



WORKPLACE CONDITIONS OF ICU NURSES DURING COVID-19 PANDEMIC; A QUALITATIVE PHENOMENOLOGICAL STUDY

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Abstract

During the COVID-19 pandemic, limited resources, longer shifts, disturbances to sleep and work-life imbalance led to the exhaustion, stress, anxiety and burnout among the healthcare community. This study aimed to explore the experiences of Intensive Care Unit (ICU) nurses regarding their work stress and working conditions during COVID-19 pandemic in Lahore, Pakistan. Four public sector tertiary hospitals of Lahore, Pakistan were selected which were providing COVID-19 care to the patients. Nurses who had more than 2 weeks of experience in the COVID-19 ICU were selected. A qualitative phenomenological study design was used to get insight into the nurse's experiences. Data was collected using individual interviews. An analysis of the ICU nurse's experience yielded two main themes; difficult working conditions during the COVID-19 outbreak and poor resource management. This study concluded that health care professionals were under significant workload strain as a result of coronavirus pandemic, increased work hours, lack of sleep quality, fatigue, staff shortage and lack of resources were associated with work related stress.

Keywords: Work stress, Increased workload, lack of resources, staff shortage.

Introduction

Working during the Coronavirus pandemic was very difficult for nurses since they risked their lives and health while executing their daily professional tasks, which were accompanied by heavy stress (Biegańska-Banaś and Makara-Studzńska, 2020). Due to the longer exposure with the virus and difficult working environment, many healthcare professionals who were scared of infecting their

families or friends, decided to isolate themselves from them even if it meant losing an essential gift of social support.

Healthcare professionals were under significant workload strain as a result of this pandemic. When nurses work in situations with high job expectations and limited resources, they might experience increased work load as well as physical and psychological stress symptoms, which could had a negative impact on their health and well-being (Mo et al., 2020).

The enormous burden of COVID-19 illness resulted in caregiver burnout. Notably, the following were the primary reasons of burnout among healthcare workers such as extended work hours, poor sleep quality, tiredness, and the possibility of catching the virus and infecting their family members (Patel et al., 2018). Furthermore, the exponential growth of COVID-19 cases, limited information regarding the disease along with a rising requirement for intensive care unit put a tremendous burden on the healthcare system.

Working in the Intensive Care Unit (ICU) is already a stress indeed. Therefore, this study aimed to explore the experiences of ICU nurses regarding high work pressure and workplace conditions during COVID-19 pandemic in Lahore, Pakistan. As, it had been known since the dawn of intensive care that nurses in intensive care units were exposed to work-related stress, leading to a relatively high prevalence of symptoms of stress and anxiety (Heesakkers et al., 2021)

Methodology

Study Design: Qualitative, phenomenological study design was used to get the deep insight of ICU nurses.

Study Setting: This study was conducted at four tertiary care public sector hospitals of Lahore. Each hospital had only one designated corona virus ICU.

Study Population: Nurses of Intensive Care Unit, who were providing direct care to the coronavirus patients in Lahore were the study participants.

Sampling method: Purposive sampling was used to select the participants who met the inclusion criteria.

Sample selection:

Inclusion Criteria

Intensive Care unit nurses (ICU) who were providing direct care to the COVID-19 patients with at least 2 weeks working experience in corona designated ICU. Gender: Both male and female were included in the study.

Exclusion Criteria

Nurses who already had prior psychological disorders.

Duration and Sample Size: This study was completed in between October 10, 2021, to March 01, 2022. Interviews were conducted till data saturation and saturation was achieved after interviewing twelve participants

Data collection Tool

Interview guide

Interview guide

Self-designed pretested open-ended interview guide was used to collect the data. It was consisted of two sections. The first part of the interview guide comprised of the demographic data of the participants. The second portion was designed to explore the working experiences of ICU nurses during COVID-19 pandemic in Lahore, Pakistan through 03 major questions. The main interview questions which were asked to the participants were as follows:

01	What is your opinion regarding working environment in the Corona designated ICU?
02	Which tasks you consider were over stressed while caring for COVID-19 patient in ICU?
03	What do you think regarding the resources provided during COVID-19 pandemic?

