

Trials Faced by Staff Nurses Caring for COVID-19 Patients

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Abstract

Covid-19 has been identified to be the cause of deadly illness. It is hazardous, and crushed the population infected with the virus. This virus paralysed the daily work of public globally. Irrespective of situation, whether regular or during disaster, it is nurses who belong to the frontline and are accountable for comprehensive nursing care for all variety of patients. The present study aimed to assess the challenges experienced by staff nurses; correlate the aspects of challenges experienced by staff nurses; and associate aspects of challenges with selected demographic variables. A descriptive study was adopted for the present study using quantitative approach. Permission was sought from hospitals. The tool was distributed to the staff nurses after explaining the purpose of the study. Purposive sampling technique was solicited. The calculated sample size was 244, however, 270 nurses completed the self reports. The questionnaire was tested for reliability using Cronbach's alpha for each aspect and it ranged from 0.71 to 0.82. Questionnaire consisted of 36 items and 7 aspects. The findings showed that majority (72.6%) of staff nurses self reported to have faced the challenge of physical exhaustion and mental stress and the least reported challenge (22.2%) was the aspect of fear and anxiety. On further computation, it was found all the seven aspects i.e. fear and anxiety, caring aspects, physical exhaustion and mental stress, personal sacrifice, facilities and resources, availability of supports and ethical challenges were correlated at 0.01 level. With regard to association, not all aspects were found to have significant association. It is concluded that a profound understanding of these challenges can help health care organisations to resolve these challenges and provide evidence-based information and implement psychological interventions.

Key words: Challenges, staff nurses, Covid-19

Covid-19 is undoubtedly a deadly illness. It crushed the population infected with the virus. This virus paralysed the daily work of public globally (Marital & Barzani, 2020; Powers & Daily, 2010). The management of a pandemic rests on the measure of readiness of health care workers. Lack of preparedness before a pandemic resulted in large toll of deaths. Irrespective of situation, whether regular or during disaster, it is the nurses who belong to the frontline and are accountable for comprehensive nursing care for all variety of patients. Nurses carry an expository function in the health system, as they form the majority among health care workers (Powers & Daily, 2010; Althobaity et al, 2019). Their roles in managing Covid-19 patients are multiple such as entail triaging patients and discovering suspected patients with infections, rendering absolutely necessary treatment in emergency and delivering care to suspected patients with safeguarding in

decontamination and creating liaison among health care workers and associating with relatives (Xie et al, 2020).

The responsibilities of the nurses during crisis are enormous in order to satisfy patient and their families. For this reason, nurses are expected to be well furnished with crucial knowledge and skills in governing crises necessitating clinical treatment, isolation, triaging, decontamination, psychological support and if required, palliative care. Nevertheless, when nurses acknowledge to a crisis, they encounter difficulties that impede them from caring for patients with Covid-19. This would accelerate nurse and hospital resilience as a feedback to crisis and facilitate preparedness and recovery from crisis as well. Gaining insight of these challenges can equip health care authorities adhere to relevant deeds to solve these issues, render facilities, support health work force, provide exact and evidence-based practice on managing the crisis (Borasio et al, 2020).

The lightning speed of the spread of Covid-19 in the end of 2019 and early 2020 caught the

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entire health care systems unawares to render intensive care unit beds, ventilator, Personal Protective Equipment (PPE) and capability to implement their tasks. The utmost exhaustion, and physical discomfort resulted from lengthy working distress among nurses prevailed in the workforce of nursing during Covid-19 pandemic (Neto et al, 2020).

Objectives

The objectives of the study were to:

1. Assess the challenges experienced by staff nurses caring for Covid-19 patients
2. Explore correlation with the aspects experienced by staff nurses caring for Covid-19 patients
3. Associate the level of aspects of challenges faced by staff nurses with selected demographic variables.

