

## Knowledge regarding COVID-19 disease among primary health care centers' Reviewers in Baghdad city

Tabarek Ayad Noori <sup>\*1</sup>, Ishraq Ahmed Chiad <sup>2</sup> and Essa khalil Hasan<sup>3</sup>

(1, 2, 3) Middle Technical University- College of Health and Medical Technologies.

Correspondence author E-mail(\*): [tabarknoori94@gmail.com](mailto:tabarknoori94@gmail.com)

### Abstract

Corona virus disease is an infectious, viral disease caused by SARS-CoV-2 and resulted in high percentage of morbidity and mortality throughout the world since December 2019. Several kinds of vaccines developed after short period of time. Is determine the knowledge about Corona (covid\_19) among attendance in primary health care centers in Baghdad city. A cross sectional study performed in Baghdad city with 100 persons selected conveniently who visit primary health care centers, which are (Abdul-Saheb Al-dakhil, first Al-Hurriya and second Al-Hurriya primary health care center); the study begun at December 2022 to March 2023. From the participants there were 32% aged 35-39 years old, 50% male and 50% female, 46% were married, 60% get bachelor degree or above. The highest percentages of study sample were employee 28%. All participants were infected previously with COVID-19. 85% know that virus has mutation. 73% think that vaccination is the best preventive measure against this pandemic this paper has found overall good Knowledge levels among the sample of Iraqi people.

**Keywords:** COVID- 19, Knowledge, Mutation, Vaccine, Baghdad.

### المستوى المعرفي لمرض COVID-19 بين مراجعي مراكز الرعاية الصحية الأولية في مدينة بغداد

م.م. تبارك إياد نوري<sup>1</sup> ، أ.م. اشراق أحمد جواد<sup>2</sup> و عيسى خليل حسن<sup>3</sup>

### الخلاصة

مرض فيروس كورونا هو مرض فيروسي معدي يسببه السارس - CoV-2 حيث أدى إلى ارتفاع نسبة المراضة والوفيات في جميع أنحاء العالم منذ ديسمبر 2019. وقد تم تطوير عدة أنواع من اللقاحات بعد فترة قصيرة من الزمن. اهدف الدراسة: تحديد المعرفة بفيروس كورونا المستجد 19 بين المراجعين لمراكز الرعاية الصحية الأولية في مدينة بغداد. طريقة العمل: دراسة مقطعية أجريت في مدينة بغداد على 100 شخص تم اختيارهم بشكل غير عشوائي من مراكز الرعاية الصحية الأولية وهي (عبد الصاحب الدخيل ، أول الحرية ، مركز الحرية الثاني للرعاية الصحية الأولية). بدأت الدراسة في ديسمبر 2022 إلى مارس 2023. النتائج: كان من بين المشاركين 32% تتراوح أعمارهم بين 35 و 39 عامًا ، و 50% ذكور و 50% إناث ، و 46% متزوجون ، و 60% حصلوا على درجة البكالوريوس أو أعلى. وكانت أعلى نسب من عينة الدراسة موظفون 28%. أصيب جميع المشاركين سابقًا بـ COVID-19.

85% يعرفون أن الفيروس به طفرة. 73% يعتقدون أن التطعيم هو أفضل إجراء وقائي ضد هذا الوباء. وجدت هذه الورقة مستويات معرفة جيدة بشكل عام بين عينة في الشعب العراقي.

*الكلمات المفتاحية: كوفيد - 19 ، علم ، طفرة ، لقاح ، بغداد .*

## Introduction

It was December 2019 in Wuhan, Hubei Province, China; an epidemic of unidentified origin of pneumonia was reported. Pneumonia cases were epidemiologically linked to the Huanan Seafood Wholesale Market [1]. The World Health Organization (WHO) responded to this serious crisis on January 30 by declaring COVID-19 (corona virus disease 2019) as a public health emergency of worldwide concern and urging all nations to work together to stop the virus's rapid spread. According to its appearance, which is comparable to the solar corona and features spikes on its surface measuring 9 to 12 nm in length, the coronavirus has single-stranded ribonucleic acid and an envelope [2].

According to phylogeny, toxicity, and accepted procedure, the International Committee on Taxonomy of Viruses finally identified it as SARS coronavirus- 2 on February 11, 2020 [3]. The coronavirus illness brought on by COVID-19 shortly after given an acronym by the WHO [4]. Recent research suggests that the SARS coronavirus-2 may be largely housed in bats and that pangolins or other animals may have been the primary method of transmission to humans [5] or other animals [6]. Sold in the Human Seafood Markets but then spread by human to-human transmission means [7]. Even though the city's Huainan Seafood Markets are probable the virus' zoonotic origins, widespread human-to-human transmission has resulted in 73451 people getting sick in 26 nations and 1875 fatal cases as of February 18, 2020 [8]. On January 20, 2020, the disease was first discovered in the United States, and as of February 17, 2020, there were 15 confirmed cases [8].

