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# Experiences of frontline nurses caring COVID-19 patients – A thematic analysis

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## Abstract:

**BACKGROUND:** The COVID-19 pandemic exerts a considerable impact on the healthcare setting and healthcare provider's personal and social life. Adjusting to an entirely new working environment may have added challenges for the nurses without having infectious disease expertise. The study aimed to understand and describe the experiences of nurses taking care of COVID-19 patients in a tertiary care Hospital.

**MATERIALS AND METHODS:** The study was conducted in a tertiary care multispecialty hospital of Udupi District, Karnataka, India. A qualitative research approach with thematic analysis was used in this study. The inclusion criteria were staff nurses caring for COVID-19 patients for a minimum of 1 week. Samples were selected by purposive sampling technique, and the data saturation was achieved with 12 participants. Data were collected through in-depth, face-to-face interviews directed by a semi-structured interview guide. The interviews were audio-recorded and then transcribed verbatim. Thematic analysis derived from participant's responses. Data collection and data analysis were performed simultaneously. The data were analyzed using Kiger and Vaprio's six-step process of thematic analysis of qualitative data.

**RESULTS:** Ten subthemes were grouped from the three major themes under "working in COVID-19 facility: A "challenging experience", "adaptive coping strategies", and "support during a pandemic" emerged based on the experiences of staff nurses working with the COVID-19 patients.

**CONCLUSION:** Staff nurses in this study had challenging experiences attributed to several factors at the outbreak of the COVID-19 pandemic. Meanwhile, strategies to confront the difficulties were adopted by them to improve their well-being.

## Keywords:

COVID-19, experience, patients, staff nurse, thematic analysis

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## Introduction

The outbreak of COVID-19, a respiratory illness due to coronavirus 2019-nCoV, is a newly emerged communicable disease and was documented in China for the first time in December 2019.<sup>[1]</sup> Due to its rapid spread across the globe, on March 11, 2020, the World Health Organization (WHO) declared the disease a pandemic.<sup>[2]</sup> COVID-19 is thought to be the source of a deadly sickness that takes people's lives and, in some circumstances, puts infected people's lives

in danger.<sup>[3]</sup> The number of affected and deceased COVID-19 cases worldwide until July 18, 2021, are 190,834,156 and 4,100,090, respectively.<sup>[4]</sup> This overwhelms many countries' healthcare systems, which, in turn, has an impact on healthcare personnel, especially nurses who are fighting on the front lines to save the lives of those who are afflicted.<sup>[3]</sup> India also accounts for 31,106,065 cases and 413,640 deaths until July 18, 2021.<sup>[4]</sup>

The pandemic exerts a considerable impact on the healthcare setting and healthcare provider's personal and social life. Changes

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in the working environment and the sudden outbreak in the number of patients also have a huge psychological impact and burden on healthcare providers. The severe mental health symptoms were reported among the front-line health care workers, taking care of COVID-19 patients. Women are significantly affected more than men in terms of acute symptoms of depression, anxiety, and psychosocial distress. Physical exhaustion and the emotional strain of caring for increasing numbers of intensely ill and potentially deteriorating patients of all age groups patients are contributing factors to stress.<sup>[5]</sup> A qualitative study was conducted in China among nurses and physicians on the experiences of healthcare providers during the COVID-19 crisis. The findings showed that the intensive work drained emotionally and physically and complete support should be given to health care providers for safeguarding their wellbeing. The necessity of regular training for health care providers for efficacy in handling crisis management and promoting preparedness.<sup>[6]</sup>

For every country, healthcare providers are vital resources. Protecting healthcare providers is crucial for the safety and continuity of patient care. Nurses are working with the patient throughout the day. Working with infectious outbreaks and excessive risk of infection may induce remarkable stress, uncertainty, and stigmatization. Adjusting to an entirely new working environment may have added challenges for the nurses without having infectious disease expertise. There are studies done among healthcare providers in caring for COVID-19 patients. There are no published studies on the experience of caring for patients with COVID-19 among nurses specifically from an Indian context. So, this study aims to explore and describe the experiences of nurses in “caring for patients with COVID-19”. The study findings would help to identify the problems that have a significant impact on nurses, which would further help to develop an intervention to enhance their well-being in pandemic situations.

## Materials and Methods

### Study design and setting

A qualitative approach with a thematic analysis design was used to explore and describe the experiences of nurses taking care of COVID-19 patients.

