Original Article :

The Impact of the COVID-19 Pandemic on Nurses and Its Relationship to the Level of their Performance In Buraidah Hospitals

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Abstract

Background and Aims:
The COVID-19 pandemic has served as the ultimate disruptor in healthcare delivery, with the full impact to unfold over time. During a pandemic, healthcare professionals encounter various health hazards that affect their personal life and workplace. This study aimed to assess the impact of the COVID-19 pandemic on nurses and its relationship to the level of their performance in Buraidah Hospitals.

Methods:
A descriptive, correlational design was conducted at Buraidah central Hospital which is affiliated with the Ministry of Health Hospitals. 23 head nurses out of 25 head nurses and 195 staff nurses out of 381 staff nurses were included in the study. Data were collected by using a Job Performance questionnaire. Data were analyzed using the SPSS V25 computer software package.

Results:
Slightly more than one-half (52.3%) of studied nurses had a satisfactory perception level regarding total performance during the COVID-19 pandemic. Thus, less than one-half (47.7%) of studied nurses had an unsatisfactory perception level regarding total performance during the COVID-19 pandemic.

Conclusions:
The research comes to the conclusion that the COVID-19 pandemic impairs nurses' performance as evidenced by the discovery of several disruptors during COVID-19. Managers and employees should collaborate with health authorities to prevent and control COVID-19. Protecting workers at higher risk of developing severe disease, such as those age 60 and over or with underlying medical conditions, requires special measures on occupational health services recommendation.

Keywords:
COVID-19 Pandemic, Nurses, Performance.

Introduction

COVID-19 was a severe and sometimes fatal disease that originated in China. The virus quickly spread throughout the globe, causing thousands of deaths (Centers for Disease Control and Prevention, 2021). The causative agent of Corona Virus Disease 2019 (COVID-19) led to millions of deaths[1]. Recently there were 6,952,522 deaths recorded by WHO as of July 26, 2023, and there were 768,560,727 confirmed cases of COVID-19 worldwide[2]. Although COVID-19 symptoms were initially thought to last for an average of 11.5 ±5.7 days Although COVID-19 symptoms initially appeared to last for an average of 11.5 ±5.7 days [3] it is now becoming clear that some COVID-19 patients may experience lingering symptoms months after their diagnosis [4].

More than 10% of the treatment team consists of nurses, primary care providers, and the first group the COVID-19 outbreak affected. Long-term stress is present in the nurses' work environment, and those in helping professions also experience it when they feel other people's problems overburdening them [5].

Healthcare professionals who come into contact with coronavirus patients are more susceptible to both high-risk infections and mental health issues. The COVID-19 pandemic substantially impacted medical healthcare employees' jobs, occupation-related variables, and performance. These effects include performing occupational duties when the risk of infection is high, receiving insufficient reinforcement and performance feedback, using subpar protective equipment, being isolated and exhausted and not interacting with support systems[6]. Job performance is a gauge of high-quality and quantity outcomes in a predetermined amount of time, which a variety of variables influences and employees implement through efforts to achieve organizational objectives [7].

Job performance is defined as the outcomes in the workplace concerning organizational policies, performance features, and organizational practices, it has a substantial impact on the profitability of a business [8]. An individual's capacity to meet the expectations for the organization's goals, tasks, and standards is their job performance. It can also refer to a concept that describes a person's capacity to achieve the objectives, standards, and demands of an organization while also achieving personal and organizational goals [9]. With nurses, making up 50% of the global healthcare workforce [10] the pandemic has had a special impact on nurses' emotional and physical health, many of whom are frontline workers. Every country and

all positions are experiencing an increasing continuous need for perfect healthcare worker performance. Additionally, there is a similar need for a qualified behavioural health workforce, increasing staff training and providing staff with needed resources. This study will benefit the nurses as it assesses the impact of the COVID-19 pandemic on them and its relationship to the level of their performance in Buraidah Hospitals, to provide excellent healthcare to COVID-19 patients and increase safety for patients and staff as well. The study aims to assess the impact of the COVID-19 pandemic on nurses and its relationship to the level of their performance in Buraidah Hospitals

Methods

Study design and setting

This study used a descriptive correlational design to assess the impact of the COVID-19 pandemic on nurses and its relationship to their level of performance in Buraidah Hospitals. This study took place at Buraidah Central Hospital, affiliated with the Ministry of Health Hospitals.

