%) or adopting both vaccine schedules (41.6%). Overall, 64.2% of respondents had no preference for either domestically produced or imported vaccines, while 32.5% did.<sup>6</sup> According to a global study, 48.1% of respondents indicated they would get vaccinated if their employer advised it, and 71.5% said they would take a vaccine if it were shown to be safe and effective.<sup>7</sup> Studies on vaccination adoption among workers in other professions with a high risk of infection during the pandemic, such as those in retail or restaurants who have direct contact with clients, are scarce. During the lockdown, residents of Scotland indicated that 74% of them would be open to receiving a COVID-19 vaccination; however, with the relaxation of the restrictions, this number increased to 78% at the time of the second survey.<sup>8</sup> According to an American study, 67% of COVID-19 vaccination recipients showed positive reactions, with clear demographic and geographic differences.<sup>9</sup>

The perceived risk of infection, individual repercussions, and the behavior of people, in general, all affect how likely the public is to adopt a vaccination. The studies being conducted to compare the vaccination coverage in the various locations might benefit from a calculation of the United Arab Emirates' acceptance rate. This would produce scientific evidence to increase public confidence and successfully address the pandemic's control delay. The acceptance of vaccines is influenced significantly by age-related variances, cultural variety, religious views, educational background, employment requirements, and socioeconomic status. The current study clarifies the advantages (and disadvantages) of the recently created vaccines as a preventative approach. This study intends to analyze the factors influencing the study population's use and non-use of the COVID-19 vaccine as well as the participants' perceptions of the COVID-19 vaccine. It also attempts to identify the degree of acceptance of the COVID-19 vaccine by the study population.

## MATERIALS AND METHODS

A cross-sectional study was conducted to assess the level of vaccine acceptance of the COVID-19 vaccine among adults residing in the United Arab Emirates. The study was conducted

among the general public in the UAE. The sample size was calculated based on the sample size formula for a cross-sectional study; the study included 671 participants from a multi-national population. A self-administered questionnaire was developed after a thorough literature search. Multiple domains that included were Socio-demographic characteristics such as age, gender, nationality, and other information, details of COVID-19 vaccine, attitude towards a covid vaccine, if vaccinated or not, type of vaccine taken, factors associated with COVID-19 use, attributes influencing the vaccinees, barriers in taking vaccine among non-vaccinees were included in the questionnaire. This research was approved by the IRB of Gulf Medical University and the research committee of the Ministry of Health and Emirates Health Service (EHS) of the United Arab Emirates.

The data were analyzed using SPSS. The results were expressed in frequency and percentage for categorical variables and mean/median and standard deviation for numerical variables. The Chi-square test was used to determine the association between independent and dependent variables. The level of significance was taken as  $p < 0.05$

## RESULTS

Out of 671 who attempted to fill out the questionnaire, 22 said they were not willing to participate; hence the response rate for this study was 96.7%. Of the total participants in the study, around 39% were from the RAK Emirates and 19% were from Ajman emirate. Residents from Fujairah and Um al Quwain were relatively low in participation. 32% were between 31-40 years and only 9% were above 50 years. 56% were males and 44% were female among the total participants. More than 50% were at least studied up to a bachelor's level, and around 61% were married. The details are given in table -1

Only 1.6% reported 'not healthy' for self-rated health, and more than 80% reported "No diseases". The major diseases reported by the participants were obesity, hypertension, diabetes mellitus, and high cholesterol. Among the participants, 174 (27.9%) had ever been diagnosed with COVID-19; among those diagnosed with COVID-19, 75 (43.1%) were diagnosed after

vaccination; those who were diagnosed after vaccination, 67 (89.3%) after the second dose of vaccination. In this study, of the total participants, 627 (96.6%) took vaccination; 160 (25.5%) with some side effects; 29 (18.1%) with severe side effects. Among those who did not take the vaccination, 7 (31.8%) were not willing to take the vaccination. The details are given in Figure 1.

