

## Research Paper

## Impact of the COVID-19 Pandemic on the Nurses' Quality of Life in Iraq

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**ABSTRACT**

**Objectives:** The COVID-19 pandemic's significant effect on society has led to the death of many people. Nurses have saved many lives despite their high workload and infection risk. Nurses are among the medical staff who have long working hours and more interaction with patients during the COVID-19 pandemic. This condition can quickly change their quality of life (QoL). The study aimed to assess the impact of the pandemic on the nurses' QoL in Iraq.

**Methods:** This research is a descriptive cross-sectional online study. A non-probability snowball sampling technique was used to select the study participants. A total of 1000 nurses in Iraq completed an online questionnaire on the "QoL during COVID-19 scale," the Arabic version, from March to May 2021. The researchers used statistical methods of percentage, frequency, linear regression, 1-way ANOVA, and independent t test.

**Results:** The regression analysis revealed the COVID-19 impact on the nurses' QoL ( $P=0.029$ ) and the relationships between the QoL and demographic characteristics of the study samples such as gender, marital status, years of experience in the nursing field, as well as the personal protective equipment available in the workplace ( $P=0.00$ ,  $P=0.01$ ,  $P=0.01$ , and  $P=0.033$ , respectively).

**Discussion:** The COVID-19 pandemic has impacted the QoL of nurses. There are significant relationships between nurses' QoL with sociodemographic variables such as age, marital status, years of experience in the nursing field, and personal protective equipment available in the workplace.

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## Highlights

- The COVID-19 pandemic impact on the nurses' quality of life (QoL).
- COVID-19 caused poor QoL of most nurses.

## Plain Language Summary

Diseases have a significant effect on people and can kill many people. Nurses have saved many lives despite their high workload and infection risk. As the world faces a shutdown or stagnation of everyday activities during pandemics, people are urged to accept social distancing and limit contact with other people, thereby reducing the risk of new infections. Health professionals try to improve health status. Globally, the COVID-19 epidemic has harmed nurses.

### 1. Introduction

**T**he communicable or non-communicable diseases have a significant effect on society and cause the death of many people, and affect others with stress and fear of this pandemic. The world is currently facing COVID-19 which threatens all people [1]. COVID-19 is a disease caused by a new coronavirus known as SARS-CoV-2 (previously known as 2019-nCoV) [1]. The COVID-19 virus has a lower fatality rate of 2%, but it has a much greater transmission rate and a higher mortality rate than SARS and Middle East respiratory disease [2].

A pandemic is defined by the World Health Organization as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people" [3]. As the COVID-19 pandemic spread, it greatly affected Iraq and other countries in the region. By March and April, many businesses and schools were closed, and people's lives were disrupted all over the country [4]. Iraq's first COVID-19 case was recorded on February 24, 2020, in the Governorate of Najaf. The country has already faced various challenges and emergencies [5].

The term "Quality of Life (QoL)" is used to describe how well people can live their lives. This description compares the living conditions and activities that make up human life to people's needs, values, and aspirations [6]. According to the [World Health Organization \(WHO\)](#), there are six aspects of the QoL: physical condition, mental condition, level of independence, communications of social, environmental, and academic interests. The concept of QoL is based on the considerations such as the spiritual, economic, ecological, and social conditions that guarantee the dignity and balance of life, its continuous development, and growth of human personality [7].

Nurses or the frontline health care staff have saved many lives despite the workload and infection risk. The infected health care workers accounted for 29% of all hospitalized COVID-19 cases in the early stages of the COVID-19 outbreak [8]. As the world faces a shutdown or stagnation of everyday activities during pandemic diseases, people are urged to comply with social distancing to limit contact with persons, thereby reducing the risk of new infections [6, 9]. Health care workers have faced multiple clinical and non-clinical concerns, including the lack of personal protective equipment (PPE) and the long-term periods of working with protective equipment that causes breathing difficulties without entry to toilets, resulting in physical and mental fatigue [10]. The change in working hours, inability to see family and friends, the anxiety of spreading the virus to relatives, unhealthy working environments in resource-constrained places, over-enthusiastic media reporting and projection of nurse's staff as COVID-19 warriors, and paradoxical social stigma all lead to the emergence of a different QoL [11, 12].

Nurses are the primary service providers in health-care; nurses who are in close contact with infectious patients should get their QoL checked and regularly supervised, particularly concerning family, friends, and the workplace, so that they can provide optimal QoL to give good care for patients [13]. The study question was whether the COVID-19 pandemic leads to social stress and anxiety among nurses. The COVID-19 pandemic has proved to be a deadly disease in a short time that has seriously damaged Iraq's health and economy. The study objective is to assess the impact of the COVID-19 pandemic on the QoL for nurses and to find out the relationship between the nurses' QoL and their demographic characteristics.

