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Challenges Experienced by ICU Nurses during COVID-19 Pandemic-A Survey from Delhi-National Capital Region (NCR), India

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ABSTRACT

Introduction: Corona Virus Disease-19 (COVID-19) has impacted nursing field profoundly in terms of direct care capabilities, practice issues, emotional and financial challenges.

Aims & Objectives: We conducted this survey to understand challenges faced by nurses while working in COVID-ICU during COVID-19 pandemic.

Method: This was a survey about the challenges faced by the nurses while working in COVID-ICU consequent to the second wave of COVID-19 in Delhi-national capital region (NCR), India. A Google forms-based questionnaire was prepared on the pertinent issues, having 3 demographic and 25 core survey questions.

Results: 168 responses were gathered. Most of our participants (63.7%) were from private hospital, and 56% had worked in ICU previously. 88.1% of all the respondents had received brief orientation about the anticipated challenges in COVID-19-ICU. Personal protective equipment (PPEs) was easily available to the majority (88.7%), but only 45.8%, reported it to be good-quality. 85.7% of the respondents regularly interacted with the patients admitted to COVID-19-ICU. Carrying infection home (45.2%) was reported to be the greatest fear while working at such areas. Stress & anxiety are the major behaviour change noted. 97.6% have reported to have received vaccine against COVID-19.

Conclusion: Poor quality of PPEs, lack of workplace, emotional and financial security continues to be the major challenges faced even after 2years & 2 waves of this pandemic. However, despite all the challenges faced, the zeal to work and fight with this dreaded infection was strong amongst all the participants. Most of them have expressed their readiness to work again in COVID-19 ICUs, if required. Nursing education, constructing, and implementing robust care policies, is need of the hour.

Key Words: Nursing Challenges, COVID-19 Pandemic, PPE, Exhaustion, SARSCoV-2, ICU

INTRODUCTION

Globally, corona virus disease-19 (COVID-19) pandemic has resulted in an unprecedented number of patients requiring hospitalisation. As the COVID-19 pandemic accelerated worldwide, healthcare system is impacted the most and has been facing tremendous pressures. Nurses constitutes the largest workforce in a healthcare sector and their safety, both physical and psychological, needs to be prioritised.¹ Exploring the issues faced by the nursing staff during these testing times will help support and strengthen the protocols and improve their preparedness better.² The critical shortage of nurses, beds,

medical supplies including personal protective equipment (PPEs) are the major issues that the nurses have faced during this pandemic.^{3,4} These challenges cause nurses to face physical and mental strains and complex ethical issues.⁵ We planned this study to understand the challenges faced based on the nurses' lived experiences while working in COVID-19-ICU.

MATERIAL AND METHOD

We conducted a survey about the challenges faced by the nurses while working in COVID-Intensive Care Units

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(ICU), consequent to the second wave of COVID-19 in Delhi-national capital region (NCR) India, in October 2021. A questionnaire was prepared on the pertinent concerns for the same and based on the previous national & international surveys. We prepared a Google Form based survey with 3 demographic and 25 core survey questions. Our survey had 27 single option selection types and 1 multiple option selection type simple questions. The absolute inclusion criteria were nurses who had worked in COVID-19 ICU. The survey was designed to auto exclude core responses from nurses who were not involved in managing COVID-19 patients in ICU. After preparing, we distributed this survey to the nurses in Delhi-NCR via social media platform in around 30 centres.

Institutional ethics committee clearance from our institution could not be obtained as the survey involved individual proprietary data of participants and researchers of several centres. We incorporated consent in this survey for participation and use of this data in the publication process.

Data Analysis

We captured response identities so that duplication of responses was avoided. Only nurses who worked in COVID-19 ICU could respond to our core questionnaire. We are presenting the results of this descriptive cross-sectional survey in actual number and percentage form which were calculated using Google spreadsheets. We report the majority when the response rate reaches >50% in any one observation option.

RESULTS

We gathered 168 responses from the nursing staff from Delhi-NCR, who worked in COVID-19 ICUs during COVID-19 pandemic. Table-1&2 shows the detailed demographic characteristics and core questions of survey participants respectively.

Most of the respondents (n=90, 53.6%) in our study were young (20-30 years), enthusiastic females (n=134, 79.8%) from private hospitals (n=107, 63.7%).