A coronavirus spreads mostly by respiratory droplets and tiny particles released when an infected person coughs, sneezes, or talks. COVID-19 is a respiratory illness caused on by SARS-CoV-2. The virus can spread quickly in crowded or poorly ventilated interior situations. While the virus can spread to anyone, not everyone who gets it experiences symptoms, ranging from mild to severe. Serious illness is more likely to impact persons over 65 and those with underlying medical conditions, regardless of age [9]. As of February 17, 2020, there were a total of 12 cases reported in Iraq, with the virus making its debut in the region of Al-Najaf. In addition to other non-specific symptoms like headache, dyspnea, fatigue, and muscle soreness, cough and fever are the most typical clinical signs and symptoms at the time of manifestation [10]. The long-term cure for coronavirus illness Hopefully, a safe vaccine campaign will be conducted internationally in time for the 2019 pandemic, with significant clinical and socioeconomic advantages [11].

According to WHO [12], dozens of vaccines are under development and are listed below: The following vaccinations have EUL as of January 12, 2022:(a) The Pfizer/BioNTech Comirnaty vaccine, scheduled for release on December 31, 2020; (b) The SII/COVISHIELD and AstraZeneca/AZD1222 vaccines, scheduled for release on February 16, 2021; (c) The Janssen/Ad26.COV 2.S vaccine developed by Johnson & Johnson, scheduled for release on March 12, 2021; (d) The Moderna COVID-19 vaccine (mRNA 1273). The aim of this study is to determine the knowledge about Corona (Covid\_19) among attendance in primary health care centers in Baghdad city.

### Methodology

**Design of the study:** A cross sectional study (snap shoot prevalence survey study).

**Settings of the study:** The study was performed in Baghdad city among people who visit primary health care centers, which are (Abdul-Saheb Al-Dakhil, first Al-Hurriya and second Al-Hurriya primary health care center).

**Sample technique:** A sample of (100) individual was selected conveniently from primary health care centers.

**Inclusion criteria:** All persons come to primary health care center and accept to full the questionnaire.

**Exclusion criteria:** All persons who refuse to full the questionnaire as well as those who incomplete the questionnaire.

**Data collection:** Data was gathered by the investigator through the usage of a special designed questionnaire, the response set of these questions was set as "yes", "no" or "I do not know" choices and direct interview with the people was initiated.

**Duration of the study:** The study started from (December 2022 to March 2023).

**Study instrument:** To measure the variable that underlies the current investigation, the investigator used a specially developed questionnaire. On-site interviews were used to deliver the questionnaire. This approach was chosen since many people lacked a solid education and could have found it challenging to complete the questionnaire on their own. The research team designed the questionnaire together in English before having it translated into Arabic. The questionnaire included sociodemographic (individual's age, place of residence, educational attainment, occupation, and social status) and knowledge-related (corona causes, whether there are other types of COVID-19, mode of transmission, signs and symptoms, complications, and how to obtain information about the Corona virus, risk group, number of doses of vaccine, age at which to administer vaccine, and what side effects and effects there may be) questions.

**Statistical analysis:** The results of the study were analyzed by frequency and percentage by simple statistic processes by IBM SPSS statistical analysis program version 24.

**Results:** A total of 100 individuals were included in present study, from them 32 were 35-39 years old, 50% male and 50% female, 46% were married, 91% live in urban area, 60% get bachelor degree or above while 31%, 6% and 3% had secondary, primary and illiterate consequently. The highest percentages of study sample were employee 28% and had moderate economic level 61%.

**Table (1):** Distribution of Demographical Characteristic.

Demographic variables		Number	Percentage %
Age years	<20	7	7.0
	20-24	8	8.0
	25-29	14	14.0
	30-34	27	27.0
	35-39	32	32.0
	≥40	12	12.0
Gender	Male	50	50.0
	female	50	50.0
Marital status	Single	37	37.0
	Married	46	46.0
	Widowed	3	3.0
	Divorced	14	14.0
Educational level	Illiterate	3	3.0
	Primary	6	6.0
	Secondary	31	31.0
	College and above	60	60.0
Occupation	Employee	28	28.0
	Health workers	9	9.0
	Self- employed	14	14.0
	Retried	5	5.0
	Student	24	24.0
	Housewife	20	20.0
Residence	Urban	91	91.0
	Rural	9	9.0
Economic level	Good	34	34.0
	Moderate	61	61.0
	Poor	5	5.0

All participate answer correctly about infectivity of COVID-19; of them 95% had true response regarding causative agent of this disease. Seventy percent of them thought that the disease affects children less than 6 years, 85% say yes when asked about the availability of multiple strain of the COVID-19. That virus can infect male & female in the same range 81% and 83% supposed that the virus can infect respiratory system after recovery, table (2).