Review of Literature

One challenge faced by ICU nurses was physical exhaustion. The doublet factors such as intolerable weight of personal protective gear and the scarcity of PPE made nurses abstain from meeting their basic needs. This caused physical exhaustion in addition due to complications like urinary tract infection, dehydration, and constipation. Moreover, elongated care for Covid-19 patients was related with the incidence of complications like skin damage, spots, physical exhaustion, particularly in facial skin because of the continuous use of respirators and hormonal disorders. Kim (2018) revealed that nurses narrated excessive sweating because of intolerable body heat due to PPE and fog on goggles caused by respirators were the predominant causes of physical tiredness. A study by Sun et al (2020) also showed that nurses caring for Covid-19 patients experienced extreme physical tiredness and discomfort because of the spread of disease.

The largest population among the health care workforce are the nurses (Usher et al, 2009). They account for majority of the activities connected with containing infections and diseases (Said & Chiang, 2020). Nurses caring for these patients are frequently affected with insufficient protection from contamination, vulnerable to infection, stress, fear, anxiety and depression.

One study demonstrated that every extra patient affixed to nurses' workload was connected to a 23 percent hike in probability of burn out (Aiken et al, 2022). Su et al (2007) revealed that 40-45 percent of frontline nurses underwent anxiety or depression. During the outbreak of SARS in 2003, the life threatening nature of the disease coupled

Table 1: Distribution of demographic variables (N=270)

Personal details	Frequency	Percent
Age (years)	25.63 ± 4.603	-
20 - 25	180	66.7
26 - 30	58	21.5
>30	32	11.9
Gender	270	
Male	65	24.1
Female	205	75.9
Qualification		
GNM	142	52.6
Post-Basic BSc	47	17.4
BSc Nursing	78	28.9
MSc Nursing	3	1.1
Marital status		
Single	206	76.3
Married	64	23.7
Number of children		
NA	206	76.3
Nil	25	9.3
One	16	5.9
Two	21	7.8
3-4	2	0.7
Years of experience		
1-2	98	36.3
2-3	75	27.8
3-5	73	27.0
5-10	16	5.9
>10	8	3.0
Department of work		
ICU	112	41.5
Non-ICU	158	58.5
Hours of duty		
<8	48	17.8
8	205	75.9
>8	17	6.3
Daily balanced diet	244	90.4
Stress reducing techniques	178	65.9
Experience insomnia	129	47.8
Self - motivated	260	96.3
Positive attitude		
Low	7	2.6
Medium	191	70.7
High	72	26.7
Adequate social support	253	93.7
Able to balance personal life and work	254	94.1

with increasing workload has led to similar findings of anxiety and depression.

WHO (2020) quotes a global shortfall of 5.9 million nurses to cater the current and future care needs of the expanding population. Nurses are very important to every health care delivery system around the world. Previous studies related to infection outbreaks depicted that such populations are vulnerable to worsening mental health (Maunder, 2006). Similarly during Covid-19 pandemic too, the same finding of this group experiencing worsening mental health was found. Studies proved that elevated levels of stress and anxiety lead to low staff morale, high levels of absenteeism, deterioration in levels of satisfaction of work and quality of care (Brooks et al, 2018).

One study recognised risk factors for Covid-19 associated with health. They were: working in a vulnerable area, attended family members, poor hand hygiene, breach in PPE use, lengthy contact hours with affected patients daily such as 15 hrs/day and unguarded exposure. Slightly predominant symptoms that prevailed among health workers were fever (85%,) cough (70%) and weakness (70%). It was also found that health care workers suffered from elevated levels of depression, anxiety, insomnia and distress (Natasha et al, 2020).

Several studies have demonstrated that health care workers are highly vulnerable to physical and mental health consequences because of their direct contact with Covid-19 patients. They are coaching them to use PPE and make it available to them; adhering to infection control practices, decrease the length of shift and bestowing them with adequate mental health and support services (Rai et al, 2020).