Data Collection

Interviews were conducted face to face and recorded on a digital tape recorder which was covered in a plastic bag to prevent the cross infection. A total of 12 nurses were interviewed in a separate and calm environment; the researcher wore the protective suite during the interview. Interviews were conducted in Urdu language and then translated to English. The researcher collected the data till saturation.

Data Analysis

The data were analyzed by using Braun and Clarke`s thematic analysis technique.

Complete verbatim transcriptions and coding of all the interviews were made on Microsoft word Subthemes and themes were generated from the codes which were later presented on a thematic framework (Table 2). Transcripts were sent back to the participants to ensure the relevancy of information provided.

Ethical Consideration

An approval to conduct the study was taken from the ethical review committee of research following the principles of Helsinki declaration. Informed consent was also taken from the participants prior to data collection

Results

A total of 12 ICU nurses participated in this study, eleven were female and one was male. The average age of these participants were 33.41 years (22 – 44y). Out of these nurses eight were married and four were single. The demographic data is presented in table 1.

Table 1: Demographic Data

ID	Age	Gender	Marital Status	Family Members	Parents Status	Qualification	Experience in Covid-19 ICU
N 1	25 y	F	Single	06	Alive	Diploma RN	1.5year
N 2	26y	M	Single	06	Alive	Diploma RN	1year
N 3	23y	F	Single	06	Alive	Post RN	1year
N 4	34y	F	Married	03	Alive	Diploma RN	2months
N 5	39y	F	Married	05	Alive	Diploma RN	1 year
N 6	31y	F	Married	04	Alive	Post RN	1.5 y
N 7	26y	F	Married	05	Alive	Diploma RN	1 year
N 8	30y	F	Single	07	Alive	Diploma RN	1year
N 9	28y	F	Married	05	Alive	Post RN	9months
N 10	44y	F	Married	03	Deceased	Diploma RN	11 months
N 11	29y	F	Married	04	Alive	Diploma RN	1year
N 12	30y	F	Married	10	Alive	Diploma RN	1year

Two themes were extracted from the data after the careful analysis; difficult working conditions during the COVID-19 outbreak and poor resource management, presented in table 2.

Theme 1: Difficult working conditions during the COVID-19 outbreak

1.1 Subtheme: Increased workload

Due to the pandemic, healthcare professionals were under heavy workload. This extreme pressure caused stress and burnout among nurses and other healthcare professionals. The factors which were repeatedly reported were staff shortage, lack of facilities, difficult working conditions, and fatigue. As reported by nurse (ID. N1):

“During the first wave the workload was very high that two or three staff nurses were supposed to care for 25 critical patients and at that time patients and their attendants were also very stressed, it was very difficult to manage the situation”.

1.2 Subtheme: Shortage of staff

Extreme shortage of staff was reported by nurses during COVID-19 outbreak. Visitors were not allowed to visit their patients because of the risk of infection. Nurses were supposed to provide holistic care to the patients. This scenario over stressed the situation for them and made it difficult for nurses to give their best. As stated by another nurse (ID. N9):

“For an ICU patient positioning is one of the important nursing tasks but for a female nurse it was a challenge to move a patient from one bed to another if required due to low nurse to patient ratio and shortage of male health workers like we can say that positioning was never done in ICU”.

As reported by nurse (ID. N9):

“Patients were very irritable during the early days of pandemic as compared to the patients right now. Patients tried to remove their IV lines and wanted to get out form the bed. Attendants were not allowed to visit patients at that time that`s why we were more physically stressed”.

