

Perception and attitude of COVID 19 Vaccine among Health Care Workers in Iraq 2021

By

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Abstract:

Background: Vaccination is one of the most effective ways to prevent the transmission of certain infectious diseases. It has reduced the associated morbidity and mortality During COVID-19 pandemic, vaccination is a required strategy to overcome this disease especially for healthcare workers (HCWs) given their increased risk of exposure to COVID-19 due to their occupation.(HCWs) on the other hand they can also transmit the diseases to a highly vulnerable patients.However, vaccination hesitancy is one of the significant obstacles to make this strategy successful.COVID-19 is continuing with its devastating consequences on health, life, and economics.The aim of this study was to explore HCWs' perceptions and attitudes towards COVID-19 vaccination including their expectations and views on promoting vaccination to others.**Subjects and Methods:**Cross sectional study was performed online survey .The questionnaire include socio-demographic characteristics, intensions and obstacles of HCWs to COVID 19 vaccination.**Result :**324 of HCWs participated in this study. The response rate was 76%. A large proportion of the participants (85%) believed that there is a need for great public awareness regarding COVID-19 vaccine. Participants with high Higher Education had a significant higher proportion (80.6%) of vaccine acceptance than the others (Bachelor degree , Diploma). Doctors had the highest (75.4%) rates of vaccine acceptance among other HCWs,**Conclusion:** The leading factor that could increase vaccination acceptance among this study participants was to get sufficient and accurate information about the available vaccines.

Keywords: COVID-19, health care worker (HCWs), perception, attitude, vaccine

Introduction:

COVID 19 is a pandemic disease that was emerged in Wuhan , China in December 2019 and has been rapidly spreading around the world. It is global crises that interfere with global health and economic activities throughout the world^[1,2]. Clinically COVID 19 varies from mild symptoms such as fever, headache, cough, myalgia and fatigue to sever pneumonia, multi organ failure and death. Few cases are asymptomatic As of middle of November 2020, there have been more than 53,700,000 confirmed cases of people infected and more than 1,300,000 reported deaths. There are various medicines tried in the first wave without particular impact on COVID 19 virus^[2].

Vaccination is regarded one of the most effective health intervention to prevent the infectious diseases. Countries worldwide are trying to accelerate the research and development of more than 160 candidate vaccines is under evaluation. The different types of the available vaccines are mRNA vaccines (Pfizer BioNTech, Moderna, and Johnson & Johnson), viral vector vaccines (AstraZeneca, Sputnik V), and inactivated vaccines (Sinopharm, Sinovac, and COVAXIN) are among the COVID-19 vaccines now widely available for usage worldwide^[2]. Maintaining confidence in vaccination depends on the interaction between patients and providers, Vaccination hesitancy is one of the significant obstacles to global health^[3] Vaccination hesitancy declared by (WHO) as reluctance or refusal to vaccinate despite availability of vaccines^[4]. In this study, we are targeting the healthcare workers (HCWs) are prioritised for early corona virus disease -19 (COVID-19) vaccination. Secondly the general population assumed that HCWs would have no hesitancy to take the (COVID-19) vaccine and expected them to be role models in vaccination programmes^[5]

Multiple researches have demonstrated that the decision to use available vaccinations is influenced by the attitudes and beliefs of the population's targeted groups^[6,7]. As a result there is growing worry throughout the world over public acceptability of the potential COVID-19 vaccines^[8]. The relationship between the population groups and the HCWs is crucial to creating vaccination trust^[9].

Previous research on the side effects of the (COVID-19) vaccine found mild-to-moderate side effects, with the severity of adverse effects varying depending on the type of COVID-19 vaccine used^[10]. Most of the reported side effects were moderate, such as fever, headache, local pain at the injection site, and muscle pain^[11]

The aim of this study was to explore HCWs' perceptions and attitudes towards vaccines and the COVID-19 vaccination programme in the Iraq, including their expectations and views on promoting vaccination to others.

Subjects and Methods:

Study design:

This a cross sectional study was conducted in electronic survey through social media like a Facebook, Twitter, Instagram and WhatsApp. The Data was collected from Aug 2, 2021 to Aug25,2021 in Iraq, using (Google form) questionnaire.

Study population:The inclusion criteria consisted of healthcare workers of both genders with age more than 18 years and less than 69 years to be included in the study. HCWs filling incomplete forms were excluded from the study.

participants worked at public hospitals, PHC centers, private clinics. HCWs include doctors, nurses, pharmacist, dentists, and laboratory workers and other health professionals were included in this study.