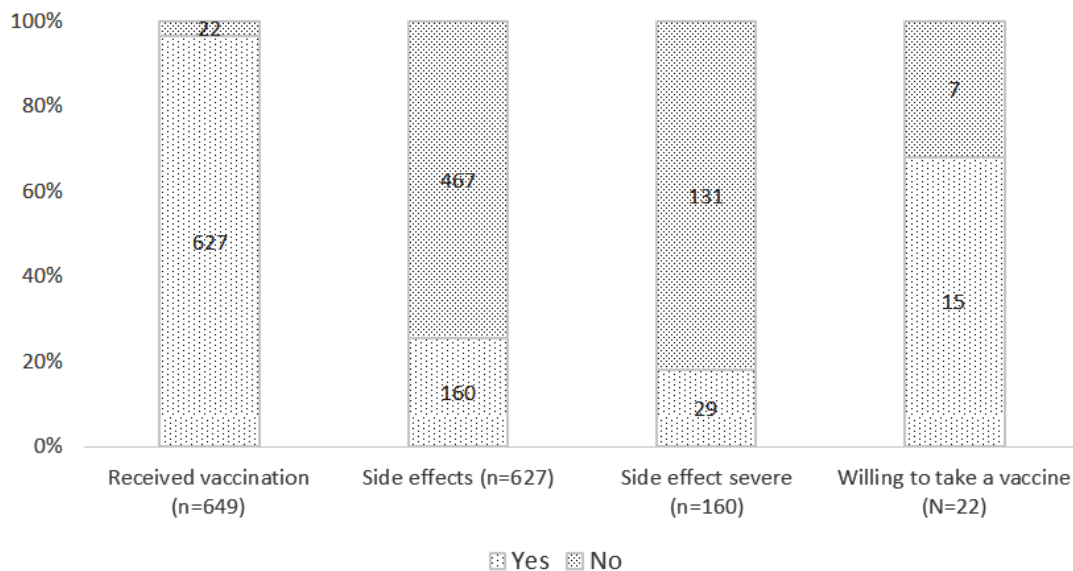
The major reason mentioned by the participants who were not willing to take the vaccination was "No trust in the vaccine". Other reasons were allergy, pregnancy, side effects of the vaccine, don't want to take it. There were six statements included about the vaccine efficacy, and the perception of those who were vaccinated and not vaccinated was taken. In a statement about "worried about the side effects of the vaccine in the future", 45% of those vaccinated and more than 80% of those who did not vaccinate opined that they strongly agree or agree. About 50% of vaccinated participants and 69% of not vaccinated strongly agree or agree with the statement "Worried about the efficacy of the vaccine in the future". About 30% of those vaccinated and 69% of those not vaccinated did not believe vaccination can prevent COVID-19. About 35% of vaccinated participants and 63% of not vaccinated strongly agree or agree with the statement "Worried about the efficacy of the vaccine in the future". About 30% of vaccinated and 69% of not vaccinated opined that they are not confident in the vaccine as it is new and produced in a short time. Concerning the statement "believe it is possible to get a coronavirus infection even after vaccination", 73.8% of vaccinated and 87.5% of non-vaccinated agree or strongly agree.

Participants' belief about the COVID-19 prevention method was collected using statements that influenced their non-response to vaccination. 27.3% of the vaccinated and 68.8% of non-vaccinated believed that "preventive measures keep the virus away, so vaccination is not needed". About 19% of vaccinated and 44% were non-vaccinated opined that they did not need vaccination since they already had COVID-19. Also, 33% of vaccinated and 63% of non-vaccinated agree or strongly agree that "natural exposure to corona gives the safest protection". Irrespective of vaccination, more than 90% of participants follow COVID-19 guidelines in my country to prevent the spread of the coronavirus. 91.5% vaccinated and 75%

unvaccinated opined that they would “encourage my friends and family members to get vaccinated against COVID-19”. This study observed a statistically significant association ( $p < 0.001$ ) between the perception of the vaccine’s side effects and the practice of vaccination, indicating that worries about the side effects make people choose the vaccination differently.

