

ORIGINAL RESEARCH

Work Place Barriers Experienced By Nurses To Caring For Patients In A Tertiary Level Hospital During Covid-19 Pandemic

¹Dr. Shashank Tyagi, ²Dr. Minu Bakna, ³Dr. Chakresh Jain, ⁴Dr. Madhav Kadam

¹Professor & head, Department of Biochemistry, SRVS Government Medical College, Shivpuri, M.P

²Assistant Professor, Department of Pathology, Government Medical College, Datia, M.P

³Assistant Professor, Department of Community Medicine, Shayam Shah Medical College, Rewa, M.P

⁴Assistant Professor, Department of Biochemistry, NSC Government Medical College, Khandwa, M.P

Corresponding Author

Dr. Madhav Kadam

Assistant Professor, Department of Biochemistry, NSC Government Medical College, Khandwa, M.P

Received: 10 June, 2023

Accepted: 22 July, 2023

ABSTRACT

Background: To reduce the likelihood of transmission of infection to health-care workers (HCWs), personal protective equipment (PPE) is used. However, various barriers challenges are faced during use of PPE, leads to poor compliance to PPE. Nurses as frontline workers are experiencing barriers while discharging their duties

Aim: This study aimed to explore nurses' perspectives on and experiences of safety-related challenges during the COVID-19 pandemic.

Methods: This was a descriptive type of cross-sectional study conducted among 300 nurses who were working in the non-COVID unit at a tertiary care hospital, central India. Sampling was done by convenience sampling method. A semi-structured questionnaire was administered to the respondents to obtain information. Data were collected through a face-to-face interview

Results: The study found that 83% of respondents were females, and the mean age was 30.8 ± 5.3 . 53% completed a diploma in nursing, 61% of their working experience was 1-5 years, and 53% were working in the inpatient department. The major barriers identified were lack of guidelines, shortage of PPE, inadequate training coverage, lack of area for doffing and donning, and inadequate social distancing. Statistical analysis showed that different departments of work had a significant association ($p < 0.05$) with inadequate training coverage.

Conclusions: The barriers identified in this study should be overcome to improve nurses' experiences in the workplace and in turn the quality of patient care during the COVID-19 pandemic.

Keywords: Nurses, PPE, Barriers, COVID-19 pandemic

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution- Non Commercial- Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

INTRODUCTION

On January 31, 2020, the World Health Organization (WHO) declared the novel coronavirus disease (COVID-19) a Public Health Emergency of International Concern (WHO 2020a) – the highest level of alarm for a public health emergency.¹ COVID-19 expanded quickly from China to the rest of the world; by August 31, 2020, it had infected about 25.1 million persons and killed 844,312 (WHO 2020b).² At the time of this research, in healthcare settings treatment of the disease is still uncertain, transmission is still widespread, and the mortality rate is not decreasing.³ Nurses are the frontline workers and providing medical care at the highest risk of getting COVID-19 and are experiencing barriers while discharging their duties.⁴ The rapid spread of the COVID-19 pandemic has become a major cause of concern for the healthcare profession, especially for nurses as most of the nurse's work involves direct

contact with the patients. They are assisting with monitoring vitals, administering medications, ensuring hygiene, and constant nursing care while risking their lives.^{5,6} In addition to their important role in the public health response to an epidemic event, nurses face barriers to fulfilling their duties.⁷ Nurses are working while dealing with a lack of essential items including personal protective equipment (PPE). They are also facing inadequate social distancing and a burdensome workload, and a shortage of staff.⁵ Indeed, we see reports that nurses in many countries of the world are grappling with shortages of much-needed supplies including personal protective equipment.⁸ Nurses also reported that they are facing exceptional workloads in resource constraint health facilities, and also a shortage of nurses in the hospital due to quarantine.⁹ However, when they respond to a pandemic such as COVID-19, they experience barriers that hinder them from caring for the patients.¹⁰ As nurses have the

closest contact with the patients and spend more time providing care to patients, therefore the nurses deserve much more attention.^{5,6}

MATERIAL AND METHODS

This was a descriptive type of cross-sectional study, conducted at tertiary care hospital, central India, from 01 March 2021 to 28 February 2022 (01 year duration). A sample size of 300 nurses was selected. The convenient method of sampling was followed.

Inclusion criteria

- Nurses working in non-COVID units
- Age \geq 18 year, regardless of gender
- Who willing for the study (provide consent)
- Currently employed in the our hospital

Exclusion criteria

- Age < 18 or > 50 year
- Nurses working in COVID units
- Nurses which not currently employed at the hospital
- Participants who not provide consent for the study

Data collection instruments included a semi-structured questionnaire and a modified Likert scale. The technique used was face-to-face interviews. Before data collection, written informed consent was obtained from each participant. Unstructured interview guide consisted of two parts were used. Part I of the questionnaire included socio-demographic characteristics of the study participants and Part II was the interview guide for questionnaire which explored the factors, which can be potential barriers to

the nurses while handling patients during covid 19 pandemic.