Sampling technique and sample size:

The following formula was used to estimate the required sample size (73)

$$n=(Z \alpha/2)^2 P (1-p)/d^2$$

n= sample size

Z $\alpha/2$ = 1.96 which is the corresponding value for the 95% confidence interval

P= intention of healthcare workers towards COVID 19 vaccine

d= the degree of precision was at 0.05 at 95% confidence interval

$$= \frac{(1.96)^2 * 0.5 * (1-0.5)}{(0.05)^2} = 384$$

Considering a non-response rate, 10% of sample size was added to minimize the errors a rising from likelihood of non compliance, giving a sample size was 384+38 =422 participants.

Questionnaire form:

The questionnaire was developed In English and Arabic versions. It is comprised of sociodemographic characteristics (age , gender , Education level and job) pervious infection with COVID-19, questions on perception toward COVID-19 vaccination.(safety, effectivity ,complications and planning to get vaccine in the future .This study was conducted after obtaining Institutional Clinical Ethics Committee (ICEC)

A pilot study was carried out before starting collection of data for ten days before collecting the data. To test the questionnaire for any modification and any difficulties for collection of data. Pilot study sample was 15 participants, they were excluded from the study sample and the questionnaire was clear with some modification

Statistical analysis

Data analysis was done using SPSS version 24 computer software (Statistical Package for Social Sciences), categorical variables were presented as frequencies and percentages. A cross-tabulation with chi-squared test was used between the participants' variables and intention towards COVID-19 vaccination. A p-value of less than 0.05 was considered statistically significant throughout the analysis.

Table 1 Sociodemographic characteristics of the participants (n = 324)

Characteristics			
	Groups	No. (324)	Percentage (%)
Age	18 - 30	78	24.07
	31 – 39	120	37.04
	40 – 49	67	20.68
	50 - 69	59	18.21
Gender	Male	126	38.8
	Female	198	61.2
Education level	Bachelor degree	203	62.65
	Higher Education	45	13.89
	Diploma	76	23.46
Job	Doctors	106	32.72
	Dentist	10	3.09
	Pharmacist	20	6.17
	Nurse	60	18.51
	Medical assistant	76	23.46
	Healthcare technician	52	16.05
Did you infect with COVID- 19 before?	Yes	177	54.63
	No	120	37.04
	Not Sure	27	8.33

Table 1 illustrate Sociodemographic variables of the participants, A total of 324 of HCWs took part in this study. The response rate was 76%. More than on third (37.04%) of the participants had an aged range of 31-39 years. More than half of them (61.2 %) were females. About 62.65% of the participants had been graduated from University and about 23.46% of the participants were medical assistants had been graduated from institute

Figure 1 illustrates the perception of HCWs on some aspects of COVID-19 vaccination. In regard to the safety and effectiveness of COVID-19 vaccine, about 28.70% of the participants believed that COVID-19 is safe whenever available and 23.50% believed that it will be effective.

About 30% of the participants considered that the vaccine could prevent the complications of COVID-19. A large proportion of the participants (85%) believed that there is a need for great public awareness regarding COVID-19 vaccine.

Regarding the participants' intention towards COVID-19 vaccination, less than half (55%) of the participants decided to get the vaccine whenever available.

