

# ASSESSMENT OF WOMEN'S KNOWLEDGE TOWARDS COVID-19 PANDEMIC IN MOSUL CITY

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**Keywords:**

Knowledge, Covid-19, Mosul

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**ABSTRACT**

Coronavirus disease 2019 (COVID-19) has spread rapidly globally, leading the World Health Organization to declare it a pandemic. The aim of the study to assess of women's knowledge towards ovid-19 pandemic in Mosul city. A cross-sectional study was conducted among (471) women who living in Mosul, between March 2020 and May 2020. An online questionnaire divided into three sections was used the 1th one includes socio-demographic characteristics; The 2<sup>th</sup> section assessed knowledge (10 questions) about COVID-19 and The 3<sup>th</sup> section was related to sources information about COVID-19. The total woman's knowledge regarding COVID-19, (61.57%) of woman showed good knowledge and nearly 20.59% showed excellent knowledge. On the other hand, 17.84% showed poor knowledge regarding COVID-19 pandemic. There were significant differences between the total women knowledge with most of the demographic characteristics reading resource at P value  $\leq 0.05$ ; except the "side of city". Additionally, women participant used Social Media follow internet to inform themselves about COVID-19(30.57%), (29.94%), respectively. In general, the study concludes that the overall knowledge regarding the COVID-19 had good knowledge among (471) women from a right and left side of Mosul city.

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## 1. INTRODUCTION

At the dawn of anew decade, initially appeared in Wuhan, China, in December (2019), and World Health Organization (WHO) was declared it a global pandemic in March 2020, which it named coronavirus (COVID-19); and since then, the virus had spread worldwide with fear-inducing dearth of reports [1]. On February 24, 2020, at Al-Najaf, Iraq, the first case of COVID-19 was diagnosed. As a result, the Iraqi Ministry of Health and Environment held at the end of March 13–2020 that there were confirmed 105 cases of COVID-19 [2]. First, it was believed to be transmitted by a zoonotic pathway; however, this was later disproved [3], [4]. However, the new mode of transmission through person-to-person is driving the disease to spread quickly across continents, with elderly people being the most likely victims [5], [6]. COVID-19 is becoming a concern every day because cases aren't being controlled. Promoting personal hygiene and health behavior which include hand washing, wearing mask and distancing, are required to prevent or reduce the transmission of the coronavirus [7], [8]. Without hard bans on huge gatherings, such as group prayers, funerals and weddings, this could lead to increased transmission among the population [9]. To battle an outbreak and because of the importance of this facility, efforts will be made to prevent transmission and

deliver up-to-date information on reduction coronavirus disease. As a result, the survey was conducted with the aim to assessing of knowledge women about the COVID-19 pandemic in Mosul City.

## 2. METHODOLOGY

### 2.1 Ethical consideration

This study was approved by the University of Mosul Research Ethics Committee. Anonymity and confidentiality of the study participants has been kept secret. At the start of the questionnaire, consent was sought in terms of yes / no / not sure for willingness to participate.

### 2.2 Study Area, Design, and Period

A cross-sectional study was conducted among (471) women, from (March 2020 and May 2020). The specified sample size was estimated by determining the lowest acceptable size with a ( $\pm 5\%$ ) margin of error and a confidence level of (95%). The inclusion criteria who agreed to filled the questionnaire of women in Mosul-Iraq; and women who aged 15 years and above.

### 2.3 Data collection

The main data collection tool was an online questionnaire created with Google forms and distributed via social media platforms such as Facebook, Whats App, and Messenger. A questionnaire was developed and tested for reliability and validity. The questionnaire included a paragraph introducing the study's objectives and emphasizing that participation in this study was voluntary and that the answers would be treated confidentially. The completion of the questionnaire takes about 7-10 minutes. The first part comprised socio-demographic characteristics of the respondents, such as: age, material status, educational level, occupation, side of the city, and if they had been infected with COVID-19. The second part included 10 questions regarding the knowledge of COVID-19, such as: cause, transmission, symptoms, quarantine period, treatment, mortality rate, vaccine and prevention measurement against COVID-19. The third part related to sources information about COVID-19.