Statistical analysis: Data were analyzed using statistical package for social science (SPSS) software version 20. Frequency, percentage, Mean and standard deviation were calculated. P value <0.05 considered statistically significant

RESULTS

A total of 300 respondents were enrolled in our study. Among the respondents, most of them 117 (39%) were within the age group 18-29 years, mean age \pm standard deviation of the respondents was 30.8 \pm 5.3. Majority of the respondent (83%) were female and 82% was married. More than half (53%) of the respondent's professional qualifications were up to a diploma in nursing, 61% of the respondent's working experience was within 1-5 years, Among them, 53% were working in the inpatient department. Most of their family member 80% were between 1-4 and 58% of belonged to middle class family [table:1] Of the 27 barriers listed in the questionnaire in this study as a barrier, sometimes a barrier and not a barrier, Table 2 shows a statistically significant association found between the department of work and shortage of PPE, inadequate training coverage, , inadequate social distancing and lack of a specific area for doffing and donning. Data analysis also found a statistically significant association between age group and inadequate training coverage (p=0.003).

Table 1: Distribution of the respondents by socio-demographic characteristics

Characteristics	Frequency (n=300)	Percentage(%)
Age (years)		
18-29	117	39
30-34	108	36
35-39	42	14
40-44	18	6
45-50	15	5
Gender		
Male	51	17
Female	249	83
Marital status		
Married	246	82
Unmarried	39	13
Divorced	15	5
Professional qualification		
Diploma in nursing	159	53
BSc in nursing	72	24
Masters in nursing	39	13
Master's in public health	30	10
Working experience (years)		
<1	42	14
1-5	183	61
>5	75	25

Department of work		
Inpatient	159	53
Outpatient	75	25
Emergency	36	12
ICU	30	10
Family member		
1-4	240	80
5 and above	60	20
Socio-economic status		
Lower	90	30
Middle	174	58
Upper	36	12

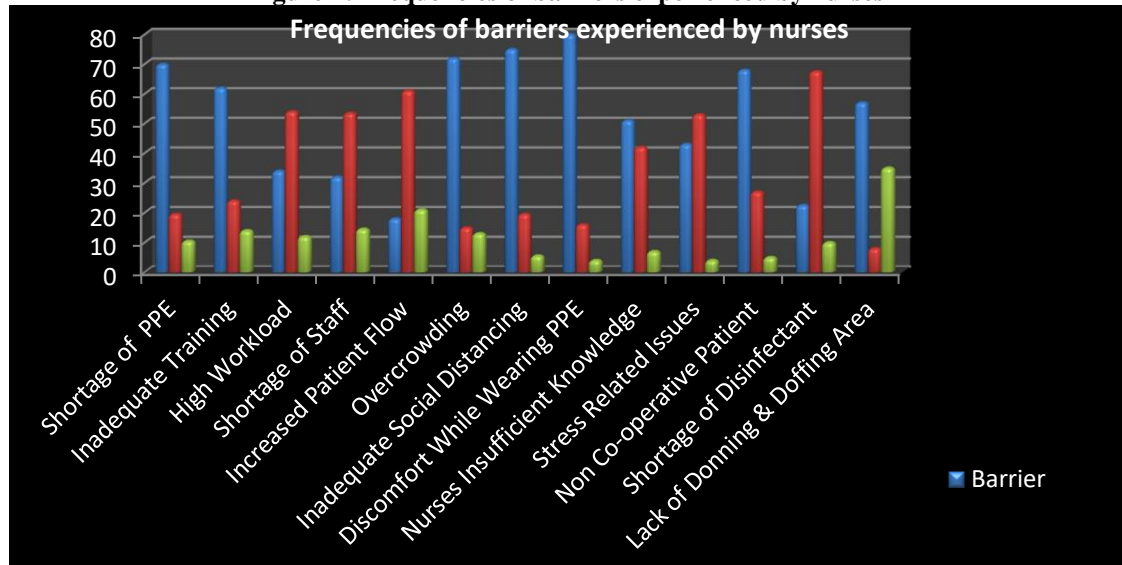
Table 2: Association between respondents status and barriers experienced by nurses