56% (n=94) of them had worked in ICU environment before they were deployed for care of COVID-19 patients admitted in ICU. 88.1% (n=148) of all the respondents had received brief orientation about the challenges likely to come across while working in COVID-19 ICU. Most of the participants (n=89, 53%) worked for 4-8 hours shift and only 8.3% (n=14) reported to have shift duties for more than 12 hours.

PPE was reported to be easily available to the majority (n=149, 88.7%) of the participants. But PPE quality was reported to be good quality by only 45.8% (n=77). Most of the participants from private hospital has reported to have received good quality PPE as compared to that of government hospital (58.4%, n=59 vs 26.5 %, n=18).

Proper donning and doffing of the PPE were taught to most (n=149, 88.7%) of the participants and 57.1% (n=96) had someone to assist them while donning and doffing procedure. Majority (n=159, 94.6%) of the participants had designated PPE donning and doffing area and location for the same was near the ICU with most (n=123, 73.2%) of them.

Lot of participants (n=144, 85.7%) regularly interacted with the patients admitted to COVID-19 ICU. Due to very high risk of transmission of covid virus, family were not allowed to meet the patients physically as reported by 44.6% (n=75) of the participant, but a regular health update was being given to the family by majority of them (n=112, 66.7%). Most of the participants (n=118, 70.2%) reported adequate medicine supply for COVID-19 infection treatment.

While reporting safety against COVID-19 infection at workplace, most of the participants (n=95, 56.5%) felt safe. The greatest fear while working in COVID-19 ICU was reported to be carrying infection with them to their loved ones at home, which was reported by 45.2% (n=76) of respondents. Most (n=130, 77.4%) participants were provided post duty quarantine period, and many (n=118, 70.2%) got COVID test done post completion of their ICU duties. There is always huge risk associated for contracting disease while caring for patients with COVID-19, however many (n=109, 64.8%) of them reported themselves to be free of COVID-19 while performing COVID duties. No extra incentives were provided for COVID duties to most (n=90, 53.6%) of the participants. 83.9% (n=141) of the participants have their family safe and did not report any mortality. COVID has affected behaviour of most (n=101, 60.1%) of the participants and the major lifestyle affect reported was, stress & anxiety (n=94, 56.3%) and health consciousness (n=73, 43.7%). Majority (n=164, 97.6%) of the participants have reported to have received vaccine against COVID-19. The zeal to work and fight with this dreaded infection is strong amongst all the participant, and most (n=154, 91.7 %) of them have expressed their readiness to work again in COVID-19 ICUs if need arises.

DISCUSSION

This study has examined the challenges experienced by ICU nurses working in a COVID-19 ICU during this pandemic using qualitative descriptive approach. The survey was done consequent to the second wave of COVID-19 in INDIA.

Private hospitals played measure role while giving care to covid-19 patients. Young females represent the measure percentage of the nursing caregivers in most of the countries including India.⁶ These findings were also noted in our study.

The preparedness of the any hospital and nurses plays crucial role in healthcare management in pandemic such as COVID-19.

And in our study, most of the nurses were familiarised with the challenges likely to be experienced before going in to COVID ICU. The responsiveness of the nurses who work in the ICU set-up is finer, as they understand the ICU challenges and it's working better. Spread of infectious covid virus from patient's airway to healthcare workers and other patients is always a major concern. All the necessary measures must be established to safeguard oneself and other patients. PPE is essential tool to protect oneself from contracting this virus while taking care of these patients in ICU. Provision of poor-quality PPEs and lack of PPEs have been reported in most of the studies worldwide.⁷ But in our study, PPE was made available to about 90% of the respondents, but it was of average quality in most (50%) of the cases. Handling of PPEs (donning and doffing areas, buddies, and practice) was reported to be good by most (80%) of our participants.

Nurses play a vital role for communication and psychological counselling of both relatives and the patient who is away from their family and see everyone in PPE attire. This was done in most of the cases (>90%) in our study. But as the risk of contracting virus and getting affected was high, very small number respondents (11%) reported that the attendants were allowed to meet the patient in person in ICU.

Most of the respondents claimed working in COVID-19 ICU with proper attire made them feel safe against contracting infection. Post duties most of the respondent were provided quarantine. Two third of the participants got COVID-RTPCR test was done at the end of quarantine period before they met their family members as most common apprehension among nurses was taking infection home with them post duties.