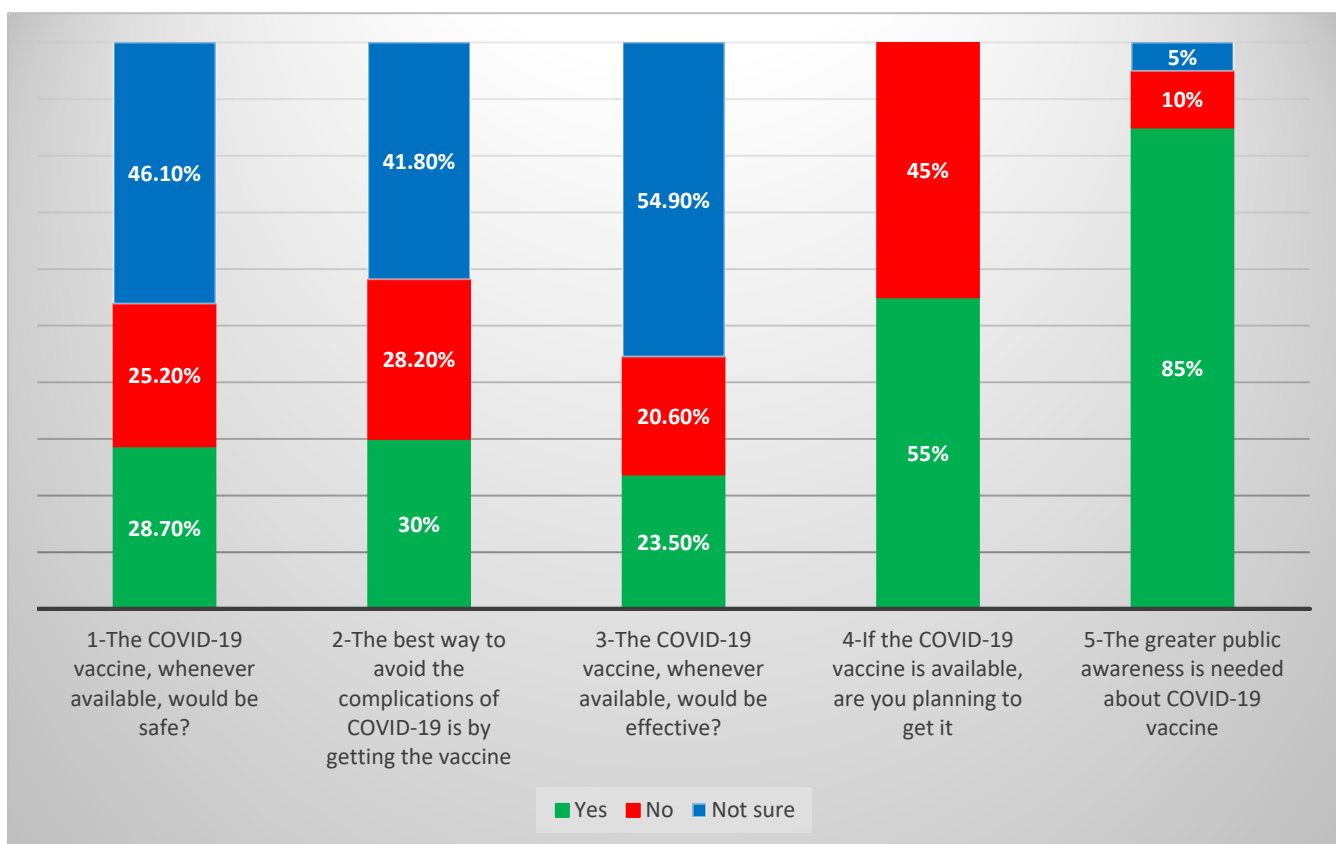


Figure 1. Participants' Perception toward COVID-19 vaccination (n = 324)

Tables 2 and 3 illustrate the association between intention to be vaccinated and the variables

When comparing COVID-19 vaccine hesitant and not , differences (p -value < 0.05) were documented in regards to education level, Job. Participants with high Higher Education had a significant higher proportion (80.6%) of vaccine acceptance than the others (Bachelor degree , Diploma). Doctors had the highest (75.4%) rates of vaccine acceptance among other HCWs,

Other factors such as age, gender and previous infection with COVID-19 did not have any significant association with vaccine hesitancy.

Table 2 Distribution of the participants by their intention towards the vaccine and certain characteristics

Variables		Intention towards COVID-19 vaccination		
		Yes	No or Not Sure	P-Value
Age	18 - 30	33 (42.3%)	44 (56.4%)	0.44
	31 -39	62 (51.6%)	58 (48.3%)	
	40 - 49	35 (52.2%)	31(46.2%)	
	50 -69	22(37.2%)	30(50.8%)	
	Total	152 (47.8%)	172 (52.2%)	
Gender	Male	58 (46.0%)	68 (53.9%)	0.18
	Female	92 (46.4%)	106 (53.5%)	
	Total	150 (46.2%)	174 (53.7%)	
Education level	Bachelor degree	80 (39.04%)	123 (60.5%)	<0.0001
	Higher Education	50 (80.6%)	12 (19.3%)	
	Diploma	22 (37.2%)	37 (62.7%)	
	Total	152 (46.9%)	172 (53.08%)	
Job	Doctors	80 (75.4%)	26 (24.5%)	<0.0001
	Dentist	4 (40%)	6 (60%)	
	Pharmacist	10 (35.7%)	18 (64.2%)	
	nurse	22 (40.7%)	32 (59.2%)	
	Medical assistant	26 (32.9%)	53(67.08%)	
	Healthcare technician	10 (21.2%)	37(78.7%)	
	Total	152(46.9%)	172 (53.08%)	
Did you infected with COVID-19 before?	Yes	88 (49.7%)	89 (50.2%)	0.36
	No or Not Sure	64 (43.5%)	83 (56.4%)	
	Total	152(46.9%)	172(53.08%)	

Table 3 attitude of COVID 19 vaccines among HCWs in Iraq, Aug,2021 (no=324)

Characteristics	Groups	No. (324)	Percentage (%)
Should HCWs get priority to COVID 19 vaccine?	Yes	238	73.45
	No	86	26.54
Do you believe COVID 19 vaccine allow life to return to normal?	Yes	104	32.10
	No	79	24.38
	Not Sure	141	43.52
Do you believe COVID 19 vaccine take long enough for scientific tests?	Yes	164	50.62
	No	124	38.27
	Not Sure	36	11.11
Do you believe preventive behaviors (social distance ,face mask .gloves and hand washing) are safer than COVID 19 vaccine?	Yes	122	37.65
	No	164	50.62
	Not Sure	38	11.73
Should HCWs follow government guidelines about vaccine?	Agree	221	68.21
	Disagree	103	31.79