Methodology

A quantitative approach was employed for the present study, and a descriptive, correlation study was utilised. The investigator had sought permission from the Research Advisory Committee of the institution. Although the investigator approached

several hospitals where Covid-19 patients were treated, permission was obtained from Chirayu Medical College and Hospital, Bhopal, Fortis Hospital, Kolkata and Choithram Hospital, Indore, St Francis Hospital, Indore, Medanta Hospital, Indore, and Mayo Institute of Medical Sciences, Lucknow. The inclusion criteria was registered nurses who were nursing Covid-19 patients only from the hospitals that gave consent to take up this study. The tool was designed by the investigator with the aid of comprehensive literature review and got validated from four experts. Questionnaire consisted of 36 items in total and seven aspects. The seven aspects were fear and anxiety, caring aspects, physical exhaustion and mental stress, personal sacrifice, facilities and resources, availability of support and ethical challenges. It was prepared in the form of Google forms. The generated Google link was distributed to the nurses through their in-charges. Purposive sampling technique was adopted. The calculated sample size was 244, however, 270 nurses completed the self reports. The questionnaire was tested for reliability using Cronbach’s alpha for each aspect and it ranged from 0.71 to 0.82.

Results

The data gathered were analysed based on the objectives of the study using descriptive and inferential statistics. SPSS version 20.0 was utilised for data analysis. Table 1 reveals the frequency and percentage of sample characteristics. Majority (66.7%) were aged between 20-25 years, 75.9 percent were females, 52.6 percent were qualified with GNM course, 76.3 percent were single, 36.3 percent had 1-2 years of experience, 58.5 percent were working in non- ICU, 75.9 percent worked 8 hrs of duty per day, 90.4 percent reported to have had balanced diet, 65.9 percent agreed that they performed stress reduction techniques, 47.8 percent experienced insomnia, 96.3 percent were self-motivated, 70.7 percent reported to have medium positive attitude and 93.7 percent reported that they had adequate social support and 94.1 percent described that they were able to balance life and work.

Table 2 depicts the challenges experienced by the staff nurses. The highest challenge communicated by the staff nurses was physical exhaustion and mental stress (72.6%). However, facilities and resources (72.2%) and availability of support (71.6%) were very close to the highest mean percentage. And the lowest challenge as stated by the staff nurses was fear and anxiety (22.2%).

Table 3 reveals the correlation be-

Table 2: Descriptive statistics of challenges experienced by staff nurses (N=270)

Aspects of challenges experienced	Mean	SD	Mean (%)	Median	Range
Fear and anxiety	3.333	3.237	22.2	3	0-15
Caring aspects	4.422	4.095	24.6	3.5	0-18
Physical exhaustion and mental stress	13.07	3.826	72.6	13	0-18
Personal sacrifice	8.941	3.378	59.6	9	2-15
Facilities and resources	10.84	2.871	72.2	11	1-15
Availability of support	12.89	3.358	71.6	13	0-18
Ethical challenges	5.996	1.442	66.6	6	0-8

Discussion

Table 3: Correlation between aspects of challenges experienced by staff nurses (N=270)

Challenges experienced	FA	CA	PE	PS	FR	AS	EC
FA	1.00	-	-	-	-	-	-
CA	-0.71**	1.00	-	-	-	-	-
PE	-0.20**	-0.18**	1.00	-	-	-	-
PS	-0.20**	-0.15**	0.27**	1.00	-	-	-
FR	-0.17**	-0.24**	0.35**	0.28**	1.00	-	-
AS	-0.24**	-0.31**	0.31**	0.20**	0.75**	1.00	-
EC	-0.18**	-0.16**	0.21**	0.29**	0.28**	0.28**	1.00

FA= Fear and Anxiety, CA= Caring Aspects, PE= Physical Exhaustion and Mental Stress, PS= Personal Sacrifice, FR= Facilities and Resources, AS= Availability of Support, EC= Ethical Challenges, **Correlation is significant at 0.01 level.

tween the aspects of challenges faced by the staff nurses. The study findings demonstrated that a significant correlation was found at 0.01 level for all aspects. Fear and anxiety and caring aspects had a significant negative correlation and remaining aspects had a significant positive correlation. Though the p value was significant, the value obtained for correlation displays a weak correlation.

