

Physical, Mental, and Social Challenges Faced by Nurses during the Pandemic: Analysis of Demographic and Work-Related Factors in Al-Haweja Hospital, Iraq

Fadhel Abbas Ahmed and Salma K. Jihad

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ABSTRACT

Objective: To address the inconsistencies by exploring the multidimensional challenges experienced by nurses during the pandemic, with a focus on how these factors contribute to their overall well-being.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Al-Haweja Hospital, Iraq from 15th December 2024, to 15th February 2025.

Methods: This study was conducted at Al-Haweja Hospital, Iraq among 100 nurse workers. Data were collected via a structured interview questionnaire.

Results: More than half of nurses (60%) reported infected by various viruses, indicating a significant health risk. In addition, 46% of nurses were unable to rest during the pandemic. However, there were no statistically significant differences found between nurses' demographic characteristics and their work related to pandemic challenges, especially a p-values for these comparisons were all greater than 0.05.

Conclusion: Nurses faced significant mental challenges, including fears of infection, isolation, and exhaustion, highlighting the critical need for psychological support. The study underscores the importance of screening nurses for both physical and mental health conditions, particularly in light of the ongoing demands of the pandemic.

Key Words: Physical challenges, Demographic factors, Pandemic stress, Work-related factors, Nurses

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INTRODUCTION

The pandemic is a widespread outbreak of an infectious disease that significantly increases the likelihood of morbidity and mortality across a large geographic area. During the pandemic, nurses have been under increased pressure and responsibilities, and the demand for medical resources and supplies has increased.¹ One challenge has been the allocation of nursing staff to care for infected patients, especially professional nurses, who are considered essential to patient care.² Nurses are constantly engaging with the community and playing a vital role in both treating and preventing the spread of diseases.

Department of Community Nursing, College of Nursing,
University of Babylon, Iraq.

Correspondence: Fadhel Abbas Ahmed, Ph. D. Scholar,
Community Nursing Department, College of Nursing,
University of Babylon Iraq,
Contact No: +964 7701020638
Email: nur743.a.fadel@student.uobabylon.edu.iq

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Their responsibilities encompass a wide range of critical tasks, including clinical care, patient counselling, overseeing treatment protocols, educating patients, and promoting disease prevention strategies.

The pandemic has placed enormous strain on healthcare professionals, who have had to navigate significant risks to their own well-being and that of their families.³ They have been responsible for handling a surge in patients, many of whom faced high mortality rates, all within a high-pressure, fast-paced environment. Therefore, understanding the physical and mental strain on healthcare workers is crucial, as long working hours, increased patient loads, and the prolonged use of personal protective equipment have significantly heightened their physical exhaustion.⁴ The increase in musculoskeletal disorders, fatigue, and injuries linked to the prolonged use of personal protective equipment.^{5,6} In addition, nurses also encountered significant social challenges during the pandemic. Isolation from family and friends due to concerns about spreading the virus, as well as the stigma associated with working in high-risk environments, has compounded feelings of loneliness and alienation.⁷ Furthermore, the demands of their profession during the pandemic, including shift changes and the emotional burden of patient care, have disrupted family dynamics and social interactions.⁸ These social factors have

contributed to nurses' stress and have affected their work-life balance. Moreover, to the physical challenges, nurses have faced considerable mental and emotional strain throughout the pandemic.⁹ The mental health of nurses during the pandemic is an issue that requires urgent attention, as it impacts not only the well-being of the nurses themselves but also the quality of care they can provide to patients.

Fewer studies have attempted to holistically examine how these physical, mental, and social challenges are interrelated and how demographic and work-related factors such as age, gender, and role affect nurses' experiences. This study purposes to fill this gap by conducting a cross-sectional analysis in Al-Haweja Hospital Iraq that explores the multidimensional challenges faced by nurses during the pandemic.

