

# Assessment of Knowledge and Practices of Nurses and Health Professionals Regarding their Commitments to prevent themselves and others from COVID-19

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**Abstract**— In December 2019, multiple unexplained pneumonia cases were reported in Wuhan, Hubei Province, China. The World Health Organization (WHO) named it as a Corona Virus Disease 2019 (COVID-19). Health professionals and nurses are at a high risk of getting the infection and the source of transmission in the community. The study objectives are to assess nurses and health professionals' knowledge and practices about COVID-19 and identify the association between variables, their experience, practices, and COVID-19. The study was launched in Kurdistan Region /Iraq from 1.4.2020 to 1.8. 2020. The sample size was 300 nurses and health professionals collected via the online using snowball application form style. The questionnaire consisted of three main parts (part one socio-demographic, part two knowledge about COVID -19 and part three practices for prevention from COVID-19). The majority of Nurses and Health professionals had good knowledge of COVID-19, representing 37.7%, while 27.3% had insufficient knowledge. They also had good practices about COVID-19, which represented 45.7%, and 25.3% had low practices. There was a significant relationship between their variables, practices, knowledge, and COVID-19. The majority of Nurses and Health professionals had good knowledge and practices about COVID-19, while some of them had fair and low knowledge and practices. There was a significant association between their variables, practices, knowledge, and COVID-19.

**Index Terms**— nurses, knowledge, practices, Covid-19.

## I. INTRODUCTION

COVID-19 is a large group of viruses that are relatively known in the community. Historically, the proof has proven that the virus is transmissible via different ways including mammals and birds, with people being in particular prone to infection (Schoeman and Fielding 2019).

Chinese authorities first announced it in Wuhan city, the in China; at the end of December 2019 (Galali, 2021) (Galali et al., 2022). The hazard of high severity became observed inside

the aged and with underlying continual diseases. This is performed to use sanitizing hands and washing with cleaning soap and water, and the wearing of face mask(Althomairy,

Baseer et al. 2018). Also, healthcare workers (HCWs) are at a high risk due to their exposure to infectious sources and transmission cycle in the community. Some initial research confirmed that HCWs lacked understanding and mindset towards MERS CoV, and SARS (Deng, Olowokure et al. 2006, Alsaahfi and Cheng 2016). District 2 Hospital is undoubtedly considered among the most important hospitals in Ho Chi Minh City (HCMC) with a professional provider. The reaction to significant scientific troubles is to be had to all sufferers. It is likewise chargeable for education and research and assisting the scientific employees in dealing with the suspected cases of COVID-19 contamination in HCMC. Due to this facility's significance, HCWs had been at an excessive hazard of having the virus inside scientific centers and additionally transmitting to different sufferers inside the community. The take a look at became accomplished in china because of examining the understanding and mindset towards COVID-19 amongst HCWs at District 2 Hospital in HCMC. The outcome will aid health authorities and professionals to structure the necessary programs in educating institutes to offer updated knowledge and practice to minimize the COVID-19 spread. Hospitals and medical staffs are inevitably at the front line of any particular epidemic, and they unintentionally risk their lives to conduct their required duties. Due to the fact that they are in close contact with infected patients, they are specifically vulnerable to spread and infection with viruses and transmitted to colleagues, staffs, friends and family members. According to data, the number of infected staffs exceeded 3,000 and several of them were died. The quantity of technical employees inflamed in particular in the present-day history. In addition to bodily stress, a scientific group of workers additionally face big intellectual burdens (Lin, Peng et al. 2007). Previous studies

have noticed that SARS viruses lead to enormous burden in terms of medical staff comparing to other health professional groups (Lehmann, Bruenahl et al. 2015). This is due to the nature of the nurse's job that spent a long time with patients for. Consequently, in much hospital health workers leave their duty during the outbreak, and nurses inevitably need to perform a large part of their duties. Therefore, the psychological aspects of nurse's pandemic/epidemics require close attention. There are many nurses and health professionals working in hospitals and primary health care centers in Iraq therefore it is better to evaluate their practices and knowledge regarding COVID-19. The physicians, nurses, and health professionals are in the first line of COVID-19; therefore, the WHO has named them as a (white army). Therefore, the main aim of the study was assessing the knowledge and practices of nurses and health professionals about COVID-19.