Table 4 displays the association between the aspects of challenges faced by the staff nurses and demographic variables. All variables were not significantly associated. However, a few aspects with few demographic variables that were significant are highlighted.

Table 4: Association of challenges experienced with demographic variables (N=270)

Personal details	Fear and anxiety	Caring aspects	Physical exhaustion and mental stress	Personal sacrifice	Facilities and resources	Availability of support	Ethical challenges
Age (years)	NS	NS	NS	NS	NS	NS	3.043*
Gender	NS	2.114*	NS	NS	2.075*	NS	NS
Qualification	NS	NS	NS	NS	8.909**	5.467**	NS
Years of experience	NS	3.694*	NS	NS	NS	NS	NS
Department of work	2.204*	2.631*	NS	2.234*	NS	NS	NS
Hours of duty	NS	NS	NS	NS	NS	NS	4.592*
Daily balanced diet	NS	NS	2.162*	NS	3.504*	3.777*	NS
Stress reducing techniques	NS	NS	2.351*	NS	2.949**	2.805**	NS
Experience insomnia	NS	NS	3.474**	2.988**	2.050*	2.634**	1.995*
Self-motivated	NS	NS	NS	NS	NS	2.012*	NS
Positive attitude	5.711**	NS	5.472**	12.260**	6.682**	10.920**	3.616*
Adequate social support	NS	NS	NS	NS	2.578*	3.507**	NS
Able to balance personal life and work	2.138*	3.417**	NS	NS	2.298*	NS	NS

NS= Not Significant; * Significant at 0.05 ; **Significant at 0.001

The challenges experienced by the staff nurses in the present study demonstrated that physical exhaustion and mental stress (72.6%), facilities and resources (72.2%) and availability of support (71.6%) were the higher challenges. The lowest challenge as stated by the staff nurses was fear and anxiety (22.2%). There are studies that support and contrast as well. One study (Bai et al, 2004) on the spread of SARS revealed that health care staff felt uncertain and afraid that they might pass on the infection to their family members, friends and colleagues. This is in contrast to the present study finding.

Researchers in South Africa listed the challenges faced by the nurses who were taking care of patients infected with AIDS in the following areas: organisational and managerial challenges, personal and organisational support, financial and human resources and psychological and physical influences support (Mammbona & Mavhanduu-Mudzusi, 2019). Also, in another study on the experiences of nurses involved in the treatment of SARS patients, Bergeron et al (2006) found out that operational, organisational and personal problems were the most important challenges faced by the health care staff in Canada. Reports indicated that in China, nurses faced several challenges during Corona pandemic including shortage of nurses, lack of PPE, lack of experience, high work stress, fear, anxiety, and

unfamiliarity with Corona situation and infection with corona (Tan et al, 2020). Yet, another study corroborated the lack of sufficient workforce and equipment necessary to deal with Covid-19 condition. The dissatisfaction of the medical staff with lack of sufficient workforce and the shortage of necessary equipments and facilities

make health care staff more vulnerable (Jackson et al, 2020). One study demonstrated that 76 per cent of nurses only had required resources to deal with pandemic. Based on the amount of severely ill patients, medical facilities had to be evenly distributed. This was a challenge for medical personnel, particularly nurses (Cui et al, 2021). A study echoed having severe physical exhaustion with the increased workload. Less than half of the subjects were worried about lack of staffing and not receiving a reasonable wage (Vivek et al, 2022).

As for the correlational aspects of challenges, the present findings revealed that fear and anxiety and caring aspects had a significant negative correlation and remaining aspects had a significant positive correlation. A previous study demonstrated that the SARS-CoV-2 pandemic has negatively influenced nurses' emotions leading to high levels of stress and anxiety among majority of them (Iwona et al, 2021). Another study by Hendy et al (2021) revealed that fear of infection had a substantial influence on stress levels, as did a lack of access to PPE and training sessions related to Covid-19. Another study showed that prolonged working hours has a negative correlation to emotional ($r=0.165$), behavioural ($r=0.177$), and physical ($r=0.155$) dimension of the nurses at 0.01 level using Spearman's correlation. Yet, one more previous study demonstrated that mean depression, anxiety, and stress scale score was 33.4 (Taghaddom et al, 2020). The mean post-traumatic stress disorder scale was 29.3. Depression, anxiety and stress were strongly correlated to OSTD and work related quality of life was negatively correlated to PTSD, depression, anxiety and stress (Ijeoma et al, 2022).