METHODS

This descriptive cross-sectional study was collected during the period from 15th December 2024 to 15th February 2025. The study was conducted at Al-Hawija General Hospital, which served as the designated site for data collection. Al-Hawija General Hospital provides a range of services similar to other hospitals in Kirkuk Governorate, including the pediatrics, medical, surgical, orthopedics, burns, maternal, laboratory, and various diagnostic and treatment departments. This convenience sample of 100 nurses working at Al-Hawija General Hospital during the study period was selected to achieve the study's objectives. The nurses were chosen from various hospital departments and had a minimum of two years of experience in nursing services. The total number of nurses at Al-Hawija General Hospital, both male and female, was 360. The present study was conducted through the following steps: A questionnaire was developed by the investigator after reviewing relevant literature on nurses' experiences with pandemic phenomena. The data for the questionnaire were collected through interviews, with each interview lasting between 20 to 30 minutes for every nurse. The questionnaire, which consisted of three main sections, was used to gather data: **Part One:** Demographic data, including general characteristics of the respondent such as sex, age, marital status, number of children, residence, and economic status. **Part Two:** Employment characteristics for nurses, including educational qualifications, years of experience, length of service in pandemic wards, participation in pandemic-related training courses, whether they had been infected during the COVID-19 pandemic, and whether they had a private nursing clinic during the pandemic. **Part Three:** Challenges faced by nurses during the pandemic. This section, which focused on the nurses' experiences, contained 41 items, divided into three dimensions: physical challenges: 9 items, mental challenges: 14 items, social challenges: 8 items

Rating and Scoring of Instrument: To measure the mean score, the items were rated using a three-point

Likert scale: extremely satisfied, satisfied, and unsatisfied. The scoring system was as follows: a response of "very satisfied" received a score of 3, "satisfied" received a score of 2, and "unsatisfied" received a score of 1.

Validity of the Study Instruments: The researcher used content validity to assess the accuracy of the study instrument, ensuring that the items effectively represented the content of the study. A panel of sixteen specialists from various colleges specializing in community and psychiatric nursing and medicine reviewed the questionnaire. They were asked to evaluate the content of the assessment instrument, providing feedback, comments, and suggestions, which were incorporated into the final version of the questionnaire.

Reliability: Reliability refers to the consistency and dependability of a testing tool in measuring a variable. To ensure the reliability of the questionnaire, the Cronbach's alpha statistical technique was employed.

Data analysis was performed using SPSS-26. Inferential statistics were employed to make generalizations or draw conclusions about the larger population from the sample data. Various statistical tests were used depending on the nature of the variables. For comparisons between groups, t-tests or ANOVA were conducted for continuous data, and chi-square tests were used for categorical data. The significance level was set at $p < 0.05$.

RESULTS

Table No.1: Sociodemographical and employment data of nurses dealing with pandemic phenomena

Socio demographics	No.	%
Age (years)		
20-29	52	52.0
30-39	36	36.0
40-49	12	12.0
Gender		
Male	60	60.0
Female	40	40.0
Marital status		
Single	36	36.0
Married	55	55.0
Divorced	4	4.0
Widow	5	5.0
Number of children		
0	53	53.0
1-2	16	16.0
3+	31	61.0
Residence		
Urban	47	47.0
Rural	53	53.0
Economic status		
Satisfied	35	35.0
Good	49	49.0
Not good	16	16.0

Academic achievement		
Diploma	59	59.0
Bachelor	41	41.0
Years of service		
1-5	61	61.0
6-10	19	19.0
11-15	11	11.0
16-20	9	9.0
Duration of working in ward		
1-5	51	51.0
6-10	31	31.0
11-15	14	14.0
16 and more	4	4.0
Training program about pandemic disease		
Yes	63	63.0
No	37	37.0
Exposure to infection		
Yes	60	60.0
No	40	40.0
Do you own a nursing clinic during the pandemic		
Yes	26	26.0
No	74	74.0

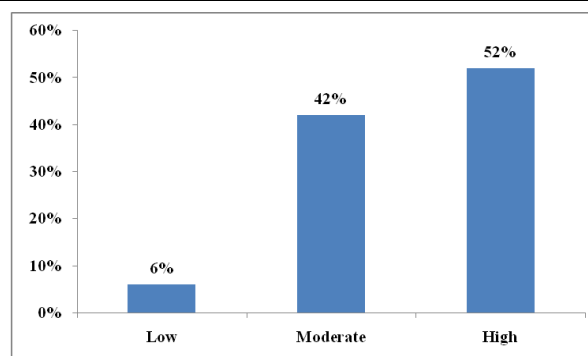


Figure No. 1: Overall mean responses of nurses regarding mental challenges dimension.