Respondents Status	Barriers experienced by nurses	Barrier (%)	Sometimes a barrier (%)	Not a barrier (%)	Total	P value
Department of work						
Inpatient	Shortage of PPE	126 (79.3)	29 (18.2)	4 (2.5)	159	<0.001
Outpatient		67 (90.5)	6 (8.1)	1 (1.4)	74	
Emergency		24 (64.9)	6 (16.2)	7 (18.9)	37	
ICU		6 (20)	7 (23.3)	17 (56.7)	30	
Inpatient	Inadequate training coverage	120 (75.5)	27 (17)	12 (7.5)	159	<0.001
Outpatient		53 (71.4)	14 (18.4)	7 (10.2)	74	
Emergency		21 (56.8)	10 (27)	6 (16.2)	37	
ICU		7 (23.3)	14 (46.7)	9 (30)	30	
Inpatient	Lack of specific area for doffing and donning	90 (56.6)	14 (8.5)	55 (34.9)	159	<0.001
Outpatient		66 (89.2)	4 (5.4)	4 (5.4)	74	
Emergency		9 (24.3)	10 (27)	18 (48.7)	37	
ICU		4 (13.3)	1 (3.3)	25 (83.4)	30	
Inpatient	Inadequate social distancing	138 (86.8)	19 (12)	2 (1.2)	159	<0.001
Outpatient		69 (93.2)	3 (4.1)	2 (2.7)	74	
Emergency		12 (32.4)	21 (56.8)	4 (10.8)	37	
ICU		3 (10)	20 (66.7)	7 (23.3)	30	
Age group (in years)						
18-29	Inadequate training coverage	79 (67)	32 (27.1)	7 (5.9)	118	0.003
30-34		78 (73.6)	19 (17.9)	9 (8.5)	106	
35-39		29 (69)	7 (16.7)	6 (14.3)	42	
40-44		12 (66.7)	2 (11.1)	4 (22.2)	18	
45-50		5 (31.2)	4 (25)	7 (43.8)	16	

Figure: 1 shows that among the respondents, the most commonly experienced organizational barriers in this study were lack of guidelines on COVID-19 prevention 82% and shortage of PPE 75%, inadequate training coverage 67%, lack of protocol for triage and isolation 63% and rest of the two barriers reported as sometimes a barrier that is lack of acknowledgment of nursing services and lack of incentives. Service-related barriers experienced, inadequate social distancing 74%, overcrowding 73%, lack of specific area for doffing and

donning 56% and poor communication with physicians 53%. High workload, shortage of staff, increased patient flow, lack of support by other staff, shortage of disinfectant, and inadequate environmental surface cleaning were reported as sometimes a barrier and not a barrier.

Figure 1: Frequencies of barriers experienced by nurses



DISCUSSION

In these times of COVID pandemic, it became important for HCWs to protect themselves from the infection as far as it was possible with the help of PPE. The present study explored various barriers faced by nursing staff in a tertiary care hospital during COVID pandemic. In our study it was found that the majority of the respondents were 18-29 years age group, female:” with a mean \pm SD age of 30.8 ± 5.3 , similar results reported by Jin Z, et al [11] and Etafa W, et al [12]. Present study observed most of the participants were unmarried and professional qualifications were up to a diploma in nursing, concordance finding also found by Amoah V, et al [13]. Three thematic areas were developed from the discussions: individual factors, organizational and environmental factors, and physiological factors. The major barriers reported by almost all the PPE users were the improper size and poor quality of PPE. These findings were similar in previous studies done at the time of influenza virus where lack of fit, lack of comfort, and lack of durability were found to be main barriers while working in PPE [14-15]. To ensure equality of care evidence and research-based practical guidelines for frontline nurses must be developed, disseminated, and adopted. In this study results revealed most of the respondents experienced a lack of guidelines on COVID-19 prevention as a barrier, consistent with the Shahmari, M. et al [16]. Current study reported that many of the participants reported that they experience pain, headache, and suffocation while working in PPE. This explains the individual perceptions and inconvenience regarding PPE use. The non availability of specific items and sizes was also noted a significant organization-level barrier, which was found to be an issue for the nursing staff,

our results were correlate with the Barker AK et al [17] and Kumar MS et al [18]. Furthermore, some of the international research found that the absence of PPE was found to affect the quality of work and also endanger the livelihoods of nurses, like H. V., Richards et al [19] Our study reported inadequate social distancing; non-cooperative patient’s behavior and overcrowding were some major barriers, similar finding observed by a study conducted by Saqlain et al [20]. Current study respondents experienced inadequate training coverage and lack of specific area for doffing and donning as a barrier, correlate with the Sharma M, et al [21]. Present study observed respondent has poor communication with the physician, and insufficient knowledge of nurses as perceived barrier, our results concordance to the many other studies [22-24].

Recommendation: we have recommended some more research should be conducted at an administration level to tackle these barriers effectively. We advocate the administration to address these barriers and motivate them for proper usage of PPE. Moreover, an interventional research study can be undertaken to find the effectiveness of a program or policy, which will be helpful in overcoming these barriers.