**Table (2)** Distribution of Sample according to Knowledge Items.

Knowledge		Yes		No		DNK	
		N	%	N	%	N	%
COVID- 19	<b>Infected</b>	<b>100</b>	<b>100.0</b>	-	-	-	-
	<b>Non- infected</b>	<b>0</b>	<b>0.0</b>	-	-	-	-
Causes of COVID-19	<b>Bacteria</b>	<b>2</b>	<b>2.0</b>	-	-	-	-
	<b>Parasite</b>	<b>3</b>	<b>3.0</b>	-	-	-	-
	<b>Virus</b>	<b>95</b>	<b>95.0</b>	-	-	-	-
It infects children <6Years		<b>72</b>	<b>72.0</b>	<b>19</b>	<b>19.0</b>	<b>9</b>	<b>9.0</b>
There are several mutations		<b>85</b>	<b>85.0</b>	<b>5</b>	<b>5.0</b>	<b>10</b>	<b>10.0</b>
It can infect male & female in the same range		<b>81</b>	<b>81.0</b>	<b>8</b>	<b>8.0</b>	<b>11</b>	<b>11.0</b>
It can infect Respiratory system after recovery		<b>83</b>	<b>83.0</b>	<b>9</b>	<b>9.0</b>	<b>8</b>	<b>8.0</b>

\*DNK= don't know

As regard with COVID-19 vaccine; just 41% had correct answer most of them 57% assumed that the vaccine ineffective to prevent the disease, small percentages 2% don't have any knowledge about it. On the other hand, 47% of participant answer that COVID-19 vaccine had two doses only. The best preventive measure against COVID-19 is to get vaccine as 46% of studied sample replied; 62% choose yes option when asked about the possibility to give vaccine to those have chronic disease. Sixty- six percent answer yes when asked about the possible side effect that may accompanied with immunization process as shown in table (3).

**Table (3)** Distribution of sample study according to Knowledge items.

Knowledge		Yes		No		DNK	
		N	%	N	%	N	%
<b>Vaccination prevent COVID- 19</b>		41	41.0	57	57.0	2	2.0
<b>Vaccination is with:</b>	<b>One dose</b>	4	4.0				
	<b>Two doses</b>	47	47.0				
	<b>Multi doses</b>	43	43.0				
	<b>DNK</b>	6	6.0				
<b>Vaccination isn't enough to get the immunity herd</b>		46	46.0	38	38.0	16	16.0
<b>Vaccination is the best preventing measure</b>		73	73.0	20	20.0	7	7.0
<b>Vaccination gives to the patients with chronic disease</b>		62	62.0	31	31.0	7	7.0
<b>Have side effects of vaccine</b>		66	66.0	17	17.0	17	17.0
<b>COVID- can affect pregnant women</b>		45	45.0	34	34.0	21	21.0

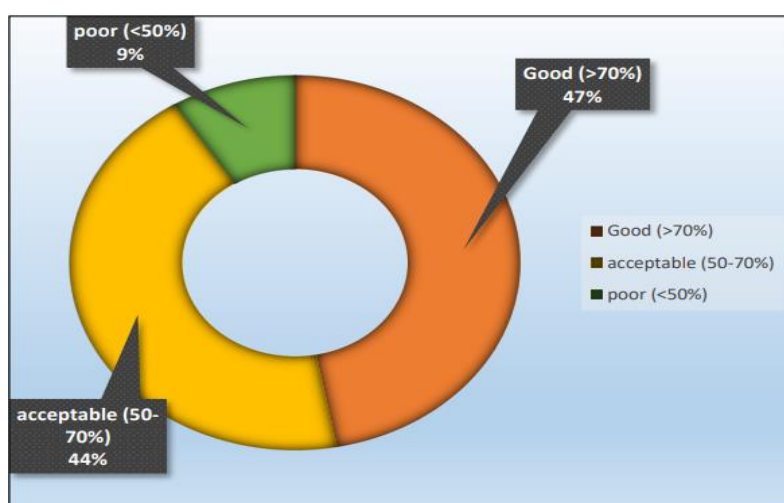
\*DNK= don't know

In general, the individuals have several ways to get medical information 46% of participants get their knowledge about COVID-19 from their family; 21% from health care workers; 20% from internet in particular social media and the remaining 6% from another sources table (4).