## 2. Materials and Methods

A sample of 1000 nurses from south to north in Iraq was selected by the chain referral sampling, also known as snowball sampling. It is a non-probability sampling methodology in which the samples have several properties. This is a method of obtaining samples for research by recruiting samples via the suggestion of new people. The study was set from March 17, 2021, to May 17, 2021, using Google online forms of self-reported questionnaire "QoL during COVID-19 scale" in the Arabic version. The study was conducted on all nurses who work within the Iraqi Ministry of Health. The researcher depended on the QoL during the COVID-19 scale, the Arabic version (Abde Nasser, 2020), because this research is close to our study. So, the researcher was contacted, and his approval was obtained to use a research tool to build the current research questionnaire. The following details of each scale used were as follows:

**Part one:** Sociodemographic variables such as gender, marital status, years of experience in the nursing field, and personal protective equipment available in the workplace (Table 1).

**Part two:** The QoL during COVID-19 scale with its 15 questions which are scored on a 5-point Likert rating scale (almost always=5, often=4, sometimes=3, little=2, never=1). The maximum score is 75, and its Cronbach alpha value equals 0.80 [14]. The researchers used statistical methods of percentage, frequency, linear regression, 1-way ANOVA, and independent t-test to describe the data results and determine the relationship between study variables using SPSS software, v. 25 and Excel 2019 (Tables 2, 3).

## 3. Results

Table 1 shows that most samples (53.3%) were male, married (56.6%), had 1-6 years of experience in the nursing field (71.6%), and answered yes (75.1%) about protective equipment available in the workplace. This table shows a significant relationship between COVID-19 and QoL.

According Table 4 there is a significant relationship between the QoL level and age, marital status, and years of experience in the nursing field ( $P \leq 0.05$ ). This table shows a significant relationship between QoL and personal protective equipment available in the workplace ( $P \leq 0.05$ ).

## 4. Discussion

The study findings show that 53.3% of the samples were male, and 46.7% were female. Nursing in Iraq was limited to women until 1977 when the first male nursing course was established in the College of Nursing. Since then, males have become more than females in nursing. Other researchers found similar results. Nathiya et al. [15] reported that 63% of their study sample were males, and Kim and Kang (2020) found that 53% of their study samples were males.

Concerning marital status, 56.6% of the nurses in the study were married. Iraqi society, like other Arab societies, prefers early marriage, especially when the person finishes his studies and has a job. Therefore, we found more married nurses. Other researchers found similar results in their research, such as Abu-Snieneh [16]. They found that 61% of the study sample were married, and Çelmeçe and Menekay [17] found that 54% of the study sample were married.

Regarding the experience in the nursing field, our study found that 71.6% of the study samples have nursing experience of 1 to 6 years because of the emphasis of the Ministry of Health in the last decade not to assign nurses to anything other than the nursing profession. Also, other researchers found similar results. Bargon et al. [18] found that 42% of the study samples had a nursing experience of 1 to 6 years, and Suryavanshi et al. [19] reported that 47% had a nursing experience of 1 to 6 years.

Regarding personal protective equipment available in the workplace, we found that 75.1% of the samples have sufficient personal protective equipment. Due to the efforts of the Ministry of Health and the donations of international and civil society organizations and families, most of the means of personal protective equipment have been provided to Health staff. Other researchers found similar results in their research, such as Chudasama et al. [20], who found that 54% of the study samples had sufficient personal protective equipment for nurses, and Mattila et al. [21] reported that 70% of the study samples had sufficient personal protective equipment.

The study results show a significant relationship between COVID-19 and nurses' QoL ( $P=0.029$ ). Sociodemographic factors such as age, gender, marital status, health care environment, workplace, shift work, lack of personal protective equipment in hospitals and health isolation places, length of the quarantine period,

**Table 1.** Distribution of the samples according to sociodemographic variables

Variables	Categories	No. (%)
Gender	Male	533(53.3)
	Female	467(46.7)
	Total	1000(100.0)
Marital status	Single	405(40.5)
	Married	566(56.6)
	Separated	25(2.5)
	Widower	4(0.4)
	Total	1000(100.0)
Years of experience in the Nursing field	1-6	716(71.6)
	7-12	142(14.2)
	13-18	79(7.9)
	19-24	37(3.7)
	25-30	16(1.6)
	31-36	10(1)
	Total	1000(100.0)
Personal protective equipment available in the workplace	No	249(24.9)
	Yes	751(75.1)
	Total	1000(100.0)

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**Table 2.** Regression analysis for the impact of COVID-19 on the QoL

Variable	Models	Sum of Squares	df	Mean of Square	F	P
Quality of Life	Regression	6.144	3	2.048	3.012	0.029
	Residual	677.287	996	0.680		
	Total	683.431	999			

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market closures, and lack of basic needs for nurses and families, all impact the QoL for nurses. Also, other researchers found similar results in their research, such as Nathiya et al. [15], who found a significant relationship between COVID-19 and QoL ( $P=0.050$ ), and Kim & Kang [22], who found a significant relationship between COVID-19 and QoL ( $P=0.036$ ).