### 2.4 Data analysis

Knowledge was assessed with ten questions and response options included: Yes/ No / Not sure, each correct answer was given (1) point, and an incorrect answer was given (0) point. The knowledge score for women participant, with a score of 0 to 4 were further categorized as poor level of knowledge; respondents with a score of 5 to 7 as good level of knowledge and those with a score of 8 to 10 as excellent level of knowledge. Data was analysis using SPSS version 25. Descriptive analysis and all the differences of estimated variable were considered statistically significant at p-value  $>0.05$ .

## 3. RESULTS

in the study. The table shows age Mean ( $\pm$ SD) of participants was  $32.03 \pm 4.25$ , and the highest percentage 51.18% of age group is between 26 to 35 years. About (65.4%) of respondents were married, while (34.6%) were unmarried. A majority 236, that is (50.12%) were holding secondary education, while (19.74 %, 30.14%), were holding primary and university education, respectively. Nearly half (52.7%) were housewives, and about (19.3%) were employee. It's shown that the majority (59.4%) were living in left side of Mosul city, and only (31.4%) were infected by Covid-19. Table (2) presented that the overall 290 (61.57%) of the (471) women participants had good knowledge, while 84(17.84%) of them had poor knowledge, and 97(20.59%) of them had excellent knowledge regarding COVID-19 pandemic. The majority, that is (85.14%) of women participants knew that COVID- 19 is a virus, and 78.55 in percent had knowledge toward symptoms of COVID- 19. As regards to transmission, about (75.37%) of participants

had good knowledge that the transmission was due to close contact with an infected person. More than half, that is (57.33%) of respondents knew the suspected cases should be remains in quarantine for 14 days. However, slightly, few, that is (21.80), of respondents knew that the antibiotics were not the first-line treatment of COVID- 19. Most of women participants (61.14%) correctly answered that patients with chronic diseases are at higher risk to develop cases of COVID-19. In additional, few, that is (22.29%) of participants showed poor knowledge in recognizing that hyperglycemia are complication of COVID-19. On the other hand, only (50.95%) of women participants showed that the risk of infection of COVID-19 increased in pregnant women and elderly, while, the vast majority (91.29%) of the women correctly answered that hand washing and wearing mask can help in prevention of COVID-19. Table 4: This table demonstrate analysis by using cross tabulation for overall-knowledge of women participants' against their socio-demographical characteristic. It's was found that there are statistically significant relationship, at (p-value < 0.05) between over-all-knowledge and its socio-demographical characteristic and no relationship had been found with side of the city (p-value= 0.080). Figure1: Information sources about COVID-19 among participant Social media, it's was the most common source of respondents' information about COVID-19 which constituted (30.57%): including Twitter, Facebook, Instagram and Whatsapp, followed by Internet (29.94%) such as You-tube, scientific websites and articles.

**Table (1):** Socio-Demographic Characteristics of the study Sample (n=471).

Variables		F.	%
Age	15-25	75	15.92
	26-35	241	51.18
	36-45	105	22.29
	46 and above	50	10.61
<b>Mean±SD</b>		<b>32.03±4.25</b>	
Material status	Married	308	65.4
	Unmarried	163	34.6
Educational Level	Primary	93	19.74
	Secondary	236	50.12
	University	142	30.14
Occupation status	Housewife	248	52.7
	Employee	91	19.3
	Student	132	28.0
Side of city	Right	191	40.6
	Left	280	59.4
You have infected by Covid-19?	Yes	148	31.4
	No	323	68.6

<b>Total</b>	471	100.0
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**Table (2):** Distribution of the women participants' level according to their knowledge regarding COVID-19 pandemic.

Level of knowledge	Knowledge score	F.	%
<b>Poor</b>	< 5	84	17.84 %
<b>Good</b>	5-7	290	61.57 %
<b>Excellent</b>	> 7	97	20.59 %