Research Subjects and Size:

The subjects of this study were nurses who worked at the setting in critical and noncritical units. Simple random sampling was used to select them, the equation for estimating the sample projected it as consisting of 23 out of 25 head nurses and 195 out of 381 staff nurses.

The sample size is calculated according to this equation:

$$n = \frac{N}{1+N(e)2}$$

N=population size= 381

Data collection and tools

One tool was used to collect data, namely, a job performance questionnaire, adopted from [11, 12, 13, 14, 15 16]

This tool consisted of two parts. The first part aimed to collect data related to the demographic characteristics of study subjects, such as age, gender, place of residence, years of experience, position, work unit, and qualifications. The second part aimed to assess the impact of COVID-19 on the nurses' performance. It included 53 items divided into nine domains, as follows:

Description of Job Performance questionnaire:

Job Performance Questionnaire	No. of Items	Example
Self-Rated Performance	5	Nurse's understanding of work procedures

Job Performance Questionnaire	No. of Items	Example
Supervisor-Rated Performance	5	Quality of nursing care for patients
Potential disruptors during COVID-19	6	Inadequate personnel training/qualifications.
Staffing	4	Have you seen a change in your RN turnover through the pandemic?
Infection control-related domain	5	I am not confident with the current infection control measures.
Workplace-related domain	8	I feel that my hospital didn't support me during the Covid-19 crisis.
Healthcare performance of nurses	13	Availability of Vaccination causes to affect performance?
Occupational Calling	3	Today during the shift, I had a calling to help the patients recover.
Prosaically Motivation	4	I care about benefiting others through my work.

Test of reliability

The reliability test was done to assure consistency to determine how strongly the attributes were related to each other and to the composite score. Cronbach's Alpha coefficients of internal consistency were used to assess the internal reliability of the study tools. The job Performance questionnaire was 0.847.

Statistical Analysis

Data entry used the SPSS V25 computer software package. Data were presented using descriptive statistics, in the form of frequencies and percentages for qualitative variables and means and ± standard deviations for quantitative variables. Qualitative variables were compared using the chi-square test.

Pearson correlation coefficient (r) was used to assess the interrelationship among quantitative variables. To identify the independent predictor workplace deviance behaviour scores among staff nurses, the researcher used multiple linear regression analysis. The chosen confidence level for the study was 95%. Statistical significance was considered at p-value <0.05.

Ethical Approval:

Prior to the actual work of the research, ethical approval of the study was obtained from the scientific research ethical committee of the General Directorate of Health Affairs AlQASSEM Region granted its approval (Registered NO.H-04-Q-001). In addition, informal agreement was obtained from each participant in the study. The aim and purpose of the study were explained to the included study subjects. Also, the researcher assured maintaining anonymity and confidentiality of the subject's data. The subjects were informed that they could choose to participate or not in the study and had the right to withdraw from the study at any time without giving any

reason, with the collected data kept confidential and used for research only. Before any attempt to collect data, official approval to conduct the study was obtained from the medical and nursing directors of the Buraidah Central Hospital, by issuing letters from the Faculty of Nursing to clarify the aim of the study.

Results

Table (1) describes that fewer than half (47.7%) of the studied nurses were less than 30 years old, with a mean of 1.62 ± 0.662. More than three-quarters (76.6%) were females, and more than half (54.6%) were Non-Saudi. More than two-thirds (68.8%) had a Bachelor of Nursing degree. More than three-quarters (76.1%) had less than 15 years of experience, with a mean of 1.28 ± 0.524. Slightly less than three-quarters (73.9%) were RNs. Finally, the studied nurses comprised 23 (10.5%) head nurses and 195 (89.5%) staff nurses.

Table (1): Characteristics of the studied nurses (n=218).

