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Reasons for refusing and hesitation of Covid- 19 vaccine

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INTRODUCTION

Coronavirus is a zoonotic virus, an RNA virus in the family coronaviridae of the order nidovirales. It is a family of viruses that cause respiratory infections ranging from the common cold to more severe diseases, which were first isolated in 1937 and designated coronaviruses. Coronaviruses got their name from the way that they look under a microscope, The virus consists of a core of genetic material surrounded by an envelope with protein spikes. This gives it the appearance of a crown. The word Corona means “crown” in Latin. (1)(2)

The types of coronavirus known to date are as follows: the alpha coronaviruses HCoV-229E and HCoV-NL63; the beta coronaviruses HCoV-OC43 and HCoV-HKU1; SARS-CoV, which causes severe acute respiratory syndrome (SARS); MERS-CoV, which causes Middle East respiratory syndrome (MERS); and SARS-CoV-2, a new coronavirus described in late 2019 after cases were reported in China, which causes the disease known as coronavirus disease 2019 (COVID-19).(2)

COVID-19 is the infectious disease caused by the most recently discovered coronavirus (“CO” stands for corona; “VI” for virus; “19” the year in which it appeared). This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019.(3)

Corona viruses are zoonotic, meaning that the viruses are transmitted between animals and humans. It has been determined that MERS-CoV was transmitted from dromedary camels to humans and SARS-CoV from civet cats to humans. The source of the SARS-CoV-2 (COVID-19) is yet to be determined, but investigations are ongoing to identify the zoonotic source to the outbreak.(4)(5)

COVID-19 spreads when an infected person breathes out droplets and very small particles that contain the virus. These droplets and particles can be breathed in by other people or land on their eyes, noses, or mouth. In some circumstances, they may contaminate surfaces they touch. People who are closer than 6 feet from the infected person are most likely to get infected.(6)

Transmission can occur more easily in the “Three C’s” (the risk of COVID-19 spreading is higher in places where these “3Cs” overlap):

- Crowded places with many people nearby
- Close-contact settings, especially where people have conversations very near each other
- Confined and enclosed spaces with poor ventilation

The incubation period of COVID-19 is currently understood to be between 2 to 14 days. This means that if a person remains well after 14 days after being in contact with a person with confirmed COVID-19, they are not infected.⁽⁶⁾⁽⁷⁾ Presentations of COVID-19 range from asymptomatic/mild symptoms to severe illness and mortality. Systematic reviews indicate that up to 40% of COVID-19 cases are asymptomatic. The most commonly reported symptoms are cough, fever, fatigue, myalgia and headache, dyspnea and other less common symptoms such as loss of taste or smell, nasal congestion, conjunctivitis, sore throat, nausea and vomiting, diarrhea, chills or dizziness, loss of appetite, confusion.⁽⁸⁾

PREVENTION

Since the beginning of the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) outbreak, necessary measures have been taken to prevent the virus transmission and reduce mortality, such as mandatory public use of mask, regular hand- sanitizing and hand-washing, Remote work, social distancing, avoid gatherings, and cancellation of public events.(9) Limiting contact is a strategy that aims to reduce both the frequency and duration of contacts, lowering the basic reproduction number, R_0 , or the average number of people to whom one case transmits the disease during his or her incubation period.(10)

High-risk groups for COVID-19 are people aged 60 years and older, those living in long-term care facilities and people with underlying health conditions, such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and weakened immune systems.(11) The prevention and protection organizational measures aim to minimize the probability of being exposed to SARS-CoV-2. For this purpose, measures must be taken to avoid new infections or even the spread of the virus where it has already been present.(12)

Although most people with an elevated risk of severe COVID-19 disease live independently or with family, some reside in long- term care facilities, where infection tends to spread easily.(11) Preventive measures to reduce the chances of infection include getting vaccinated, staying at home, wearing a mask in public, avoiding crowded places, keeping distance from others, ventilating indoor spaces, managing potential exposure durations, washing hands with soap and water often and for at least twenty seconds, practising good respiratory hygiene, and avoiding touching the eyes, nose, or mouth with unwashed hands.(13)

Since currently there is no a specific treatment available for COVID-19, vaccine is only way to decrease morbidity and mortality rate and even prevent spread of disease. The first COVID- 19 vaccine for the UK, developed by Pfizer/BioNTech, has today been given approval for use following a thorough review carried out by the Medicines and Healthcare products Regulatory Agency (MHRA).(14)

COVID -19 VACCINES

Equitable access to safe and effective vaccines is critical to ending the COVID-19 pandemic, so it is hugely encouraging to see so many vaccines proving and going into development.