## II. METHODS

A descriptive and cross-sectional study was conducted in Kurdistan Region/Iraq from 1.4.2020 to 1.-8.2020. The sample size was included 300 nurses and health professionals in primary health care centers and hospitals via an online application using a snowball technique. The majority of nurses and health professionals have participated in the study but some of them have not participated with the study.

Tools of Data collection and ethical approval:

Data were collected via an online application and using a specially designed questionnaire form. The questionnaire made of three main sections. Part one was focused on data associated with socio-demographic information including (sex, age, educational level, family status, Family type, address,). The Second part items consisted of questions about knowledge on COVID -19 as ( 1 for yes,2 for not sure and 3 for not ), Part three included items related to practices for prevention as (1 for done,2 for some time done and 3 for never done ). The researchers have taken approval from ethical committee of the Kurdistan Board of medical specialties in Iraq.

Sample Size :

The size of the sample was counted utilizing the following formulation known as Yemane's calculation sample size (Galali, M., Y. 2020) based on 50% prevalence at the range for finite defined community.

$$n = N / (1 + N(e)^2) = 300$$

Where,

n= Targeted sample size, e= error Margin of 0.05 according to the condition of the research. N= size of the population which is based on 1,200 subjects.

Statistical analysis:

The data was statistically analyzed to find out the possible statistical differences among variables using SPSS (Statistical

Package for Social Science, version 23). Chi-square was followed to calculate the significant statistical differences at  $P < 0.05$ .

## III. RESULTS

Table1 shows socio-demographic information of participants. The majority were male that represented (55.7%). Less than half of them were over 50 years old representing (40.40%). The participants that they were married represented (65.7%) and most of them were from nuclear family as 68.3%. The majority of participants were from urban 70.3%..”

Table 1: socio-demographic characteristics

Variables	Variables	Frequency	Percentage %
Sex	Male	167	55.7
	Female	133	44.3
	<b>Total</b>	<b>300</b>	<b>100.0</b>
Age	18-27	60	20.0
	28-38	67	22.3
	39-49	52	17.3
	50 above	121	40.40
	<b>Total</b>	<b>300</b>	<b>100.0</b>
Educational level	Secondary	128	42.7
	Institute	86	28.7
	College	65	21.7
	MSc	17	5.7
	PhD	4	1.3
<b>Total</b>	<b>300</b>	<b>100.0</b>	
Family status	Marriage	197	65.7
	Single	83	27.7
	Divorcee	7	2.3
	Widow	13	4.3
	<b>Total</b>	<b>300</b>	<b>100.0</b>
Family type	nuclear	205	68.3
	extended	95	31.7
	<b>Total</b>	<b>300</b>	<b>100.0</b>
Residency	Urban	211	70.3
	suburban	85	28.3
	Rural	4	1.3
	<b>Total</b>	<b>300</b>	<b>100.0</b>

Table 2 below shows overall knowledge, so most of them had good knowledge about COVID-19, representing nearly about 37.7%, and 27.3% had low knowledge about COVID-19. Nearly about 35.0% of them had fair knowledge regarding COVID-19. Hence, they need more education intervention about COVID-19, especially for those who have fair and low knowledge about COVID-19 because nurses and health professionals are at the first line with COVID-19, so they should have good knowledge to deal with COVID-19 properly because the best thing is self and general protection from this pandemic disease to decrease mortality and morbidity.

Table 2 :overall knowledge for nurses and health professionals about COVID-19.

Level of knowledge	Frequency	Percentage %
Good	113	37.7
Fair	105	35.0
Low	82	27.3
Total	300	100.0

Table 3 below shows general practices, so most of them had good practices, representing 45.7%. In comparison, 25.3% of them had low practices, and 29.0% of them had fair practices about COVID-19, and also they need more training intervention

for how they deal with COVID-19.

Table 3: overall practices for nurses and health professionals about COVID-19

Level of practices	Frequency	Percentage %
Good	137	45.7
Fair	87	29.0
Low	76	25.3
Total	300	100.0

Table 4 below presents that there was a significant association between their variables, knowledge, and COVID-19. (P-Value: 0.001). All variables had an association with their knowledge, so all nurses and health professionals need to update knowledge about COVID-19 to deal with their patients properly and how to protect their selves from COVID-19.