Variables		No.	%
Age	<30 years	104	47.7%
	30 -40 years	92	42.2%
	>40 years	22	10.1%
Mean ± SD	1.62 ±0.662		
Gender	Male	51	23.4%
	Female	167	76.6%
Nationality	Saudi	99	45.4%
	Non-Saudi	119	54.6%
Qualification in Nursing	Nursing diploma	54	24.8%
	above average diploma	14	6.4%
	Bachelor of Nursing	150	68.8%
Years of Experience	< 15 years	166	76.1%
	15-25 years	44	20.2%
	>25 years	8	3.7%
Mean ± SD	1.28± 0.524		
Which of the following nurse license(s)/ certifications did you hold	Certified Nurse Assistant (CNA)	39	17.9%
	Licensed Practical Nursing (LPN)	8	3.7%
	Registered Nurse (RN)	161	73.9%
	Advance Registered Nurse Practitioner (ARNP)	9	4.1%
	Other	1	.5%
Position	Head nurses	23	10.5%
	Staff nurses	195	89.5%

Table (2): Work performance Characteristics of the studied nurses during the COVID-19 Pandemic (n=218):

Variables		No.	%
How many hours did you work in nursing in a typical week?	31-35 hours a week	48	22.0%
	36-40 hours a week	41	18.8%
	41-45 hours a week	28	12.8%
	46-50 hours a week	101	46.3%
	50-plus hours a week	0	0%
Mean ± SD 2.83 ± 1.230			
Did you provide additional home care without pay (e.g. care taking of the elderly, disabilities, homeschooling, etc.) due to COVID-19?	Yes	60	27.5%
	No	101	46.3%
	N/A	57	26.1%
Any family member/colleague/ friend tested positive for Covid-19?	Yes	126	57.8%
	No	75	34.4%
	Don't know	17	7.8%
Status of living	Alone	86	39.4%
	With others	132	60.6%
Direct patient contact	Yes	183	83.9%
	No	35	16.1%

Table (2) describes less than half (46.3%) of studied nurses having 46–50 hours per week with a mean of 2.83 ± 1.230. Less than half (46.3%) of studied nurses did not provide additional home care without pay (e.g. caretaking of elderly, people with disabilities, home schooling, etc.) due to COVID-19. More than half (57.8%) of studied nurses had a family member/colleague/ friend test positive for COVID-19. Slightly more than two-thirds (60.6%) lived with others. More than four-fifths (83.9%) had worked with direct patient contact.

Table (3): Studied Nurses' perception means score regarding Self-Rated Performance dimension (n=218):

Items	Mean	Std. Deviation
Nurse's understanding of work procedures.	2.82	1.257
Interaction skills of nurses with peers	2.90	1.228
Dedication of the nurse as towards the hospital.	2.89	1.285
Quality of nursing care for patients.	2.89	1.262
Overall performance of the nurse.	2.83	1.275

Table (3) demonstrates that the item 'Interaction skills of nurses with peers' had the highest mean score at ± SD = 2.90 ± 1.228, while the item 'Nurse's understanding of work procedures' had the lowest mean score at ± SD = 2.82 ± 1.257.