WHO is working tirelessly with partners to develop, manufacture and deploy safe and effective vaccines.(15) Safe and effective vaccines are a game-changing tool: but for the foreseeable future we must continue wearing masks, cleaning our hands, ensuring good ventilation indoors, physically distancing and avoiding crowds.(15)

Being vaccinated does not mean that we can throw caution to the wind and put ourselves and others at risk, particularly because research is still ongoing into how much vaccines protect not only against disease but also against infection and transmission. But it's not vaccines that will stop the pandemic, it's vaccination. We must ensure fair and equitable access to vaccines, and ensure every country receives them and can roll them out to protect their people, starting with the most vulnerable.(16)

These Vaccines are:

1. Pfizer-BioNTech COVID-19 vaccine: It's sold under the brand name Comirnaty, is an mRNA vaccine produced by the German company BioNTech and the American company Pfizer.
2. Oxford-AstraZeneca COVID-19 vaccine: It's sold under the brand name Vaxzevria and Covishield, produced by British University of Oxford.
3. Moderna COVID-19 vaccine: It's an mRNA vaccine produced by the American company Moderna.
4. Sinopharm BIBP COVID-19 vaccine: It's an inactivated virus vaccine produced by the China National Pharmaceutical Group.

There are two doses of vaccines;

The 1st dose should give you some protection from 3 or 4 weeks after you've had it. But you need 2 doses for stronger and longer-lasting protection.(17)

Most people also need a booster dose to help improve the protection from the first 2 doses of the vaccine. The COVID-19 vaccines can cause some side effects, but not everyone gets any side effects are usually mild and should not last longer than a week, such as:

- sore arm from the injection
- feeling tired
- headache
- feeling achy
- feeling or being sick

METHODOLOGY

The study design:

Across sectional study, type of researches based on collecting data by conducting questionnaire. Study site:

This study was conducted at two of the main sites in Babylon which are Al_Sadiq Hospital and online site.

Sample size 125:

samples are taken from in-patient and out-patient of non-vaccinated patients.

Data analysis:

A descriptive study, tables, graphs and calculations were coded and entered into the computer through MS Excel 2016 and the data were analyzed by using SPSS and using the descriptive approach to analyze these data by using frequency and percentage. Chi-square test is used to identify the relationship between the variables. If the value of (P-Value) is less than 0.05 this means that there is a significant relationship, while higher than 0.05 means there is no significant relationship.

Ethical considerations:

The study was carried out in June 2021 and was carried out after obtaining the verbal consent of all participants.

Exclusion criteria:

People who had contraindication to vaccination

STUDY RESULTS

Table (1): The distribution of demographic data

Demographic data		Frequency	Percentage (%)		
Age	16 - 20	41	32.8		
	21 - 30	74	59.2		
	31 - 40	6	4.8		
	41 - 50	3	2.4		
	51- 60	1	0.8		
	Total	125	100		
Gender	Male	45	36		
	Female	Non pregnant	65	52	64
		Pregnant	15	12	
	Total	125	100		
Educational level	Read and write	3	2.4		
	Elementary level	3	2.4		
	Secondary level	23	18.4		
	College graduate	90	72		
	High study	6	4.8		
	Total	125	100		
Marital status	Married	22	17.6		
	Unmarried	103	82.4		
	Total	125	100		
Occupation	Student	96	76.8		
	Employment	16	12.8		
	Have no work	13	10.4		
	Total	125	100		
Residence	Districts and sub-districts	63	50.4		
	City center	62	49.6		
	Total	125	100		

Table (1) shows the demographic comparisons of the participants. We note through the participants that the age of people was they are between (21-30) who are participants was the highest percentage at 59.2%, and the lowest was between (51- 60) by 0.8%, we also note that females were higher than males, which they were 64% and males were at 36%. We also note that a lot of them who had college graduate as they were the highest degree 72%, were the lowest percentage of those who had an elementary school and who just can read and write by 2.4%. The highest percentage of participants were unmarried by 82.4% were the lowest percentage of those who were married by 17.6%. The highest percentage of participants was the students 76.8% were the lowest percentage of non workers which they were 10.4%. In the presence of these participants, it found that people who have an districts and sub-districts residence were 50.4%, the highest degree compared with those who live in the city center 49.6% which is the lowest.