**Table 1.** Socio-demographic details of the participants

Variable	Group	Frequency	%
Place of residence	Abu Dhabi	109	16.9
	Dubai	88	13.6
	Sharjah	62	9.6
	Ajman	122	18.9
	Fujairah	7	1.1
	RAK	249	38.6
	UAQ	8	1.2
Age	<=20	82	12.6
	21-30	189	29.1
	31-40	209	32.2
	41-50	111	17.1
	>50	58	8.9
Gender	Male	283	43.9
	Female	362	56.1
Education	Middle school	11	1.7
	High school	157	24.6
	Diploma	19	3.0
	Bachelor	321	50.2
	Master	115	18.0
	PhD	16	2.5
Marital status	Single	244	38.2
	Married	395	61.8



**Fig. 1.** Details of Vaccination history

No significant association is observed between the perception of the vaccine’s efficacy and the vaccination status. The efficacy of the vaccine has not influenced the practice of vaccination. A statistically significant association ( $p < 0.001$ ) was observed between the perception that the preventive measures keep the virus away and the practice of vaccination. There is a statistically significant association ( $p < 0.001$ ) between the belief that vaccination cannot prevent COVID-19 and the practice of vaccination. This highly affects the acceptance of the vaccine and people opt out of vaccinations with this perception. It is strongly believed that vaccination is not necessary for people who already had the infection and this study’s results reveal there is a statistically significant association ( $p < 0.05$ ) among the respondents’ perception that vaccination need not be done since they already had COVID-19 and the practice of vaccination. The drop in

vaccination is because of this perception. When new vaccines are introduced, naturally, there are possibilities of different perceptions about the trust in them. This study’s results tell us that there is a statistically significant association ( $p < 0.05$ ) between the respondents’ lack of confidence that the vaccine is new and their practice of vaccination. The two groups we have in this study vaccinated or not vaccinated, perceived it differently and the acceptance certainly gets impacted. Because of getting the infection again, we observe no significant association exists between the belief that it is possible to get a coronavirus infection even after vaccination and the practice of vaccination. Both sets of people, who were vaccinated or not vaccinated, perceived similarly regarding the possibility of being infected. In our study, we realize there is a statistically significant association ( $p < 0.05$ ) between the belief that one will encourage friends and family members to be vaccinated

**Table 2.** Association between vaccination status and Perception of COVID-19 vaccine

Variable	Group	Received vaccination against COVID-19				T o t a l	p-value
		Yes		No			
		No.	%	No.	%		
Worried about the side effects of the vaccine	SA/A	254	95.1	13	4.9	267	<0.01
	SD/D/N	316	99.1	3	0.9	319	
Worried about the efficacy of the vaccine	SA/A	282	96.2	11	3.8	293	NS
	SD/D/N	287	98.3	5	1.7	292	
Preventive measures keep the virus away	SA/A	154	93.3	11	6.7	165	<0.001
	SD/D/N	410	98.8	5	1.2	415	
Believe vaccination cannot prevent COVID-19	SA/A	168	93.9	11	6.1	179	<0.001
	SD/D/N	397	98.8	5	1.2	581	
I will not be vaccinated since I already had COVID-19	SA/A	105	93.8	7	6.3	112	<0.05
	SD/D/N	455	98.1	9	1.9	464	
Not confident in the vaccine as it is new	SA/A	196	95.1	10	4.9	206	<0.05
	SD/D/N	365	98.4	6	1.6	371	
Believe it is possible to get a coronavirus infection even after vaccination	SA/A	415	96.7	14	3.3	429	NS
	SD/D/N	147	98.7	2	1.3	149	
Believe natural exposure to corona gives the safest protection	SA/A	187	94.9	10	5.1	197	<0.05
	SD/D/N	377	98.4	6	1.6	383	
I will encourage my friends and family members to get vaccinated against COVID-19	SA/A	517	97.7	12	2.3	529	<0.05
	SD/D/N	48	92.3	4	7.7	52	
I follow COVID-19 guidelines in my country to prevent the spread of the coronavirus	SA/A	546	97.3	15	2.7	561	NS
	SD/D/N	18	94.7	1	5.3	19	