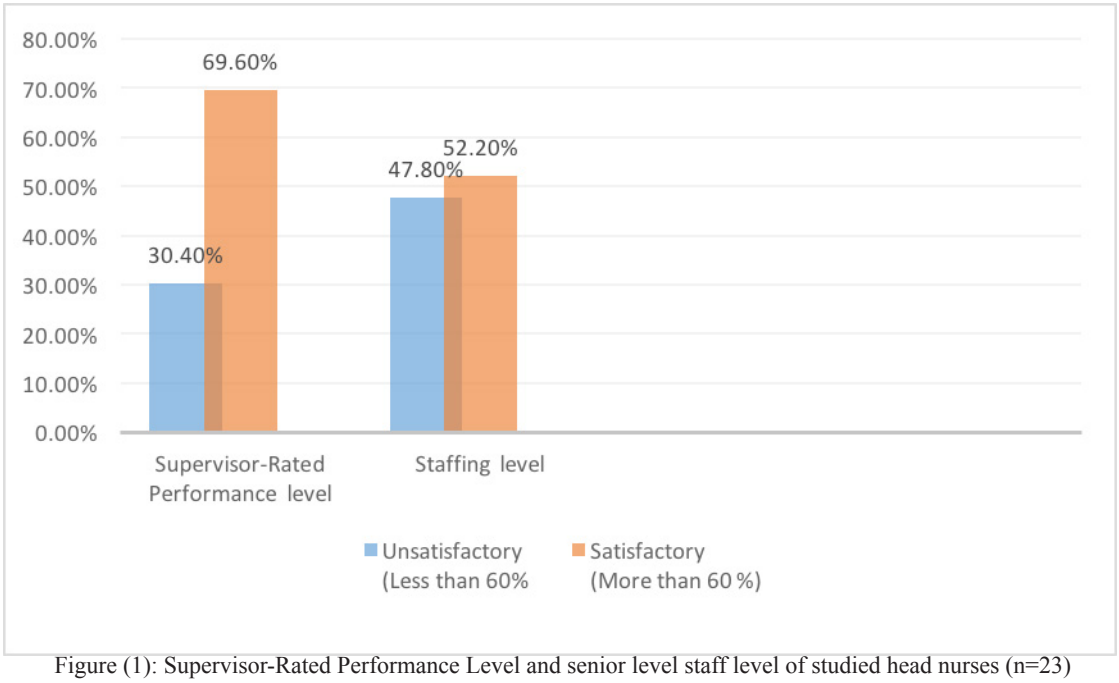


Figure (1): Supervisor-Rated Performance Level and senior level staff level of studied head nurses (n=23)

Figure (1) describes more than two-thirds (69.6%) of head nurses had a satisfactory perception level in the Supervisor-Rated Performance dimension while more than half (52.2%) of head nurses had a satisfactory perception level in the Staffing dimension

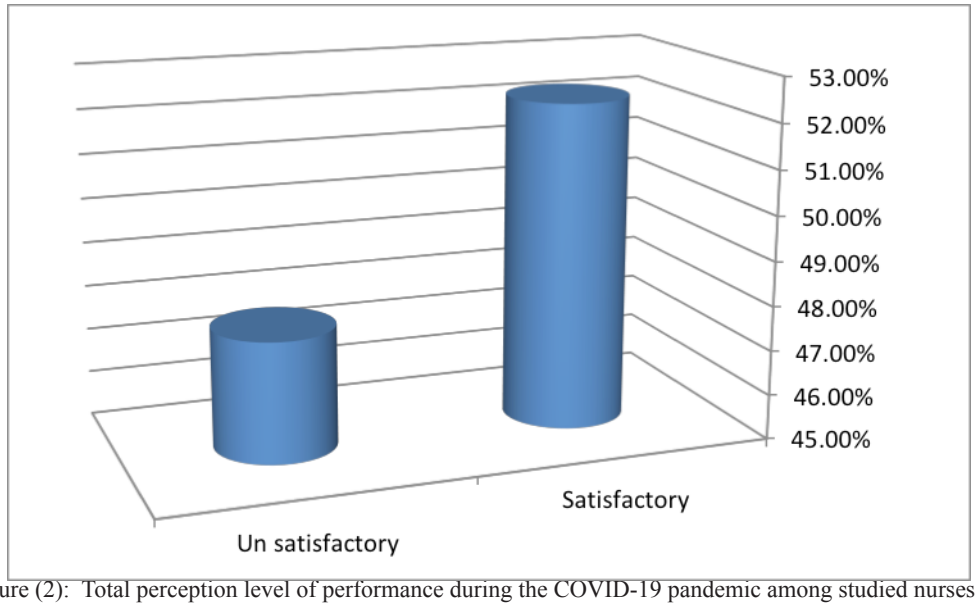


Figure (2): Total perception level of performance during the COVID-19 pandemic among studied nurses (n=218)

Figure (2) shows that slightly more than one-half (52.3%) of studied nurses had a satisfactory perception level regarding total performance during the COVID-19 pandemic. Thus, less than one-half (47.7%) had an unsatisfactory perception level regarding total performance during the COVID-19 pandemic.