Socio-demographic trends among nurses, exposure to infection is common concern for 60% of nurses while only a small proportion own a nursing clinic during the pandemic (Table 1). The nurses' mental challenges were faced during the pandemic, including fears, stress, feelings of isolation, and concerns about their health and family (Table 2). In this table show that the maximum mean is 2.67 with the item (I'm afraid of transmitting the disease to my family/people around me), while the minimum mean is 1.98 with the items (I feel worthless in people's eyes in pandemic) [Fig. 1].

Table No.2: Distribution of responses of nurses regarding physical and mental challenges dimension

Variable		No.	%	Mean±SD
I'm afraid of getting infected	Disagree	13	13.0	2.47±0.71
	Partially agree	27	27.0	
	Agree	90	60.0	
I'm afraid of transmitting the disease to my family/people around me	Disagree	8	8.0	2.67±0.62
	Partially agree	17	17.0	
	Agree	75	75.0	
I'm afraid of dying	Disagree	27	27.0	2.18±0.83
	Partially agree	28	28.0	
	Agree	45	45.0	
I'm afraid of losing one of my family or the people I love because of the pandemic	Disagree	10	10.0	2.55±0.67
	Partially agree	25	25.0	
	Agree	65	65.0	
I can't enjoy life	Disagree	16	16.0	2.25±0.71
	Partially agree	43	43.0	
	Agree	41	41.0	
I feel sad because I have to live apart from my family/loved ones	Disagree	13	13.0	2.38±0.70
	Partially agree	36	36.0	
	Agree	51	51.0	
Uncertainty about the future worries me	Disagree	18	18.0	2.23±0.73
	Partially agree	41	41.0	
	Agree	41	41.0	
I'm experiencing increased stress	Disagree	16	16.0	2.28±0.72
	Partially agree	40	40.0	
	Agree	44	44.0	
My hygiene habits have turned into obsessions	Disagree	26	26.0	2.11±0.79
	Partially agree	37	37.0	
	Agree	37	37.0	
I feel worthless in people's eyes in the pandemic	Disagree	35	35.0	2.11±0.79

I have to live with my family because I don't have sufficient resources	Partially agree	32	32.0	1.98±0.82
	Agree	33	33.0	
	Disagree	16	16.0	
	Partially agree	37	37.0	
I feel my efforts are not appreciated by society	Agree	47	47.0	2.31±0.73
	Disagree	24	24.0	
	Partially agree	33	33.0	
	Agree	43	43.0	
I need psychological support	Disagree	17	17.0	2.19±0.80
	Partially agree	28	28.0	
	Agree	55	55.0	
	Disagree	11	11.0	
I feel exhausted	Partially agree	46	46.0	2.38±0.76
	Agree	43	43.0	
	Disagree	11	11.0	
	Partially agree	46	46.0	

Table No.3: Relationship between the demographic characteristics and overall responses of the participants about experiences related to pandemic phenomena

Socio-demographic characteristics		Physical challenges dimension	Mental challenges dimension	Social challenges dimension
Age	X ²	.661	.702	.093
	Sig.	N.S	N.S	N.S
Sex	X ²	.057	.493	.402
	Sig.	N.S	N.S	N.S
Marital status	X ²	.126	.033	.362
	Sig.	N.S	Sig	N.S
Number of children	X ²	.230	.001	.376
	Sig.	N.S	Sig	N.S
Residence	X ²	.250	.300	.623
	Sig.	N.S	N.S	N.S
Economic situation	X ²	.860	.249	.098
	Sig.	N.S	N.S	N.S
Academic achievement	X ²	.394	.772	.920
	Sig.	N.S	N.S	N.S

*Chi- square, N.S = no significant, Sig= significant, p-value=0.05

Table No.4: Relationship between the work related data with and overall responses of the sample about experiences related to pandemic phenomena