Table (3): The sources of and causes of unvaccinated

		Frequency	Percentage (%)
The sources of why refused vaccination	Social media	47	37.6
	Someone took the vaccine and something happened	43	34.4
	Family	26	20.8
	Friend	9	7.2
	Total	125	100
Causes of unvaccinated	Past infected	18	14.4
	Fear from vaccine complications	57	45.6
	Not convinced to take the vaccine	48	38.4
	They have a strong immune	2	1.6
	Total	125	100

Table (4): Relationship between the causes of unvaccinated and demographic data

	Chi-square value	df	P-Value	Significant
Age	7.949	12	0.789	Non significant
Gender	4.603	3	0.203	Non significant
Educational level	8.799	12	0.720	Non significant
Marital status	3.163	3	0.367	Non significant
Occupation	5.410	6	0.492	Non significant
Residence	11.010	3	0.012	Significant

Table (4) showed the relationship between the causes of unvaccinated and demographic data . There was a highly significant relationship between

the causes of unvaccinated and the residence by P-Value 0.012 because of this value less than 0.05, while the other demographic data appeared that there were no significant relationship between them and the causes.

Table (5): Relationship between the sources of why refused vaccination and demographic data

	Chi-square value	df	P-Value	Significant
Age	10.711	12	0.554	Non significant
Gender	2.735	3	0.434	Non significant
Educational level	16.271	12	0.179	Non significant
Marital status	5.257	3	0.154	Non significant
Occupation	9.155	6	0.165	Non significant
Residence	5.003	3	0.172	Non significant

Table (5) showed the relationship between the sources of why refused vaccination and demographic data , It showed that there is no significant relationship between the sources and their demographic data because all P-Value were more than 0.05.

DISCUSSION AND RESULT

The covid-19 pandemic has had far-reaching consequences for the society at large, with people having to reduce social contacts or even spending prolonged periods of time in isolation and quarantine as a result of infection control measures our analysis revealed six main categories of reasons for refusing a covid-19 vaccination. Reasons include previously infected with the virus, mistrust and spiritual and fear of the ‘may cause clots dissatisfaction’, religious beliefs vaccine other like low perceived benefits of getting vaccinated, a low subjective risk we note from the participants that people who had the vaccine had the highest percentage by 59.5%, while the lowest percentage was among those who didn’t take the vaccine by 40.5% the most common cause fear from vaccine complications 45 % this may be due to information deficits another reason for users refusing vaccination was that some did not feel sufficiently informed about the vaccination and that the available information was perceived as incomprehensible other cause low perceived benefits low perceived benefits several posts show that social media users did not trust the newly developed mRNA-based vaccines or had some reservations about gene-based vaccines in general. According to these posts, users thought that vaccination with mRNA- vaccines had not yet been sufficiently investigated or that they were not as effective as attenuated or inactivated vaccines, which is why they did not consider vaccination with the existing vaccines to be necessary or sensible. These results nearly corresponded with those of research workers in Germany (19), with minor differences, which could be due to variation in the environment, social habits of the community, and the standard of personal hygiene and education the refusal was due to low perceived benefits of getting vaccinated, a low subjective risk, concerns of potential adverse effects from the vaccine, poor health literacy.

CONCLUSION

Following the Health Belief Model, individuals use preventive behavior when they feel at risk from a health threat, consider the preventive behavior as effective, or think the benefits of the behavior outweigh the cost (including health risks associated with the preventive behavior itself) . Accordingly, vaccination services should be offered at the lowest perceived cost possible, so that the personal cost–benefit assessment is in favor of COVID-19 vaccination. Consequently, vaccination must be easily accessible and without much bureaucratic effort in order to promote the willingness to be vaccinated. For example, the 47th wave of the COSMO COVID-19 Snapshot Monitoring recommends a focus on vaccination in the workplace and in the educational sector . In addition, target group-specific education about the disease and its long-term consequences could promote vaccination readiness and acceptance.

PREVENTION

- 1- talk to doctors will have helpful, reliable information on how the vaccines were created, how they work, their safety.
- 2- Educate people that the key strategies for preventing COVID-19 and reducing spread is vaccine.
- 3- Educate people about the danger when have the virus with out vaccine spically in people who have waek immunity.
- 4- Make the vaccine easy to reach to all part of world.

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