**Table (3):** Knowledge of women participants' about the disease caused by COVID-19

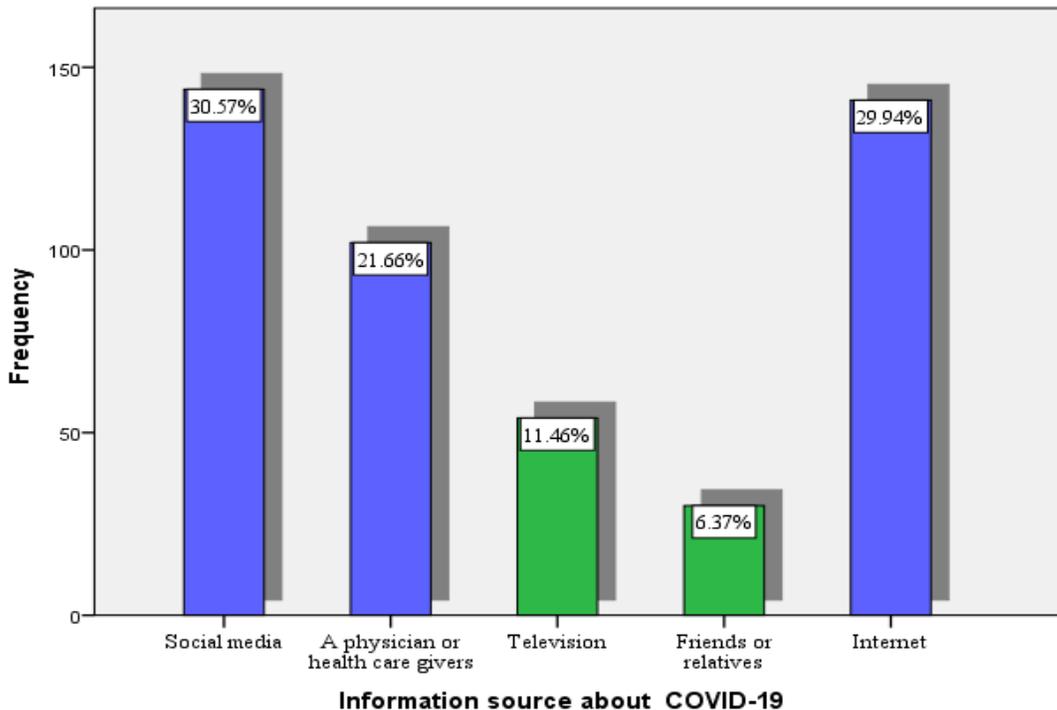
Items	Yes,(%)	No,(%)	Not sure (%)
Cause of COVID-19 is a viral infection.	85.14	5.31	9.55
Symptoms of COVID-19: fever, cough, hard breathing, sore throat.	78.55	6.58	14.87
COVID-19 is spread by close contact with an infected person.	75.37	5.74	18.89
Patient remains in quarantine for 14 day	57.33	19.32	23.35
The first line for treatment of COVID-1 is antibiotic.	63.90	21.80	14.30
Patients with chronic diseases they are more likely to contract COVID-19 and death.	61.14	19.12	19.74
Hyperglycemia is complications of COVID-19 infection.	44.16	22.29	33.55
COVID-19 can be prevented by vaccine	20.18	70.70	9.12
Pregnant women and elderly are increased risk of COVID-19.	50.95	38.42	10.63
Hand washing and wearing mask can help in prevention of COVID-19	91.29	4.24	4.47

**Table (4):** Relationship between overall knowledge women participants' and socio-demographic characteristics

Socio Demographic		Overall knowledge						P. value**
		Excellent (N=97)		Good (N=290)		Poor (N= 84)		
		F.*	%	F.	%	F.	%	
Age (year)	15-25	17	17.55	35	12.09	23	27.38	0.001
	26-35	42	43.29	178	61.37	21	25	

	36-45	28	28.86	55	18.96	22	26.19	
	46 ≤	10	10.30	22	7.58	18	21.43	
<b>Material Status</b>	Married	62	63.92	195	67.25	51	60.72	0.001
	Unmarried	35	36.08	95	32.75	33	39.28	
<b>Level Education</b>	Primary	0	0.0	42	14.49	51	60.72	0.001
	Secondary	13	13.41	193	66.51	30	35.71	
	University	84	86.56	55	18.96	3	3.57	
<b>Occupation</b>	Housewife	9	9.27	160	55.17	79	94.05	0.001
	Employee	72	74.42	17	5.86	2	2.38	
	Student	16	16.49	113	38.97	3	3.57	
<b>Side of city</b>	Right	45	46.39	106	36.55	40	47.62	0.080
	Left	52	53.61	184	63.45	44	52.38	
<b>Infected by Covid-19</b>	Yes	90	92.78	59	19.32	2	2.38	0.000
	No	7	7.29	234	80.68	82	97.62	

\*F = Frequency, \*\*Statistically significant at p-value < 0.