### Study participants and sampling

Study participants were nurses, conveniently selected from a tertiary care multi-specialty hospital in Karnataka, having a facility for the care of COVID-19 patients. Data were collected from staff nurses caring for COVID-19 patients for a minimum of one week. Study participants were recruited in October 2020,

and face-to-face interviews were conducted. The data saturation was achieved with 12 participants. The interview guide was prepared by exploring relevant literature and seeking expert opinions. The main interview questions posed to the participants were mentioned below.

### Lead question

Explain your experience of caring for a “COVID-19 patient”.

### Probing questions

Describe the problems you have faced when caring for COVID-19 patients. Explain the challenges you faced being a nurse. Describe the changes it has brought to your social life. Explain the changes it has brought to your personal life. How did you cope with such problems? Describe the support you got from your employer, family, and society.

### Data collections and tools

After obtaining informed consent from the participants, the interviewer collected the basic information of the participants with demographic proforma. Then, the interviews were conducted by the third author after agreeing on a convenient time for the participant with the semi-structured interview guide. The interviews were conducted in a place designated for counseling and were audiotaped on an electronic device. The lead question was asked and it was followed by specific probing questions to obtain more information or clarification. The duration of the interviews was based on the nurses’ work experience and convenience and lasted for 15-25 min. Data saturation was attained when no new information was available.

### Data analysis

Data collection and data analysis were performed simultaneously. The data were analyzed using Kiger and Vaprio’s six-step process of thematic analysis of qualitative data.<sup>[7]</sup> The recorded conversation was transcribed initially, and to assure anonymity, each respondent was given an identification number. After getting familiarized with the data, the initial levels of codes were generated. Based on the similarity, the authors analyzed and combined the codes, and the broader themes were constructed. Themes were then reviewed to ensure that they properly fit into the data, for coherence and the adequacy of the data supporting the theme. Definitions and narrative descriptions of each theme are described followed by a final analysis and description of the study findings. The narrative and data extracts were weaved and written. The first and second authors were involved in the process of analysis. To verify the data’s accuracy and reliability, we followed the criteria of credibility, transferability, and conformability used according to Lincoln and

Goba.<sup>[8]</sup> After the formation of initial codes, member checking was done. The authors checked the extracted codes with the participants to determine the accuracy and consistency of their experiences and standpoints. Reflexivity was maintained by holding abeyance with our opinions affecting the study data. The interview transcripts were reviewed several times for comparing the codes with raw data. All three authors were involved in different steps of data analysis.

### Ethical considerations

The current study was approved by the Institutional Research Committee (IRC), Institutional Ethics Committee (IEC: 503/2020), and Clinical Trials Registry of India (CTRI/2020/10/028373, URL <https://ctri.nic.in/Clinicaltrials/login.php>).

## Results

### Sample characteristics

Most of the participants were women aged 23 years and a majority of them were day scholars, which is presented in Table 1.

**Table 1: Frequency and percentage distribution of samples based on demographic variables**

Sample Characteristics	Frequency (f)	n=12 Percentage (%)
Age in years		
21–25	11	92
26–30	1	8
Gender		
Male	1	8
Female	11	92
Marital status		
Single	12	100
Married	0	nil
Residence		
Hostel	5	42
Home	7	58
Educational status		
Diploma in general Nursing/ midwifery	9	75
B Sc (N)	3	25
Total years of experience		
1–3	10	83
4–6	2	17
The role of the nurse		
Staff	12	100
Ward in charge	0	0
Duration of caring for patients (in weeks or months) with COVID-19 patients		
1 week to 1 month	2	17
2–4 months	8	66
5–6 months	2	17

### Themes and sub-themes

Three major themes emerged with 10 subthemes from the analysis. The themes, subthemes, and the relevant verbatim are presented in Table 2.

#### Theme 1: Working in a COVID-19 facility: A challenging experience

Working in the COVID-19 facility was a challenging experience for almost all the participants, which was attributed to several factors. This theme predominantly describes the challenges faced by the nurses due to changes in the working environment and pattern. Under this theme, there were four sub-themes related to the challenges faced by nurses; working with protective gear, adapting to the new duty shift schedules, managing with less staff, and witnessing patients' suffering.

#### Working with protective gear is exceedingly onerous

In this study, every nurse in the COVID-19 facility consistently experienced several challenges working with personal protective equipment (PPE). Nurses experienced suffocation by wearing protective gear and were feeling very uncomfortable. Wearing PPE for a long duration and sweating underneath was causing extreme tiredness. Communication with co-workers and patients was strenuous for making it persuasive communication. Wearing a hood for COVID protection was bothersome in caring processes such as identifying the minor changes in patients, and difficulty in accessing intravenous lines due to fogging. Moreover, wearing full PPE for the entire shift compromised fulfilling basic human needs such as nutrition and elimination.