Unfortunately, one third of respondents in our study suffered from COVID-19 disease while they were on duties and almost 16% reported deaths in their families due to COVID-19.

COVID pandemic has influenced lifestyle of every individual in the world and most importantly the healthcare workers.⁸ Nurses have suffered with lack of sleep, developed anxiety and stress, with altered food habits. The positive lifestyle impact had been regular exercises, Yoga and more careful approach towards individual health. Nevertheless, all the nurses are ready to offer their services again with great enthusiasm if required.

Strength and Limitation-We have captured the responses of nursing challenges in COVID-ICU in October 2021 consequent to the second wave of COVID-19 in India. We believe study from large population of national and international nursing groups is required to understand the issues better. Further validation from experts would be better to give credibility to these concerns. However, that is beyond the scope of present survey.

CONCLUSION

Nurses are at the forefront of COVID-19 case management. Our survey concluded that the poor quality of PPE and lack of emotional security are the major challenge, which continue to affect nurses during this pandemic. Better quality of PPEs, workplace emotional and financial security must be provided to the nurses. Government and healthcare systems must minimise physical and psychological burden on nurses. It is high time such recognition needs to be translated into policies to support and protect nurses, which may finally translate into better patient care and outcome.

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Authors' Contribution:

AG, DJ, SJ, conceived study, designed, and analysed the data. AG, SK, OS defined analytic tools and collected data. AG, SJ, SK reviewed literature, edited, and drafted the manuscript. Final manuscript read and approved by all the authors.

What is known

- Nurses have faced a lot of psychological and ethical challenges especially during COVID-19 pandemic.
- Difficulties faced by ICU nurse includes, working in an unfamiliar environment, lack of experience, anxiety about being infected, substandard PPE, heavy workload, exhaustion, and depression.

Contribution of the study-

- Given the information available about the challenges faced by nurses while working in COVID-19-ICU after 2 waves in INDIA is scarce, this study is planned to understand the existing challenges based on the nurses' lived experiences.
- This will help support and strengthen the protocols and improve their preparedness better.

Implications of the study

- Government and healthcare systems must minimise physical and psychological burden on nurses.
- Better quality of PPEs, workplace, emotional and financial security must be ensured.
- Evidence-based system should support and protect nurses which would translate into better patient care and outcome.

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Table 1: Demographic characteristics of participants

| Q No. | Survey Question | Total (Percentage) |
|-------|--|--|
| 1. | Type of Institution of the participant- (a) Private Hospital (b) Government Hospital | 107 (63.7%) 61 (36.3%) |
| 2. | Gender- (a) Male (b) Female | 34 (20.2%) 134 (79.8%) |
| 3. | Age distribution- (a) <20 years (b) 20-30 years (c) 30-40 years (d) >40 years | 5 (3%) 90 (53.6%) 39 (23.2%) 34 (20.2%) |

Table 2: Summary of the Survey Response-

| Q No. | Survey Question | Total (Percentage) |
|-------|---|---|
| 1. | Have you worked in COVID-19 ICU during pandemic a) YES b) NO | 168 (100%) 0 (0%) |
| 2. | What is your area of working before going to COVID-19 ICU- a) ICU b) Ward 66 (39.3%) c) OPD/Clinic d) Fresher | 94 (56%) 2 (1.1%) 6 (3.6%) |
| 3. | Orientation/briefing about the challenges in COVID-19 ICU given before going to ICU- a) YES b) NO | 148 (88.1%) 20 (11.9%) |
| 4. | Everyday working hours in COVID-19 ICU (Hours/day) a) <4 hrs b) 4-8 hrs c) 8-12 hrs d) >12 hrs | 4 (2.4%) 89 (53%) 61 (36.3%) 14 (8.3%) |
| 5. | Was PPE available- a) Easily available b) Not available c) Sometimes available | 149 (88.7%) 2 (1.2%) 17 (10.1%) |
| 6. | Quality of PPE- a) Good quality b) Poor quality c) Average quality d) PPE Not available | 77 (45.8%) 5 (3%) 84 (50%) 2 (1.2%) |