**Table (4):** Sources of information received.

Source of information	N	%
Health care workers	21	21.0
Social media	20	20.0
Work place	7	7.0
Family	46	46.0
Others	6	6.0

The majority of studied sample have good Knowledge about COVID-19 and vaccine available for it figure (1).



**Fig. (1):** Knowledge score regarding COVID-19.

## Discussion

Since the WHO [13] declared COVID-19 to be a pandemic, COVID-19 knowledge has been steadily expanding in communities. The objective of this study was to determine the knowledge about Corona virus among people attendance to primary health care centers in Baghdad city. Awareness about the disease is necessary in its prevention and control. This study presented knowledge score about Corona virus disease among people in Iraq considered to be of highly pandemics with the disease. The majority of people had an acceptable level of awareness about COVID-19, including the disease's mode of transmission, the incubation period, preventive measures, and the availability of vaccination; these findings are consistent with those published by Alzoubi *et al.* in 2020 [14]. When they performed study among students in Mutah University – Jordan; another one in Italy by Gallè 2020 revealed same outcomes [15]. Whereas in Saudi Arabia research by Al-Hanawi 2020 showed high level of knowledge score about COVID-19 [16]. These differences might be related to student's

specialty and sample size variation. Specifically, that 95% of our participants know corona was a disease caused by a virus and this is a good percentage in a short period from the appearance of the disease; that what's approved by [Centers for Disease Control and Prevention CDC \[17\]](#), and [Rothan et al. 2020 \[18\]](#).

Mutations in COVID-19 have introduced an extreme challenge in its prevention and treatment. The primary characteristics of mutations are the generation of novel variants with high tensile strength, disruption of viral fitness, and acceleration of virus reproduction. The Delta variety (B.1.617.2), which was initially discovered in India, is one of the varieties that have lately come to light. A more vicious mutant, also known as omicron (B.1.1.529), first appeared in South Africa in November 2021. Due to their increased transmissibility than the progenitor variants and quick dissemination, these mutants attracted the attention of the entire world [19]. In present study 85% of participants know that COVID-19 has several mutations. The current study showed that 57% of the people answered that vaccination does not prevent infection with the Corona virus, forty- one percent answered that there is effective vaccine against COVID-19; whereas 2% do not know about this issue. A study conducted in the city of Baghdad that done by (Khalil et al., 2020) [20] showed that 71% said that there is no vaccine available in preventing the disease; this variation might be because that this study conducted early before the introduction of the vaccine. The development of multiple vaccines within short period of COVID-19 epidemic is unprecedented and a huge achievement. Side effects observed in many cases; the main complaint, however, is typically a mix of fever, headache, myalgia, and general malaise, which affects about 60% of recipients after the second dosage of the vaccines and may also be accompanied by local allergic reactions. Side effects of COVID-19 vaccines are often troubling but may merely reflect temporary production of type I interferons, a normal immune reaction to contact with pathogens [21-23]. A 66% of the participants mentioned the possibility of present of vaccine's adverse effects. Another study performed in Jourdan show approximately the same findings when conducted among healthcare workers [24]. Another interesting finding in this study was the source of information about COVID19, with obtaining information from family the most common, followed by health care worker, internet, workplace and others. In contrast, the Iranian study of (Taghrir et al. 2020) revealed that the most common source of people's information about COVID-19 is the World Health Organization, the CDC followed by the national guidelines. On the other hand (Zahid and Alsayb; 2021) in Saudi Arabia show that 46% of participants received their knowledge from social media. These variations may relate to culture differences among study groups [25, 26]. The use of a self-questionnaire, which is mainly dependent on people's self-report assessments of their knowledge, was a weakness of this study. However, the study's findings



might show that individuals in such a representative sample size have enough acceptable experience to serve as significant community advisors in an effort to aid regional health authorities in stopping the ongoing spread of the COVID-19 outbreak, at least within the city of Baghdad.

### **Conclusions**

This paper has found overall good Knowledge levels among the sample of Iraqi people. Despite that people had sufficient general knowledge regarding corona vaccine. More than quarter of the participants didn't know that corona vaccination has affect the pregnant women. The source of the peoples' information derived in the from their family followed by other sources.

### **Recommendation**

To make the study more comprehensive and accurate, it is advised that the number of healthcare facilities included in future studies on the Corona virus be increased. Increasing people's awareness of the importance of vaccination, especially mothers, as they are the foundation of the family and society, through awareness campaigns and social communication.



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