#### Adapting to the new working environment and schedules is exhausting

The significant increase in COVID-19 cases demanded nurse staffing. Hence, the nurses were deployed and assigned from various units to work in COVID-19 units. Adapting to the working environment outside of their background and expertise in extended hours on unusual shifts and working patterns was exhausting.

#### Managing with less staff is arduous

Because of the surge of COVID-19 cases, the number of units caring for the patients and the need for frontline nurses increased. Performing certain procedures was challenging, due to the non-availability of especially skilled therapists in the COVID-19 setting. Managing COVID-19 patients with a higher nurse-patient ratio along with documentation was laborious.

#### Witnessing a patient's suffering is challenging

Relatives were prohibited from the COVID-19 care setting due to stringent isolation protocols. Nurses in

**Table 2: Themes and sub themes with verbatim**

Themes	Subthemes	Supporting verbatim of participants
Theme 1: Working in a COVID-19 facility: A challenging experience.	Working with protective gear on is exceedingly onerous	<i>"After wearing the PPE kit, we are not hearing anything. During communication, we should talk loudly. To speak loudly it's difficult. No energy to speak loudly"-P1. "Due to hood, I am facing some problems like more pricks for the patients while drawing arterial blood. Because of the presence of fog in the hood"- P2. "Wearing a PPE kit and hood it is difficult to see the patient's face". -P3</i>
	Adapting to the new working environment and schedules is exhausting. Managing with less staff is arduous	<i>"During night duty it's a problem. At night two shifts. One shift staff first goes inside at 7.30 pm and comes back after handing over the report to the next shift staff by 2 am"-P1. During night duty it's 12 hours. Night duty is difficult. Inside and outside duty on a rotation"-P2. "Inside five staffs for 14 patients, for back care for two staffs seven patients. It's difficult to give back care. Sometimes the obese patients it's very difficult" -P2. "For 15 patients and one staff for 12 hours, It's difficult to do work"-P3. "To do ABG investigation Respiratory therapy faculty is not on duty. Our staff is only doing ABG. That time it was a little difficult."-P11.</i>
	Witnessing a patient's suffering is challenging	<i>"Maybe due to the media. Once they become positive, people will become stressed. Even though they are not sick also, Due to stress level their condition will become worse" -P5. "Non-COVID patients also suspected as positive. If the patient brought a negative report, be admitted to the Casualty ICU as a suspected COVID-19 positive. In that situation, one suspected positive patient while having food, by seeing COVID COVID-19-positive patient he was arrested and died. So I was stressed about this"-P3.</i>
Theme 2: Adaptive coping strategies	Changing in eating and drinking habits	<i>"I'm not drinking water and not coming out for urination. I reduced my fluid intake after covid"-P2. "For nurses, day duty is 6 hours, but in between I am not having anything, not drinking water. So no problems for urination"-P3</i>
	Changes in personal and social life	<i>"I am not having any contact with other families. So I did not go to anybody's house. I am not close to my neighbors, my interaction with them is very less, due to me, they should not get an infection"-P1. "I am not going to meet anyone after duty, At home also I am alone in my room. I am afraid that there may be chances for spreading the infection to others"-P8</i>
	Availing aid from co-workers	<i>"Sometimes when I am tired, am sitting for some time. If I am still not tolerating then I hand over my patients to another staff, come back out, remove PPE, and take rest for some time and again wear PPE kit and go inside"-P8. "Sometimes if my allotted patient is better, then I adjusted with other staff and came out from ICU"-P3. "In case we are tired then they are saying that come out from inside, remove PPE, and take rest for some time. And later you can go inside"-P9. "All staff are good, they help each other"-P10. "During busy times when there are a lot of procedures, our colleagues helped us. So we also helped other staffs and gave care for ventilator"-P11.</i>
	Time heals—natural coping	<i>"Problems are still there. I adjusted for the problems"-P1. "I adjusted for it. I did not do anything about this. As the time passed I adjusted"-P4. "My thoughts about COVID were changed. First, I am so afraid of COVID. Later I thought there was no need to be afraid that much about COVID". P12</i>
Theme 3: Support during a pandemic	Adequate family support	<i>"Amma (mother) saying that I can wait for 15 days, and I may adjust for it. If still, it's difficult to work then ask for change forward"-P3. "Family members are very cooperative. They know that I am working in the COVID ward"-P8. "Family support is good. But in the starting days of COVID, most of the staff were on leave due to lockdown. At that time family members were saying that they should not go for duty as they were not sure when it would end. But now it is ok. I convinced them"-P10. "Family support is good. But they were tensed that their daughter was working in COVID ICU and something may happen to their daughter. They told me not to work in COVID ICU, not to do COVID duty, and told me to leave the job as I may get an infection. Later I explained to them that we take adequate precautions and they are convinced."-P12.</i>
	Mixed societal support	<i>"My friends supported me. So many told me don't be tense"-P3. "Neighbors are supportive. Neighbors know that I am working in the COVID ward. Still, they supported me. They are coming to my house. Neighbors are good"-P4. "Once I went for a mobile recharge and the shopkeeper asked me whether I was working with the COVID ward. Later he told me to stand a little away from others, as I am working in the COVID ward"-P3.</i>