Concerning gender, we found a significant relationship between QoL and gender for nurses ( $P=0.000$ ). Male nurses had higher QoL compared to female nurses. These results are due to the Iraqi culture and its influence on the patriarchal culture that follows the traditional ideological habits of male superiority. Thus, the social behavior pattern of Iraq refers to the social structure in which men dominate over women. This issue affects the QoL of the sex of nurses. Also, other researchers found

**Table 3.** One-way ANOVA relationship between QoL and demographic characteristics of the study samples

Variables	Sources of Variance	Sum of Squares	df	Mean of Square	F	P
Gender	Between Groups	14.106	3	4.702	6.997	0.000
	Within Groups	669.325	996	0.672		
	Total	683.431	999			
Marital status	Between Groups	11.252	3	3.751	5.558	0.001
	Within Groups	672.179	996	0.675		
	Total	683.431	999			
Years of experience in Nursing field	Between Groups	15.575	6	2.596	3.860	0.001
	Within Groups	667.856	993	0.673		
	Total	683.431	999			

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**Table 4.** t-test relationship between QoL and demographic characteristics of the study samples

Variables		t-test Analysis		P
		t	df	
Personal protection available in the workplace	Equipment	-2.133	998	0.033

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similar results in their research. Çelmeçe and Menekay (2020) [17] reported a significant relationship between the QoL and the gender of nurses ( $P=0.011$ ). Kim & Kang [22] also found a significant relationship between QoL and gender for nurses ( $P=0.001$ ).

Concerning marital status, we found a significant relationship between the QoL and the marital status of nurses ( $P=0.001$ ). Married nurses showed generally higher levels of QoL. Specifically, it seems that marriage dramatically affects the QoL of the nurses. This result is due to the many demands of married life overwhelmed by the nurses. Similarly, there are other researchers [6] who found similar results in their research, such as Gholami et al. They found a significant relationship between the QoL and marital status of nurses ( $P=0.001$ ). Also, Lai et al. [23] found a significant relationship between the QoL and marital status of nurses ( $P=0.050$ ).

Concerning experience in nursing, we found a significant relationship between QoL and years of experience in the nursing field ( $P=0.001$ ). The nurses with longer work experience had a better QoL. One source of occupational stress for nurses is the short duration of work experience. Thus, nurses with more work ex-

perience appear to feel lower professional pressure and are stable at work, and therefore have a better QoL. Other researchers found similar results in their research. Gholami et al. [6, 24] found a significant relationship between QoL and years of experience in the nursing field ( $P=0.007$ ), and Lai et al. [9, 23] found a significant relationship between QoL and years of experience in the nursing field ( $P=0.01$ ).

Concerning personal protective equipment available in the workplace, the study's findings confirm a significant relationship between QoL and the personal protective equipment available in the workplace ( $P=0.033$ ). The availability of personal protective equipment for nurses contributes to improving the quality of work by reducing fears of transmission of viruses to their families, which in turn helps improve the life quality in general for nurses. Also, other researchers found similar results in their studies. Santos et al. [25] reported a significant relationship between QoL and the personal protective equipment available in the workplace ( $P=0.03$ ). Chudasama et al. [20] found a significant relationship between QoL and the personal protective equipment available in the workplace ( $P=0.001$ ).

### Study limitations

There are a limited number of research studies on issues related to the study problem. Some nurses refused to participate in the study. Also, the Internet service was weak. The study found that the COVID-19 pandemic has impacted the nurses' QoL. There is a highly significant relationship between QoL with sociodemographic variables such as age, marital status, years of experience in the nursing field, and personal protective equipment available in the workplace.

### Study recommendations

We recommend increasing the nurses' QoL by improving the Iraqi health system and providing supplies that lower the risk of infectious disease transmission. This research encourages policymakers to prioritize improving nurses' QoL to maintain their job commitment. These measures will preserve patient care and, as a result, improve the Ministry of Health's overall performance. A study with higher statistical power and a longer follow-up period might give more conclusive evidence of the COVID-19 pandemic's impact on nurses' QoL.

### Ethical Considerations

#### Compliance with ethical guidelines

This article considered all ethical standards. The goal of the study and its stages of implementation were explained to the participants. They were also assured that their information would be kept confidential. They were allowed to exit the study at any time, and the research results would be available upon request.

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#### Authors' contributions

All authors equally contributed to preparing this paper.

#### Conflict of interest

The authors declared no conflict of interest.

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