1.3 Subtheme: Psychological burden

Nurses were psychologically stressed because they were unable to provide optimal care to the patients due to the workload. As reported by nurse (ID. N8):

“Those patients who were on CPAP experienced blisters in mouth and they were unable to drink or eat anything, but we were helpless. Range of motion was also a difficult task to perform because with the nurse-to-patient ratio of 1:5 it is almost impossible to provide optimal care to a critical patient. We only observed vital signs and gave medication to the patient. Beside that, frequent sampling and counseling the patient`s attendants were over stressing the situation”.

Environmental challenges were also there for nurses. Nurses were also physically exhausted because it was difficult for them to work while wearing a heavy protective kit. As a nurses (ID. N9) stated that:

“Hot weather was worsening the condition during the early days of pandemic because we had to wear PPE`s and no air conditioner was installed in the ICU but thanks God we are sitting in a cool environment now”.

Theme 2: Poor Resource Management:

2.1 Subtheme: Insufficient PPE supply

During the coronavirus outbreak nurses had faced shortage of personal protective equipment globally. The lack of effective action on the part of the management to maintain and distribute Personal Protective Equipment (PPE`s) supply chain had amplified the problem and caused stress and fear among nurses. This study revealed that some of the participants (n=3) had experienced shortage of PPE`s despite of its availability in the stock. As reported by nurse (ID. N7)

“PPE`s were not enough, most of the times we were out of N95, surgical gloves, surgical mask, CPAP masks during evening and night shifts”

As reported by nurse (ID. N8):

“There was shortage in the provision of PPE`s during your 12 hours shift, you will only get a set of PPE`s once and during that time one cannot go to the washroom or for dinner break”.

As stated by nurse (ID. N9):

“During the first wave, management was unable to figured out the daily expense of PPE`s although the PPE`s were present in an abundant amount in stock and most of the time we faced shortage in the supply of PPE`s”.

2.2 Subtheme: infection control training

Most of the participants (n=7) reported that the management did not organize any infection prevention training before starting their duties in COVID-19 ICU`s, that was also the factor of stress among nurses because they did not have the training to break the chain of infection.

As reported by one of the participants (ID. N1):

“We did not receive any infection prevention training; we were only asked to do duties in the COVID-19 ICU. We self-learned donning and doffing by watching online tutorial videos”.

As mentioned by nurse (ID. N4):

“We did not receive any infection prevention training; we just received orders to do our duties in that particular department. We were not counselled to work in the COVID-19 ICU.

Table 2: Thematic Analysis

Themes	Subthemes	Quotations
<p>Theme 1: Difficult working conditions during the COVID-19 outbreak</p>	Increased workload	<p>N1: <i>“During the first wave the workload was very high that two or three staff nurses were supposed to care for 25 critical patients and at that time patients and their attendants were also very stressed, it was very difficult to manage the situation”.</i></p>
	Shortage of staff	<p>N9: <i>““Patients were very irritable during the early days of pandemic as compared to the patients right now. Patients tried to remove their IV lines and wanted to get out form the bed. Attendants were not allowed to visit patients at that time that’s why we were more physically stressed”.</i></p>
	Psychological burden	<p>N8: <i>“Those patients who were on CPAP experienced blisters in mouth and they were unable to drink or eat anything, but we were helpless. Range of motion was also a difficult task to perform because with the nurse-to-patient ratio of 1:5 it is almost impossible to provide optimal care to a critical patient. We only observed vital signs and gave medication to the patient. Beside that frequent sampling and counseling the patient’s attendants were over stressing the situation”.</i></p>
<p>Theme 2: Poor Resource Management</p>	Insufficient PPE supply	<p>N7: <i>“PPE`s were not enough, most of the times we were out of N95, surgical gloves, surgical mask, CPAP masks during evening and night shifts”.</i></p> <p>N8: <i>“There was shortage in the provision of PPE`s in a sense that during your 12 hours shift you will only get a set of PPE`s once and during that time one can go to the washroom</i></p>