#### 4. DISCUSSION

Since World Health Organization (WHO) declaration about infection COVID-19 as a community-health emergency on 30 of January, 2020; authorities of health around the world, led by WHO; have started massive campaigns to raise the awareness and educate of the population toward the infection and stop its

transmission through publish the appropriate practices [9]. Community knowledge plays a vital role in limiting virus transmission through following health guidelines; The Iraqi authorities began to respond and take measures to control the epidemic transmission. The present study found that the women participants' knowledge was good (61.57%) toward 2019 novel corona-virus. Similar to our results, several studies conducted in different countries described good knowledge levels about novel corona-virus, among the general population in Syrian [10], India [11] and Jordan. [8]. We founding that the majority of participants recognize the COVID- 19 is a viral infection (85.14%) and a global issue, these results have been discovered in other studies in India [7], [12]. COVID-19 transmission is a risk for those who come into direct contact with an infected person, and the risk is higher for those who live or work near the patient, such as family and healthcare staff [13]. Participants in the study, exhibit high knowledge towards COVID-19 transmission that (75.37 %) of the respondents showed that COVID-19 is transmission by close contact with an infected person, this result is similar to the study finding is done in USA [14] and UK [15]. While this result inconsistent with other study in Thailand [5]. In our result, finding the vast majority of participants (78.55%) were good knowledge of the symptoms of COVID-19, and quarantine of it (57.33%). These study were consistent with [16], [17], who reported that fever, cough, hard breathing and sore throat were the common of symptoms of COVID-19; in additional, patient remains in quarantine for 14 day; but different from a research from the Syrian (2020) in which participants had poor knowledge of the symptoms and quarantine of patient with COVID-19.

The most interesting finding was that majority of the participants (91.29%) have an excellent knowledge about the required measures; hand washing and wearing mask to prevent the COVID-19. Similary, [11] who showed in his study, had high level knowledge (87%) about the hand washing with soap and water regularly and (73%) wearing mask helping to reduce infected with disease. However, the virus's future course is unknown, as are the more scientific questions about the use of vaccines in protecting against COVID-19 or the usage of a specific medicine to treat the disease; finding among participants were few correctly answered by only around (21.80%) of participants that the antibiotics is not the first of line of treatment of novel coronavirus. Similarly, reported that done in Chinese residents and Northern Thailand by [4], [5]. In particular, the vast majority of respondents agreed that patients with chronic conditions and elderly are more susceptible to the novel coronavirus infection. Many studies published in 2019 about the unique coronavirus disease in world have validated this [18- 20]. Women who are pregnant may not appear to be more vulnerable to infection or major consequences, although there is still a lack of data and large series. Physiological changes in the cardiovascular, pulmonary, and coagulation systems during pregnancy, in fact, may raise the risk of morbidity; and chronic diseases can rise the risk of developing more severe clinical appearances [21], [22]. Furthermore, age, material status, level education, occupation and previous infected with COVID-19 had significant relationship with overall knowledge of participants, except with side of city at (p-value = 0.80) had no significant on the knowledge of women; this result agreement with [1], [4], [23], [24] who reported significant correction of knowledge with socio- demographic. The study found that social media and internet were the main sources for participants to get their information about the coronavirus. This result is compatible with previous studies [8], [10], [11]. Efforts have been made all around the nation to prevent the virus from spreading. These attempts are predicated citizenry's understanding of disease, which is mostly governed by their understanding. This was taken into consideration. It is important to determine the knowledge level of citizen towards COVID-19, and they have adopted to avoid themselves from getting infected.

## **5. Conclusions**

In general, the study concludes that the overall knowledge regarding the COVID-19 had good knowledge among (471) women from a right and left side of Mosul city. However, women's knowledge was

significantly affected by socio-demographic characteristic Therefore; these findings can help in evaluating the actual condition to apply health education programs and provides WHO guideline.

#### Conflict of Interest

I declare that I do not have any conflicts of interest.

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