Recommendations

A similar study using mixed method design can be conducted where staff nurses could be provided with opportunity to express their concerns.

A qualitative study on this subject alongwith solutions to overcome challenges would be useful.

Implications

The present study findings delineate the significance of improving nurses' working conditions by providing adequate protective equipment, a suitable work environment, and more social and psychological support; giving more attention to nurses' physical and mental health; and considering relevant mechanisms for nurses to communicate with their families and patients families.

Conclusion

Nurses play an important role in facilitating communication and cooperation between the health care team members. Organisations should begin

to work towards building positive ethical climates by repairing interpersonal connections through compassion and collaborative support. Different measures allow their clinicians to meet shifting priorities with the volume of patients in need of nursing care despite uncertainties about whether resources will be available to meet these care needs on a day-to-day basis.

The present study findings can help hospital authorities and managers to get deeper understanding of nurses' experiences so that they can take effective measures to solve the challenges they face. Also, health care workers are threatened by physical and mental health reverberations as they are in direct contact with Covid-19 patients. The following approaches may bring down the gravity of health reverberations: providing PPE and training on donning and doffing, adhering with meticulous infection control practices, decrease the duration of shift and allocating of mental health and support services.

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References

1. Marital S, Barzani E. The Global Economic Impact of COVID-19: A Summary of Research. Haifa Israel: Samuel Neaman Institute for National Policy Research; 2020
2. Powers R, Daily E. International Disaster Nursing. Cambridge: Cambridge University Press; 2010
3. Althobaity A, Alamri S, Plummer V, Williams B. Exploring the necessary disaster plan components in Saudi Arabian Hospitals. *Int J Disaster Risk Reduction* 2019; 41: 101316
4. Xie J, Tong Z, Guan X, Du B, Qui H, Slutsky AS. Critical care crises and some recommendations during the COVID-19 pandemic in China. *Intensive Care Med* 2020 46 (5): 837-40
5. Borasio GD, Gamondi C, Obrist M, Jox R. For the COVID task force of palliative ch. COVID-19: Decision making and palliative care. *Swiss Med Weekly* 2020. March; 150 (1314): w20233
6. Neto MLR, Almeida HG, Esmeraldo JD, et al. When health professionals look death in the eye: The mental health of professionals who deal daily with the 2019 Coronavirus outbreak. *Psychiatry Res* 2020; 288, 112972
7. Kim Y. Nurses experiences of care for patients with Middle East respiratory syndrome- coronavirus in South Korea. *Am J Infect Control* 2018; 46(7):781-87
8. Sun N, Wei L, Shi S, Jaio D, et al. A qualitative study on psychological experience of caregivers of COVID 19 patients. *Am J of Infect Control* 2020; 48(6): 592-98