Table (4): Relations between studied nurses' perception level regarding Self-Rated Performance and their demographic characteristics.

Characteristics		Self-Rated Performance			
		Un satisfactory (less than 60%)	Satisfactory (60 % and more)	Chi-Square	P-value
1- Age:	<30 Years	34	70	1.670	0.43
	30-40 years	34	58		
	>40 years	5	17		
2- Gender:	Male	9	42	7.499	0.006
	Female	64	103		
3- Nationality:	Saudi	22	77	10.331	0.001
	Non Saudi	51	68		
4- Qualification in nursing:	Nursing diploma	9	45	9.868	0.007
	above average diploma	4	10		
	Bachelor of nursing	60	90		
5- Years of Experience:	<15 Years	61	105	4.205	0.12
	15-25 years	9	35		
	>25 years	3	5		
6- Which of the following nurse license(s)/certifications did you hold?	Certified Nurse Assistant (CNA)	11	28	2.229	0.69
	Licensed Practical Nursing (LPN)	2	6		
	Registered Nurse (RN)	58	103		
	Advance Registered Nurse Practitioner (ARNP)	2	7		
	other	0	1		
7- How many hours did you work in nursing in a typical week?	31-35 hours a week	11	37	12.216	0.006
	36-40 hours a week	7	34		
	41-45 hours a week	12	16		
	46-50 hours a week	43	58		
8- Did you provide additional home care without pay (e.g. care taking of elderly, disabilities, homeschooling etc.) due to COVID-19?	No	37	64	.882	0.64
	Yes	19	41		
	N/A	17	40		
9- Any family member/colleague/ friend tested positive for Covid-19:	No	30	45	2.182	0.33
	Yes	38	88		
	Don't know	5	12		

Characteristics		Self-Rated Performance			
		Un satisfactory (less than 60%)	Satisfactory (60 % and more)	Chi-Square	P-value
10- Status of living:	Alone	27	59	.279	0.59
	With others	46	86		
11- Direct patient contact:	No	13	22	.250	0.61
	Yes	60	123		

Table (4) reveals a statistically significant relation between studied nurses' total perception level regarding Self-Rated Performance and their Gender ($\chi 2 = 7.499$ & $P = 0.006$), Nationality ($\chi 2 = 10.331$ & $P = 0.001$), Qualification in nursing ($\chi 2 = 9.868$ & $P = 0.007$) and hours they work in nursing in a typical week ($\chi 2 = 12.216$ & $P = 0.006$).

Discussion

The COVID-19 pandemic has served as the ultimate disruptor in healthcare delivery, with the full impact to unfold over time. During a pandemic, healthcare professionals encounter various health hazards that affect their personal life and workplace, practices are turbulent and an individual's interest is often at odds with collective interests. The Saudi healthcare system confronted a pandemic in early 2020; the government has taken serious measures to minimise risks, including partial and then full curfew, and encouraging social distancing policy [17] This has led to pressure on healthcare professionals, particularly nurses, who represent the first line against such risk [17]. Hence, the current study aimed at assessing the impact of the COVID-19 pandemic on nurses and its relationship to the level of their performance in Buraidah Hospitals.

Regarding characteristics of studied nurses, less than half were under 30 years old. More than three-quarters were females, and more than half were Non-Saudi. More than two-thirds of studied nurses had a Bachelor of Nursing degree.

This finding was inconsistent with research in Saudi Arabia by [14] who found that more than half of their participants were between 30 and 45 years old. More than three-fifths of the participants were females. Slightly three-fifths of participants were Non-Saudi and had a Bachelor of Nursing degree. The same study's design also showed that a significant portion of the nurses under investigation (71.0%) was female and (78.3%) were Saudi [19]. The first section that the present study investigated was head nurses' perception

level regarding performance during the pandemic, divided into two dimensions; supervisor-rated performance level, the first dimension investigated, and the staffing level of studied head nurses. The present study found more than two-thirds of head nurses had a satisfactory perception level in the supervisor-rated performance dimension.