SA- Strongly agree; A- Agree; SD- Strongly disagree; D- Disagree; N-Neutral

against COVID-19 and the practice of vaccination. Health education with scientific evidence from health professionals would change the perceptions of individuals regarding their natural exposure. Within this study, we see an association ( $p < 0.05$ ) between the belief that natural exposure to corona gives the safest protection and the practice of vaccination. The respondents chose their practice of vaccination with this view impacting thoroughly. No association was noticed on the belief that one

follows COVID-19 guidelines in the country to prevent the coronavirus's spread and vaccination status. The vaccine policies were accepted well by the crowd (Table 2).

The attitude towards Covid 19 vaccination is given in table 4. Five items were included under the attitude. For those who are vaccinated, all the statements about the attitude, most of the participants strongly disagreed or disagreed with the statement. Many participants agreed or strongly

**Table 3.** Vaccination status and Attitude towards COVID-19 vaccination

Variable	Group	Vaccination status				Total
		Yes		No		
		No.	%	No.	%	
I believe preventive measures keep the virus away, so vaccination is not needed	SA/A	154	27.3	11	68.8	165
	N	138	24.5	3	18.8	141
	SD/D	272	48.2	2	12.5	274
I will not be vaccinated since I already had COVID-19	SA/A	105	18.8	7	43.8	112
	N	147	26.3	4	25.0	151
I believe natural exposure to corona gives the safest protection	SD/D	308	55.0	5	31.3	313
	SA/A	187	33.2	10	62.5	197
	N	165	29.3	4	25.0	169
I follow COVID-19 guidelines in my country to prevent the spread of the coronavirus	SD/D	212	37.6	2	12.5	214
	SA/A	546	96.8	15	93.8	561
	N	14	2.5	1	6.3	15
I will encourage my friends and family members to get vaccinated against COVID-19	SD/D	4	0.7	—	—	4
	SA/A	517	91.5	12	75.0	529
	N	39	6.9	2	12.5	41
	SD/D	9	1.6	2	12.5	11

SA- Strongly agree; A- Agree; SD- Strongly disagree; D- Disagree; N-Neutral

**Table 4.** Impact of Pandemic health and Vaccination status

Variable	Group	Vaccination status				Total
		Yes		No		
		No.	%	No.	%	
Pandemic impact on daily life	Very high/high	393	69.4	12	75.0	405
	Fair	99	17.5	3	18.8	102
	Small/very small	74	13.1	1	6.3	75
Pandemic impact on work	Very high/high	382	68.0	11	68.8	393
	Fair	95	16.9	4	25.0	99
	Small/very small	85	15.1	1	6.3	86
Pandemic impact on income	Very high/high	331	59.0	11	68.8	342
	Fair	118	21.0	4	25.0	122
	Small/very small	112	20.0	1	6.3	113
Perception of risk of infection	Very high/high	318	56.4	10	62.5	328
	Fair	166	29.4	5	31.3	171
	Small/very small	80	14.2	1	6.3	81

agreed with the statements concerning those not vaccinated. The details are given in table 3.

Table 4 describes the perception of COVID-19 on daily life, work, and income. Concerning the impact on everyday life, about 70% of vaccinated and 75% not vaccinated highly agreed with the statement. Irrespective of the status of vaccination, more than 68% agree with the statement that “pandemic impact on work”. Another statement was about the “pandemic impact on income”; 59% of vaccinated and 69% of unvaccinated very much agree with this statement. 204 had their “Family members living with have been diagnosed with COVID-19”. Of the total, who responded to this question, 86 (42.2%) reported with “yes”; more than 50% said at least two members were affected.