Variables	Value	df	P.value
Sex	152.740 <sup>a</sup>	2	0.001
Age	442.152 <sup>a</sup>	8	0.001
Education levels	159.514 <sup>a</sup>	8	0.001
Family status	192.478 <sup>a</sup>	6	0.001
Family type	247.361 <sup>a</sup>	2	0.001
Address	258.569 <sup>a</sup>	4	0.001

Table 5 below shows that there was a significant association between their variables, practices, and COVID-19. (P-Value: 0.001). All variables correlate with their practices, so really all nurses and health professionals as a white army needs to deal with their patients properly about COVID-19. As a new health problem worldwide, personal prevention is essential for medical and nursing staff.

**Table 5** :Association between Practice and variables about COVID-19

Variables	Value	Df	P.value
Sex	206.937 <sup>a</sup>	2	0.001
Age	451.366 <sup>a</sup>	8	0.001
Education levels	105.279 <sup>a</sup>	8	0.001
Family status	182.274 <sup>a</sup>	6	0.001
family type	175.582 <sup>a</sup>	2	0.001
Address	156.727 <sup>a</sup>	4	0.001

#### IV. DISCUSSION

The study's findings revealed that majority of participants had sufficient knowledge of COVID-19, which represented 37.7%. In comparison, 27.3% of them had low knowledge about COVID-19; regarding general practices, most of them had good practices, which represented 45.7%, while 25.3% had fair practices about COVID-19. The coronavirus is an infectious disease, so nurses and health professions must apply complete prevention and good practices during their daily work. Usually, nurses and health professionals try to obtain new information about COVID-19. Their information and their preventive practices increased during working in hospitals, and also need

additional knowledge and practices regarding COVID-19 because they are in the first line to fight with COVID-19. These findings were similar to the study done by (Huynh, Nguyen et al. 2020), who mentioned that most healthcare workers had good knowledge about COVID-19. However, the level of knowledge among some of them was not good and needed additional education intervention for them. Furthermore, the findings referred to significant relationship between their variables, knowledge, practices, and COVID-19. (P-Value: 0.001) They were in contact with patients in the first line, so they should have to do the best commitment to prevention, and they should have good knowledge about COVID-19. These findings of the study were agreed with the study done by (Huang and rong Liu 2020) about coping strategies of nurses and adaptation during the outbreak of COVID-19. All nurses and health professionals have to adapt to COVID-19 by doing complete prevention during their work because they stay with patients for a long time. The comprehensive procedure is self and general protection for all medical and nursing staff and as well as providing proper diagnosis and care for these patients of COVID-19. The study's findings were similar to the study done (Bhagavathula, Aldhaleei et al. 2020)(Aluneizi and Alosaimi, 2022), who stated that it was necessary to increase knowledge and practices of health workers who are dealing with COVID-19 during their work to be safe from this infectious disease.

On the other hand, a significant number of professional health workers possess poor practices in relation to the preventing measures of COVID-19, including the utilize of personal protective equipment. Some health professionals' groups show poor practices in public health implementing measures that reported by (Gebremeskel et al., 2021).The study was also similar to the study done by (Nemati, Ebrahimi et al. 2020), who stated that nurses had enough COVID-19 related knowledge. However, other authorities like WHO and the Ministry of Health are still need to offer more information to improve infectious disease control in Iran. Another study was done by (Buheji and Buhaid 2020), who revealed that knowledge of nurses and health professionals was improved and changed during the COVID-19 outbreak in Bahrain so this study was accepted with our study. Therefore, Urgent intervention is needed in the providing and reasonable quality of equipment for protection and safety of both health professional workforce and patients (Ball et al., 2023). However, the integrated assistance from the clinical setting, neighborhood authorities, and community, as well as improved readiness, would probably enhance nursing responses to upcoming pandemics (Chau et al., 2021) (Orji et al., 2023)..

*Limitation of the study:* Due to The COVID-19 contagious and movement restriction the questionnaire was done using online forms. This might result in limitation of the questions and data collection.

## CONCLUSION

The main aim of the current work was to examine the practice and knowledge among nurses and health professional in Kurdistan during COVID-19 pandemic. The data showed that large number of nurses and health professionals in the Iraqi Kurdistan had good knowledge regarding COVID-19, which represented and also they had good practices about COVID-19, which represented. The outcome also showed statistical significant connection between their socio-demographic variables, practices, knowledge, and COVID-19. Despite that, there were still number of nurses and health professionals that needed more training and knowledge about the procedure and approach to manage pandemics like COVID-19.

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