| Q No. | Survey Question | Total (Percentage) |
|-------|---|--------------------|
| 7. | Was proper Donning and Doffing of PPE taught and practiced- | |
| | a) YES | 149 (88.7%) |
| | b) NO | 17 (10.1%) |
| | c) PPE not available | 2 (1.2 %) |
| 8. | Were assistance/buddy available while donning and doffing PPEs- | |
| | a) YES | 96 (57.1%) |
| | b) NO | 70 (41.7%) |
| | c) PPE Not available | 2 (1.2%) |
| 9. | Designated area for donning and doffing PPE kits- | |
| | a) Present | 159 (94.6%) |
| | b) Absent | 7 (4.2%) |
| | c) PPE not available | 2 (1.2%) |
| 10. | Location of donning and doffing PPE kits- | |
| | a) Near ICU | 123 (73.2%) |
| | b) Far from ICU | 43 (25.6%) |
| | c) PPE not available | 2 (1.2%) |
| 11. | Communication with COVID -19 patients- | |
| | a) Done regularly | 144 (85.7%) |
| | b) Not done | 4 (2.3%) |
| | c) Done intermittently with difficulty | 20 (12%) |
| 12. | Communication to the family of the patients- | |
| | a) Done regularly | 112 (66.7%) |
| | b) Not done | 18 (10.7%) |
| | c) Done irregularly | 38 (22.6 %) |
| 13. | Were the patients family allowed to meet the patient in COVID-19 ICU- | |
| | a) YES | 19 (11.3%) |
| | b) NO | 75 (44.6%) |
| | c) Virtually (Whatsapp/messenger/video chats) | 74 (44.1%) |
| 14. | Perception of safety against COVID-19 infection at working place- | |
| | a) Safe | 95 (56.5%) |
| | b) Not safe | 24 (14.3%) |
| | c) Somewhat safe | 49 (29.2%) |
| 15. | Do you feel there was lack of medicine in COVID-19 ICU | |
| | a) YES | 50 (29.8%) |
| | b) NO | 118 (70.2%) |
| 16. | Was post COVID-19 duties Quarantine provided- | |
| | a) YES | 130 (77.4%) |
| | b) NO | 38 (22.6%) |
| 17. | Was COVID-19 test done post completion of COVID-ICU duties- | |
| | a) YES | 118 (70.2%) |
| | b) NO | 50 (29.8%) |
| 18. | Did you suffer from COVID-19 while performing COVID duties- | |
| | a) YES | 59 (35.2%) |
| | b) NO | 109(64.8%) |
| 19. | Were any Extra incentives given- | |
| | a) YES | 78 (46.4%) |
| | b) NO | 90 (53.6%) |
| 20. | What was your greatest fear while doing duties in COVID-19 ICU- | |
| | a) You getting COVID-19 infection | 28 (16.7%) |
| | b) You taking infection home | 76 (45.2%) |
| | c) You doing extra duties | 10 (6%) |
| | d) Your changed lifestyle | 32 (19%) |
| | e) You and your near ones not getting adequate healthcare if got COVID-19 infection | 22 (13.1%) |

Table 2: (Continued)

| Q No. | Survey Question | Total (Percentage) |
|-------|--|--------------------|
| 21. | Was there any death in your family due to COVID-19 | |
| | a) YES | 27 (16.1%) |
| | b) NO | 141 (83.9%) |
| 22. | Did you suffer from lack of sleep and any behavioural disturbances post COVID-19 duties- | |
| | a) YES | 101 (60.1%) |
| | b) NO | 67 (39.9%) |
| 23. | Lifestyle impact of COVID-19 (multiple response) | |
| | Developed stress and anxiety 94(56.3%) | |
| | Gained weight 18 (10.8%) | |
| | Altered food habits (eating more or less) 57 (34.1%) | |
| | Increased screen time (watching more phone/laptops /tablets/TV) 22 (13.2%) | |
| | Became more health conscious 73(43.7%) | |
| | Started regular exercise/Yoga 23(13.8%) | |
| 24. | Did you receive COVID-19 vaccine | |
| | a) YES | 164 (97.6%) |
| | b) NO | 4 (2.4%) |
| 25. | If required, will you work again in COVID ICU- | |
| | a) YES | 154(91.7%) |
| | b) NO | 14 (8.3%) |