## DISCUSSION

Since the COVID-19 vaccinations for the SARS-CoV-2 virus became available in early 2021, an increase in the publications on COVID-19 vaccine adoption and people’s opinions is observed. This study is one of the first few to identify and plan the distribution of the pandemic vaccines in the United Arab Emirates.<sup>10-11</sup> Understanding how people currently feel about vaccines and their level of acceptance is crucial for imagining the future. This study provides a trustworthy collection of data on the degree of vaccine acceptability and its characteristics and there is a high response rate across the nation’s multicultural population. Numerous studies that have been published have examined vaccine acceptance rates and found significant regional variation<sup>1,2,6,12,13</sup>, with rates as high as 97% in Ecuador<sup>14</sup> and as low as less than 25% in the least developed nations. Our study’s acceptance percentage of 68.2% is comparable to most international surveys, which reflect acceptance rates of approximately 70%<sup>13</sup>, with low rates from the Middle East, some African nations, and some European nations. According to Middle East research, Lebanon has the lowest acceptance percentage of the general populace (21.4%).<sup>15</sup> In a different Saudi Arabian study, it was discovered that just 24.9% of participants were eager to accept a vaccine, with 32.6% hesitating and 42.5% objecting.<sup>16</sup> The high vaccine acceptance rate in the present study can be attributed to

the regulations followed in the country, airline mandates vaccination as 80% of the populace are expatriates, and the self-responsibility of the population to prevent getting the infection and spread the infection in the community. Doubts about the efficiency of vaccines, fears of adverse effects, inaccurate information found online, a lack of education, low socioeconomic status, gender parity, etc. are some of the main causes of low vaccine uptake or reluctance noted in surveys conducted around the world.<sup>13</sup>

The results are presented with an incredibly high level of confidence, especially as the majority of respondents were highly qualified academically to offer their open opinion without apprehension for the long-term benefit as a general public. Respondents were evenly distributed throughout all age groups and gender. According to Lin *et al.*, the factors that contribute to vaccine hesitancy are the same in all nations, states, and subgroups. Vaccine acceptability and confidence are largely influenced by vaccination history, government trust, and doctor recommendations.<sup>17</sup> It is reported that settings or situation, society, and vaccine targeted measures are required to obtain an increase in vaccine demand.<sup>18</sup>

It is interesting to note that most respondents (> 96%) had already received the immunization while taking part in this study, suggesting the level of *prima-facie* approval. This is in perfect agreement with the most recent national data, which indicates that 97% of people are fully immunized.<sup>19</sup> This can be because they are required to take it due to their residency requirements, local engagements for their daily necessities, or employment. The decision to get vaccinated, though, was not legally required.

At the time of the poll, only 4% or so of the respondents had not yet had the vaccine. This group might reflect vaccine acceptance or reluctance preferences and motivations more closely. Reasons provided were, pregranant, severely ill and not willing to take due to certain reasons related to vaccine and vaccination. Another interesting finding in our study is that over 30% of the subjects had already received a diagnosis of COVID and were in remission. This might have had an indirect impact on how they responded to inquiries about vaccination acceptance, effectiveness, potential COVID prevention, etc.

This study highlights the link between the vaccination procedure and how the adverse effects of the vaccine are perceived. The natural and widespread side effects and doubts regarding the effectiveness of the vaccines may have been the cause of the reluctance, and widespread education on the development of immunity is probably the best way to support health objectives.<sup>13</sup> According to Michael Schwarzinger *et al.*, age of the participants', sex, low level of education, previous history of lack of adherence to vaccination, not revealing the co-morbid conditions, and low level of perceived severity of the disease all strongly associated with anti-COVID-19 vaccination behavior.<sup>20</sup> It is common to perceive, with less confidence, that new vaccines, when produced in a short time, may not be effective with their perfection. In a Chinese study, one of the most significant factors affecting choices for COVID-19 immunizations was vaccine effectiveness. The likelihood of vaccination increased at the same time as a result of other characteristics, such as age, education level, income level, and perceived infection risk.<sup>21</sup> However, the responders to this survey separated the immunization procedure from the vaccine's effectiveness. This study shows a substantial correlation between the practice of immunization and the idea that vaccination cannot prevent Covid-19. These techniques are always accompanied by an emotional connection. According to Wen-Ying Sylvia Chou *et al.*, vaccine education initiatives must recognize and control pervasive negative feelings while taking into account the various emotional tendencies of the targeted audiences.<sup>22</sup>