Discussion

Healthcare workers' perception and attitude to COVID 19 vaccines play an essential role in the general population's vaccination behavior through their consultation. The COVID-19 pandemic had impacted negatively on people's health, social lives, and finances^[12]

Given their high degree of exposure to COVID-19, HCWs should also be prioritized for receiving the vaccine^[13]

This study explores the perception ,intention and acceptance of the COVID-19 vaccine and the contributing factors of vaccine acceptance and refusal HCWs in Iraq,Regarding the safety and effectiveness of the COVID-19 vaccine, about (28.7%) of the participants believed that COVID-19 is safe whenever available and (23.5%) believed that it will be effective, While in a similar study conducted in Saudi Arabia, a higher proportion (63.6%) of HCWs opinion that the vaccine is safe and effective^[14]. Another similar study done in Los Angeles showed that the majority of the participants stated that the vaccine is safe and effective^[15].

The current study showed that (30%) of the participants considered the vaccine to prevent the complications of COVID-19. While a high proportion (85%) of HCWs in a study done in New York City stated that deaths or other complications related to COVID-19 can be prevented through vaccination^[16]. In another study done in Saudi Arabia by Barry et al., (2020) revealed that 64% of HCWs were stated that vaccination against COVID-19 is the best approach to avoid the severity of the disease^[17].

The variation between the current study and other studies might be related to differences in levels of medical knowledge among HCWs. In addition to the loss of confidence in the vaccine in general as a result of the severity of the infection, the number of deaths in the country, and the collapse of the health system, which makes HCWs think that nothing may reduce the complications of the epidemic of death.

The current study reported that a large proportion of the participants (85%) believed that there is a need for great public awareness regarding the COVID-19 vaccine. The spread of myths and misconceptions about COVID-19 vaccines widely among the general population might indicate the need for great public awareness through adequate and scientific medical information.

Likewise, a survey conducted in Italy among HCWs found that most of the participants explored that there was little information about COVID-19 vaccination as well as conflicting or misleading information^[18]. A study done in Egypt revealed that HCWs did not receive sufficient information about the COVID-19 vaccine^[19].

Regarding the participants' intention towards COVID-19vaccination, less than half (55%) of the participants decided to get the vaccine whenever available. While(45%) reject the vaccine.

The acceptance of potential COVID-19 vaccines was different among different studies. Lower rates of willingness toward COVID-19 vaccine were reported among HCWs in Egypt and Palestine countries; 21% and 37.8% respectively ^[19,20]. The acceptance rate of COVID-19 vaccination among HCW in Saudi Arabia ranges from 55.55% to 70% in 3 different studies ^[21, 22, 17].

High acceptance rates towards COVID-19 vaccination among HCWs were reported from studies done in South Africa, France, and Italy; 90.1%,75%, and 67%, respectively ^[23, 24, 25].

While a study was done in Iraq to assess the acceptance rates of the vaccine among healthcare workers and the general population had shown that the HCWs were significantly more likely to accept the vaccine than the general population ^[26].

Individual vaccine acceptance decisions are based on a complicated combination of vaccine confidence, illness complacency, and accessibility to vaccination ^[23].

The most reported barrier from receiving vaccination was related to perception that the vaccine did not take long enough for scientific tests (50.6%) while (38.2%) did not believe and (11.1%) did not sure

Other less frequent reasons for vaccine refusals included; vaccine adverse effect, the previous infection with COVID-19, use of personal protective measures and that the vaccine will stop the infection.

This finding was in line with a study done in Saudi Arabia by Barry et al. (2020) who explored that the most reported reasons for unwillingness to have the vaccine were: insufficient studies related to vaccines' safety, concern on vaccine adverse events, and concern on vaccines' effectiveness^[9].

In this study, being a doctor was significantly related to high rates of vaccine acceptance. This finding was in line with those of previous studies that recorded physicians had the highest intention rates for receiving the COVID-19 vaccines^[24]. This result was inconsistent with other studies, which reported that there was no association between jobs of HCWs and vaccine acceptance rate^[14, 22, 9]. This high rate of vaccine acceptance rates among doctors in our study might be contributed to their high level of medical information, constant access to medical research, and considerable exposure to the disease during their daily work.

Conclusion:

The willingness of HCWs to get vaccinated against COVID-19 was relatively high

In order to improve HCWs' trust and confidence in the Iraq COVID-19 vaccination programme, there needs to be clarity about what is known and not known about the vaccines and transparency around the evidence-base supporting government decisions on vaccine rollout. The leading factor that could increase vaccination acceptance was to get sufficient and accurate information about the available vaccines.

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