This finding may be due to proper leadership, adequate resources and appropriate handling of heavy workloads during the COVID-19 pandemic with good role clarity among nursing members. This finding was consistent with research by [20] in Indonesia, titled 'Creating the path for quality of work life: A study on nurse performance'. The authors concluded that the highest level was nurse performance as the nurses exerted themselves to work well and were determined to complete work efficiently. Also, they were motivated to engage in behaviors beneficial to the organization, leading to an increase in their job performance.

Contrary to the present study's finding, a study in Brazil by [21] found nurse performance at the lowest level because COVID-19 results in more pressure on healthcare sectors. Pressures, such as overwork and staff shortages, along with COVID-19 fear, created challenges that limited attention to everyday tasks.

The second section the present study investigated was studied nurses' perception level regarding their performance during the pandemic in seven dimensions: Self-Rated Performance Domain. The present study finding shows that two-thirds of studied nurses had a satisfactory perception level in the self-rated performance dimension. This finding could be due to availability of resources, ability to control work stress, increased cooperation between the teams, and satisfactory rewards for them.

Other previous studies supported the present study findings, including one by [22] in Indonesia, titled 'Corporate social responsibility, job pursuit intention, quality of work life and employee performance'. That study found that the highest level was nurse performance. The nurses felt psychological empowerment and encouraged in the assigned task, committed to their organizations and able to effectively internalize organizational goals and identify with their well-being.

Meanwhile, contrary to the present study findings, a study in Indonesia by [23] titled 'Effect of Resilience and Quality of Work Life on Work Engagement on Employees Who Work in The Era of The Covid-19 Pandemic', found a mild level of staff nurse performance. Sometimes, the quality of work life does not affect workers' job

performance because they have different reasons to trigger their performance when their work satisfies them, despite many obstacles influencing their job performance. This can also occur because the service standards to achieve are getting higher, especially in the health world.

Regarding the potential-disruptors-during-COVID-19-level dimension, the present study finding showed that more than three-quarters of the nurses studied had an unsatisfactory perception level there. This finding could be due to delays in seeking medical help and using outpatient visits, screening and diagnostic services and delayed immunization. Consistent with this finding, a study a study in the USA by [11] titled 'The Effects of COVID-19 Pandemic on Trauma Registry and Performance Improvement Operations and Workforce Nationwide: A Survey of Trauma Center Association of America Members', found delaying the progress of COVID-19 patients. The authors explained, 'This delay during the COVID-19 pandemic may be due to a combination of staff reallocation to critical care settings in order to care for infected adult patients and compensate vacancies in Performance Improvement Nurses positions, as well as the possibility of a reduced volume of pediatric patients admitted during the pandemic'.

Moreover, the study finding revealed a statistically significant relation between head nurses' perception level regarding supervisor-rated performance and direct patient contact. This result may be due to head nurses' direct care of patients; head nurses had more experience and skills than staff nurses, so their performance would be higher when they directly care for patients, especially in critical crises and in case of short staffing. In agreement with study findings, a study in Iran by [14] mentioned a statistically significant relation between head nurses' perception level regarding supervisor-rated performance and direct patient contact ($p = 0.018$).

Conclusion

The research comes to the conclusion that the COVID-19 pandemic impairs nurses' performance as evidenced by the discovery of several disruptors during COVID-19. Managers and employees should collaborate with health authorities to prevent and control COVID-19. The stakeholder at the Ministry of Health needs to collaborate with managers and employees to provide prevention and support. Workshop and training of workers in infection prevention, control practices, and use of PPE, and avoid assigning high-risk tasks to workers with pre-existing medical conditions.

Recommendations

Managers and employees should collaborate with health authorities to prevent and control COVID-19. Cooperation between management and workers and their representatives is essential for workplace-related prevention measures. International standards on the rights and responsibilities of workers and employers in occupational safety and health should be fully respected. Head nurses should develop action plans to prevent COVID-19 as part of a hospital continuity plan.

Other researchers can study the relationship between job stress and nurses turnover during the COVID-19 pandemic

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