The belief that vaccination need not be done since one already has had Covid-19 is evident. This definitely might influence the practice of vaccination. Lin *et al.* suggest that once vaccination is in place, the expected reduction in the incidence of cases has to be interpreted as because of vaccine intake rather than the perception on less chance of getting the disease, as this might lessen the vaccine uptake.<sup>17</sup> Lack of confidence that the vaccine is 'new' has a significant impact on the practice of vaccination and we know the perception makes it hard to convince people. COVID-19 vaccine forum hosted by *Annals of Internal Medicine* and the American College of Physicians are

providing the evidence-based data related to the science, approval processes, and development of clinical recommendations for vaccines to bring up confidence.<sup>23</sup> The study brings the evidence that no significant association exists, and the belief that it is possible to get a coronavirus infection even after vaccination has nothing to do with the practice of vaccination. Interestingly this is against Rooney *et al.* describing patients who had reduced levels of physical function and fitness post-infection compared with healthy controls. Furthermore, patients demonstrated incomplete recovery of physical function, with some experiencing residual impairments one to two years post-infection.<sup>24</sup>

There is an association between the belief that one will encourage friends and family members to vaccinate against COVID-19 and their vaccination status. The impacts of having been infected oneself or knowing a friend/family who had and the desire to protect oneself or others were also cited but less conclusive. Some studies indicated a positive association, while others found no association. One study reported only 55% of those worrying about themselves or family members being infected would be vaccinated.<sup>17</sup> The concept that natural exposure to corona gives the safest protection makes the 'choice' of vaccination differ. Education with scientific evidence from health professionals would only change these perceptions.<sup>22</sup> Studies have shown variable results about vaccine hesitancy rates between low, and middle-income countries and high-income countries.<sup>25</sup> COVID-19 has had a significant impact on the daily life of people and irrespective of the vaccination status, respondents, agreed it had disrupted their daily life and work, indirectly impacting their daily income.

The study has a few limitations which need to be addressed. To obtain more accurate results, the survey which was intended to understand the qualities of the vaccine, including how well it was received—ideally should have been conducted much earlier, before the vaccination process had started. This is because the respondents' responses and perceptions of some questions might have changed over time after receiving the vaccine. Future research should also address concerns by including participants from the UAE's outlying regions and higher-risk populations that may not



have been adequately represented in this study. Another drawback of the study's timing, one year into the pandemic, is the possibility that some survey items may have been accidentally overlooked. Future research may reveal them, allowing the authorities to fully make data-driven decisions. Public health initiatives continue to be the mainstay in encouraging vaccine uptake as the COVID -19 pandemic evolves and due to its significant public health impact. A very small percentage of the population has not received a vaccination despite an effective and efficient vaccination effort in the UAE. To advance vaccination education and awareness, more research is needed to comprehend this vaccine hesitation.

### CONCLUSION

Of the total participants in this trial, 627 (96.6%) received vaccinations. 25.5% of those who received the vaccine experienced mild adverse effects, while 18.1% experienced severe negative effects. "No trust in the vaccine" was the main factor keeping the participants from getting the inoculation. Other explanations included allergies, pregnancy, vaccination side effects, and a lack of interest. Concerned about the vaccine's side effects, precautions to ward off the virus, the belief that vaccination cannot prevent COVID-19, having had COVID-19, lack of confidence in the vaccine, and the belief that natural exposure to corona gives the safest protection were the statistically significant associations with vaccination that were observed. For those who have received vaccinations, the majority of participants disapproved or strongly disagreed with all of the assertions made regarding attitude. Regarding people who aren't immunized, many participants agreed or strongly agreed with the assertions. Regardless of vaccination status, more than 68% of respondents believe that "pandemic impact on work" and "pandemic impact on income" apply to daily life; 59% of vaccinated respondents and 69% of unvaccinated respondents strongly agree with this statement.

#### Conflict of Interest

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