this study felt emotionally stressed as the suspected COVID-19 patients encountered cardiac arrest and death by seeing the COVID-19 patients in the health care facility. They also felt helpless as they witnessed the status of a suspected COVID-19 patient deteriorate owing to stress.

### Theme 2: Adaptive coping strategies

Nurses in this study faced numerous challenges both personally and professionally. However, they adapted the strategies to confront the difficulties, avoid negative physical impacts, and improve well-being. Various

coping techniques adopted by nurses to handle the obstacles of working in the context of COVID-19 are described in this theme. Under this theme, there were four sub-themes related to the coping techniques adopted by nurses.

#### Changing in eating and drinking habits

Every nurse in this study talked about the change in eating and drinking habits adopted before, during, or after duty hours. These changes were mainly adapted to control the bladder as they were unable to satisfy the elimination needs by wearing personal protective gear



during duty schedules. Most of them had to change the timings of snacks and meals as they had to work in extended duty schedules in protective gear.

### Changes in personal and social life

Nurses in this study acknowledged that during a pandemic their relationship with family, friends, neighborhood, and society is changed. Much of this was due to owing to the fear of transmitting the infection to others and part was due to experiencing fatigue and stress. Few nurses were also accommodated in the facility provided by the organization for an extended period to prevent contact with family members.

### Availing aid from co-workers

Most of the nurses in this study mentioned working together and increasing teamwork during the pandemic to deal with the workload. Few nurses talked about handoffs of their patients to co-workers for doffing the protective gears in times of extreme fatigue and suffocation.

### Time heals—natural coping

Few nurses in this study perceive that there is no change in the situation. However, they have adjusted to the situation as they have been working in the setting since the outbreak of the pandemic. As time passes, they can build resilience, overcome adversity, and cope with the circumstances.

### Theme 3: Support during the pandemic

This theme describes the support provided by the family and society in combating stress and building resilience during the COVID-19 pandemic.

### Adequate family support

Every nurse in our study expressed the support received by their family though they had fear and concern of acquiring viral infection. However, a few nurses also mentioned that the family members were urging them to leave the job in the initial days of the pandemic due to fear as many facts related to COVID-19 were unclear.

### Mixed societal support

The majority of the nurses in our study received good societal support and did not face any problems unlike what was reported in the media. Nurses were appreciated for being the COVID warrior by their neighbors. However, very few had experienced avoidance and discrimination from their neighbors and society.

## Discussion

This study explored the experiences of nurses caring for patients with COVID-19 using the thematic analysis of qualitative data and summarized the findings into three

themes: working in a COVID-19 facility: a challenging experience; adaptive coping strategies; support during a pandemic. In this study, there are many negative experiences that staff expressed: spreading the infection, getting an infection, health issues, social isolation, etc.