9. Usher K, Gardner A, Buttner P, et al. The H1N1 influenza 09 and its potential impact on Australian nursing workforce. *Collegian* 2009; 16(4): 169-70
10. Said NB, Chiang VCL. The knowledge, skill competencies and psychological preparedness of nurses for disasters: A systematic review. *Int Emerg Nurs* 2020; 48: 100806
11. Bao Y, Sun Y, Meng S et al., 2019-nCoV epidemic: address mental health care to empower society. *Lancet* 2020; 395(10236): e37-38
12. Aiken LH, Clarke SP, Sloane DM, et al. Hospital nurse staffing and patient mortality, nurse burnout and job dissatisfaction. *JAMA* 2022; 328(16): 1987-93
13. Su TP, Lien TC, Yang CY, et al. Prevalence of psychiatry morbidity and psychological adaptation of the nurses in structured SARS caring unit during outbreak: A prospective and periodic assessment study in Taiwan. *J Psychiatr Res* 2007; 41(2): 119-30
14. Lovelace B. WHO says there's global shortfall of 5.9 million nurses as world battles Coronavirus pandemic. CNBC. April 6 2020
15. Maunder R, Lancee W, Balderson K, Benett J, Borgundvaag B, Evans, et al. Long term psychological and occupational effects of providing hospital health care during SARS outbreak. *Emerging Infect Dis.* 2006; 12(12): 1924-32
16. Brooks SK, Dunn R, Amlot R, Rubin GJ, Greenberg N. A systematic review of social and occupational factors associated with psychological outcomes in health care employees during an infectious disease outbreak. *J Occup Environ Med* 2018; 60(3): 248-57
17. Natasha S, Daniyal M, Junaid R. Physical and mental health impacts of COVID 19 on health workers: A scoping review. *International Journal of Emergency Medicine* 2020; July: 13-40.
18. Raj Rachna, Koyalada Sanjanya, Kumar Amit, Kumari Stuti, Pani Pooja, et al. Psychological impact of the COVID-19 pandemic on health care workers in India: an observational study. *Journal of family Medicine and Primary Care* 2020; 9(12): 5921-26
19. Bai Y, Lin CC, Lin CY, Chen JY, Chue CM, Chou P. Survey of stress reactions among health care workers involved with the SARS outbreak. *Psychiatr Serv* 2004; 55: 1055-57
20. Mammbona AA, Mavhandu-Mudzusi AH. Enrolled nurses experiences of caring for patients living with HIV in a South African rural hospital. *Int Nurs Rev* 2019; 66: 139-46
21. Bergeron SM, Cameron S, Armstrong-Stasen M, Pare K. Diverse implications of a National health crisis: A qualitative exploration of community nurses SARS experiences. *Can J Nurs Res* 2006; 38: 42-54
22. Tan R, Yu T, Luo K, Teng F, Liu Y, Luo J, et al. Experiences of clinical first line nurses treating patients with COVID 19: A qualitative study. *J Nurs Manag* 2020; 28: 1381-90
23. Jackson D, Anders R, Padula WV, Daly J, Davidson PM. Vulnerability of nurses and physicians with COVID- 19: Monitoring and surveillance needed. *J Clin Nurs* 2020; 29: 3584-87
24. Cui S, Jiang Y, Shi Q, Zhang L, Kong D, Qian M, et al. Impact of COVID-19 on anxiety, stress and coping styles in nurses in emergency departments and fever clinics: A cross sectional survey. *Risk Manag Health Policy* 2021; 14: 585-94
25. Vivek S, Varghese Sam, Ratheesh R, Kala Raghu. Nurses as Warriors: Challenges and impacts among kerala nurses during COVID 19 pandemic. *Journal of Pharmacy and Bio Allied Sciences* 2022; 14 (5): 439-43
26. Iwona M- Lipien, Maddalena S, Taduesz Wada, Teresa Gabrys, Maria Kozka, Agnieszka G, et al. The correlation between nurses COVID- 19 infections and their emotional state and work conditions during SARS- CoV-2 pandemic. *Int J Environ Res Public Health* 2021; 18 (23): 12715
27. Hendy A, Abozeid A, Sallam G, Fattah HAA, Reshia FAA. Predictive factors affecting stress among nurses providing care at COVID 19 isolation hospitals at Egypt. *Nurs Open* 2021; 8: 498-505
28. Taghaddom S, Alrashidi H, Mohamed H, Johnson M. The impact of coronavirus on staff nurses feeling while giving direct care to COVID-19 patients in various COVID-19 facilities. *Open Journal of Nursing* 2020; 10: 873-89
29. Ijeoma JE, Ifeoma E, Teri A. Psychological distress and work related QOL among oncology nurses during COVID-19 pandemic: A cross sectional study. *Clinical Journal of Oncology Nursing* 2022; 26(3): 268-74