Work related data		Physical challenges dimension	Mental challenges dimension	Social challenges dimension
Years of service	X ²	.310	.069	.820
	Sig.	N.S	N.S	N.S
Duration of working in ward	X ²	.297	.537	.747
	Sig.	N.S	N.S	N.S
Training program about pandemic disease	X ²	.807	.526	.198
	Sig.	N.S	N.S	N.S
Exposure to infection	X ²	.462	.653	.704
	Sig.	N.S	N.S	N.S
Do you own a nursing clinic during the pandemic	X ²	.335	.194	.949
	Sig.	N.S	N.S	N.S

*Chi- square, N.S = no significant, Sig= significant, p-value=0.05

The table 3 presents the Chi-square test results for various socio-demographic characteristics and their relationships with the participants' responses to the physical, mental, and social challenges dimensions related to the pandemic phenomena.

The table 4 presents the Chi-square (X²) test results for the relationship between work-related data (such as years of service, training, and exposure to infection) and the participants' responses to the physical, mental,

and social challenges they experienced during the pandemic.

DISCUSSION

In the present study, male nurses (60%) outnumbered female nurses, aligning with previous research conducted in the UK and China, which similarly reported a higher proportion of males compared to females in epidemic situations.^{10,11} However, these results contrast with a recent study from Malaysia, which found a higher proportion of female nurses during the COVID-19 pandemic.¹²

This study indicates that a substantial proportion of nurses (46%) agreed that they were unable to rest during the pandemic, while an additional 33% partially agreed. Only a minority (21%) disagreed with this statement, underscoring the widespread nature of this issue. This finding was in the same line with a previous systematic review which found that the number of hours spent during duty epidemic situation may not equal social support, and rest.

This study revealed that participants experienced significant fears of contracting the virus and transmitting it to their families, feelings of isolation, exhaustion from prolonged separations, and the overall mental toll of the pandemic. Additionally, there was a notable need for psychological support, driven by the overwhelming emotional strain nurses faced. Overall, the data indicates moderate to strong agreement with the mental challenges identified, with nurses expressing substantial concerns regarding their psychological well-being throughout the development of the pandemic. Our findings are consistent with another studies^{13,14} who reported that healthcare workers' ability to cope with the increased demands during the COVID-19 pandemic was accompanied by significant deterioration in mental health, particularly due to the fear of contracting the virus. Additionally, the extended working hours during the pandemic have been linked to several adverse physical, psychological, and safety outcomes among nurses. These include musculoskeletal pain¹⁵, fatigue and feelings of isolation¹⁶, as well as reduced opportunities to engage in social activities.¹⁷ These factors likely contributed to the negative impact on nurses' psychological well-being.

This research is the first study conducted in Iraq, the correlation between nurses' demographic characteristics and their responses to experiences related to pandemic challenges revealed no significant associations. Specifically, factors such as age, gender, residence, economic status, and academic qualification showed no substantial impact on the physical, mental, or social dimensions of the challenges faced by nurses. The p-values for these comparisons were all greater than 0.05, indicating the absence of statistically significant relationships. On the other hand, previous studies found that there is a strong link between nurses' characteristics

with physical, mental, or social dimensions during COVID-19 infection.^{18,19} The discrepancies between our findings and those of previous studies may be attributed to the timing of our study, which was conducted during the later stages of the COVID-19 pandemic.

This study has several limitations: as a cross-sectional design, it does not allow for the establishment of causal relationships between the variables. Additionally, due to the non-random sampling of participants, the potential for bias cannot be entirely ruled out. Moreover, other factors that may contribute to the challenges faced by nurses, such as environmental influences, workload, and psychological distress, were not addressed in this study. Future research could explore the impact of the physical environment on nurses during a pandemic.

CONCLUSION

The multifaceted challenges faced by nurses during the pandemic. The mental challenges faced by nurses during the pandemic were substantial, with many experiencing fears of infection, isolation, and exhaustion. Nurses expressed a clear need for psychological support, which is essential to mitigate the emotional strain that significantly impacted their well-being. The implications are critical for healthcare authorities, as it emphasizes the need for effective screening of nurses for health and psychological conditions, especially considering the ongoing challenges posed by the pandemic.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Fadhel Abbas Ahmed, Salma K. Jihad
Drafting or Revising Critically:	Fadhel Abbas Ahmed, Salma K. Jihad
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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