	Lack of infection control training	<p><i>or for dinner break”.</i></p> <p>N1: <i>“We did not receive any infection prevention training; we were only asked to do duties in the COVID-19 ICU. We self-learned donning and doffing by watching online tutorial videos”.</i></p>
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Discussion

The purpose of this section is to discuss and describe researcher findings in the light of each theme. This study revealed that working conditions for ICU nurses were very overstressing. Very few nurses were supposed to care for large number of critical patients. Nurses were assigned to work 12 hours during night shifts and the most difficult situation was that when they were unable to use washroom during the shift timings. Nurses have experienced extreme shortage of staff during COVID-19 outbreak and they were supposed to provide holistic care to the patients. This scenario over stressed the situation and made it difficult for nurses to give their best possible care.

These findings are consistent with other study findings, that long working time per week is associated with increased stress, which may be correlated with the fear of infection and excessive physical consumption. They also revealed that working-environment was significantly associated with the amount of chronic weariness among the nurses. Long weekly work hours, night shifts, and unhappiness with the nurse-patient connection were found to be substantially connected to chronic tiredness (Huang et al., 2019).

This study also showed that nurses were not supposed to remove their protective suits and they were unable to take refreshments or even drink water, most of the time they felt dehydration during their shift timings. Hot weather was also worsening the condition because nurses had to wear PPE`s and no air conditioner was installed in the ICU`s during the early days of pandemic. The study conducted by Fang and his team also found that discomfort caused by protective equipment was the major stressor for the participants, followed by burden of caring for patients. The staff on duty was required to wear basic protective gear, including goggles, protective clothing, surgical masks or N95 masks, and gloves, which made it inconvenient for them to eat and drink at work, as well as to use the toilet (Kuo et al., 2020).

Provision of optimal nursing care was difficult for nurses during coronavirus pandemic. Positioning the patient and performing range of motion was found difficult especially for female nurses. These findings were reflected in a study, that optimal physical care and delivering timely therapy required so much time, nurses were unable to satisfy the requirement of patients who were isolated. Many nurses struggled to manage the care of elderly patients with comorbidities such as dementia and Alzheimer's disease (Akkuş et al., 2022).

Nurses had faced shortage of personal protective equipment. PPE`s were not enough, most of the nurses in this study were only receiving a single set of PPE`s per shift, nurses were unable to use washrooms during their shifts because they were not supposed to remove their protective gears. Liu Y, et al, supported that nurses' breathing pattern was impeded to some extent after wearing a full set of protective equipment. Nurses did not drink water or use the toilet while at work to avoid the wastage of protective kits, which intensified the working environment. In this scenario, the more the working time each week, the greater the consumption of body and mind would be, as a result the body would get tense and exhausted. Workers are at risk of burnout, if stress cannot be relieved for an extended period. Burnout is connected to nurses' physical and emotional health and it has an impact on the quality of care they provide (Liu and Aunguroch, 2019).

Sharma et al, the rapid spread of COVID-19 made it increasingly essential for health workers worldwide to use PPE. Countries that were generally unprepared for the pandemic had problems with PPE supplies. Furthermore, having to work long hours in PPE led to deviations from the proper PPE use recommended in guidelines and to various other problems (Sharma et al., 2020).

Nurses in this study were overstressed because they did not receive any infection prevention training before going to the coronavirus intensive care units. These finding are reflected in a study that;

nurses have had difficulties in the care and treatment of the patients. This is likely due to the fact that nurses in these wards did not have special training and experience in working with isolated patients (Akkuş et al., 2022) . In another study, nurses stated that the lack of training about COVID-19 was a challenge for them (Góes et al., 2020).

Conclusion

The findings of this study were consistent with the increased workload and high work pressure among ICU nurses during COVID-19 outbreak. This study has explored the important aspects of workplace conditions of Intensive Care Unit nurses. Study revealed that working during the COVID-19 outbreak was very difficult for nurses which was accompanied by the physical stress, unfamiliar working environment, staff shortage, extended shift hours, poor resource management and unpredictability of the situation.

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