Every participant in the study expressed difficulties and several challenges experienced working with the protective gear. The vast majority expressed the suffocation, sweating underneath the PPE by wearing the protective gear, and feeling very uncomfortable. Yuan N *et al.* reported similar findings from their study, that is, the majority (94.57%) experienced discomfort while wearing PPE such as respiratory difficulties, heat stress, and dizziness.<sup>[9]</sup> Excessive sweating (71.53%) and difficulty in breathing (36.7%) were also reported in another study conducted to assess the health problems caused by PPE among frontline healthcare workers.<sup>[10]</sup> Frontline nurses can reduce their risk of infection by wearing full-body PPE. However, none of the nurses experienced a shortage of PPE, though there was a global shortage. Concomitantly, nurses should be given more attention because they face numerous problems and are prone to having unpleasant reactions by wearing PPE for an extensive period. As reported by nurses, the communication with co-workers and patients was strenuous for making it persuasive communication. Communication in healthcare settings might be hampered by the use of PPE. It may be very daunting for patients and result in poor patient care. Staff should be reminded of their responsibilities and alternate communication channels should be explored.<sup>[11]</sup> Wearing full PPE for the entire shift compromised fulfilling basic human needs, such as nutrition and elimination, was a major concern. Wearing PPE for a prolonged period may impose the nurse's physiological burden and long working hours without proper breaks for meals, hydration, and self-care might exacerbate the problem. Nurses must be mindful of the importance of being hydrated, especially if their PPE generates excessive sweating due to heat exposure. Breaks are essential for workers' health and safety during work shifts. By adopting policies and procedures to ensure breaks, administrators can reduce the impact of PPE on health.<sup>[12]</sup>

We found that adapting to the new working atmosphere and schedules and managing with a few nurses was challenging. Although nurses are one among healthcare providers at the frontline of the fight against the COVID-19 pandemic, they face several challenges in carrying out their responsibilities. Long working hours due to a shortage of staff is becoming apparent worldwide, which will pose them with the risk of contracting the infection. India, already facing a grave shortage of healthcare workers and nurses, is considering resigning in droves. In this study, we also found nurses

expressing that their families urging them to leave the job due to safety concerns and uncertain pandemics. While this may appear irresponsible, it is crucial to recognize that they are people with fears and anxieties, families, and a desire to survive.<sup>[13]</sup>

Nurses in this study adopted the strategies to confront the difficulties, though they have faced numerous challenges. The massive impact of the COVID-19 pandemic has increased the likelihood of emotional distress in healthcare workers leading to burnout.<sup>[14]</sup> Concomitantly, the ability to withstand upheaval is defined by one's resilience. During the COVID-19 pandemic, nurses who work extended hours than other healthcare providers would need an adaptive coping technique and resilience to offer care to patients.<sup>[15]</sup> In our study, nurses adopted several strategies such as changing eating and drinking habits, changes in personal and social life, availing help from coworkers, and trying to adjust to the situation. Nurses' views toward their careers, the future, and their work and life outputs are benefited from high resilience. Despite numerous challenges that occur from professionals and the health system, this has a positive impact on the healthcare services offered by nurses to individuals, families, and humanity.<sup>[16]</sup>

Nurses in our study reported that they had adequate support from their family members. Perceived stress, anxiety, and insomnia among healthcare professionals are likely to create mental health issues. Hence, adequate family support serves as a protective factor and is essential to mitigate the negative effects of stress.<sup>[17]</sup> There was mixed societal support for the nurses amidst of pandemic. The psychological resilience of nurses is increased at the statistically significant level by perceived social support ( $P < 0.001$ ).<sup>[18]</sup> During the COVID-19 pandemic, substantial data support the effectiveness of coping behaviors, resilience, and social support in preserving mental health among healthcare personnel.<sup>[19]</sup> Due to COVID-19, healthcare professionals faced a lot of work-related stress due to a lack of hospital resources, fear of infections, and also job burnout. This was shown in a study conducted in Iran, which revealed that there was no significant correlation between the adequacy of hospital resources, fear of infection, and job burnout.<sup>[20]</sup>

A descriptive, analytical study was done among 70 nursing students to assess their competency in disaster situation. The total score for nursing students' competence was  $125.58 \pm 14.19$ . There was a significant relationship between the mean score of nursing competence in response to disasters and student history of participating in an exercise and training course ( $P < 0.001$ ).<sup>[21]</sup> The findings of the study to investigate telenursing operational possibilities in disasters among the nursing

personnel showed that the mean score of the possibility of telenursing in disasters was at a high level of 77.50. Thus, the quality of the telenursing care in simulated conditions was satisfactory.<sup>[22]</sup>

## Conclusion

Staff nurses had challenging experiences attributed to several factors at the outbreak of the COVID-19 pandemic. Despite these hurdles, they adapted strategies to confront the difficulties and to improve their well-being. The results of the study also recommend adopting policies and procedures to reduce the physiological impact of PPE. Finally, nurses need to be empowered to opt for healthy strategies to be resilient for positive coping behavior.

This study contributes to SDG goal 3 - good health and well-being.

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## Conflicts of interest

There are no conflicts of interest.

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