CONCLUSION

We have concluded that the use of PPE is the main weapon for HCWs to counter the transmission of infection. Individual, physiological, organizational, and environmental were the main barriers. There is an urgent need to address these barriers to administration to take remedial measures and promote proper use of

PPE that will facilitate comfort and safety to Nurses and thus help in better care of COVID-19 patients

Conflicts of Interest: None

Source of Funding: None

REFERENCES

- Al-Rabiaah, A., et al. (2020) Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) associated stress among medical students at a university teaching hospital in Saudi Arabia. *Journal of Infection and Public Health*, 13, 687–691.
- Billings, J., et al. (2020) Healthcare workers' experiences of working on the frontline and views about support during COVID-19 and comparable pandemics: A rapid review and meta-synthesis. Advance online publication. MedRxiv. <https://doi.org/10.1101/2020.06.21.20136705>.
- Butler, A., Hall, H. & Copnell, B. (2016) A guide to writing a qualitative systematic review protocol to enhance evidence-based practice in nursing and health care. *Worldviews on Evidence-Based Nursing*, 13, 241–249. <https://doi.org/10.1111/wvn.12134>.
- Nyashanu M, Pfende F, Ekpenyong M. Exploring the challenges faced by frontline workers in health and social care amid the COVID-19 pandemic: experiences of frontline workers in the English Midlands region, UK. *J Interprof Care*. 2020; 34(5):655-61.
- Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *The Lancet Global Health*. 2020; 8:790-8.
- Huang L, rong Liu H. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. *MedRxiv*.2020.
- Muller MP, Carter E, Siddiqui N, Larson E. Hand Hygiene Compliance in an Emergency Department: The Effect of Crowding. *Acad Emerg Med*. 2015; 22(10):1218-21.
- Jackson D, Bradbury-Jones C, Baptiste D, Gelling L, Morin K, Neville S, Smith GD. Life in the pandemic: Some reflections on nursing in the context of COVID-19. *J Clin Nurs*. 2020.
- Sethi A, Aamir HS, Sethi BA, Ghani N, Saboor S. Impact on Frontline Nurses in the Fight Against Coronavirus Disease. *Annals KEMU*. 2020; 26:120-5.
- Thobaity A, Alshammari F. Nurses on the frontline against the COVID-19 Pandemic. *Dubai Med J*. 2020; 3:87-92.
- Jin Z, Luo L, Lei X, Zhou W, Wang Z, Yi L, Liu N. Knowledge, Attitude, and Practice of Nurses Towards the Prevention and Control of COVID-19. *Research Square*. 2020
- Etafa W, Argaw Z, Gemechu E, Melese B. Nurses' attitude and perceived barriers to pressure ulcer prevention. *BMC Nursing*. 2018;17(1):1-8.
- Maame Kissiwaa Amoah V, Anokye R, Boakye DS, Gyamfi N. Perceived barriers to effective therapeutic communication among nurses and patients at Kumasi South Hospital. *Cogent Medicine*. 2018;5(1):1459341.
- Loibner M, Hagauer S, Schwantzer G, Berghold A, Zatloukal K. Limiting factors for wearing personal protective equipment (PPE) in a health care environment evaluated in a randomised study. *PLoS One* 2019; 14:e0210775.
- Tamene A, Afework A, Mebratu L. A qualitative study of barriers to personal protective equipment use among laundry workers in government hospitals, Hawassa, Ethiopia. *J Environ Public Health* 2020;1-8
- Shahmari, M., Nayeri, N.D., Palese, A., & Manookian, A. (2022) Nurses' safety-related organizational challenges during the COVID-19 pandemic: A qualitative study. *International Nursing Review*, 1–10.
- Barker AK, Brown K, Siraj D, Ahsan M, Sengupta S, Safdar N. Barriers and facilitators to infection control at a hospital in northern India: A qualitative study. *Antimicrob Resist Infect Control* 2017; 6:35.
- Kumar MS, Goud BR, Joseph B. A study of occupational health and safety measures in the laundry department of a private tertiary care teaching hospital, Bengaluru. *Indian J Occup Environ Med* 2014; 18:13-20.
- H. V., Richards, D. A., Russell, A-M, Burnett, S., Cockcroft, E. J., Thompson Coon, J., Cruickshank, S., Doris, F. E., Hunt, H. A., Iles-Smith, H., Kent, M., Logan, P. A., Morgan, L. M., Morley, N., Rafferty, A. M., Shepherd, M. H., Singh, S. J., Tooze, S. J., & Whear, R. (2023). Nurses' strategies for overcoming barriers to fundamental nursing care in patients with COVID-19 caused by infection with the SARS-COV-2 virus: Results from the 'COVID-NURSE' survey. *Journal of Advanced Nursing*, 79, 1003–1017.
- Saqlain M, Munir MM, Rehman SU, Gulzar A, Naz S, Ahmed Z, Tahir AH, Mashhood M. Knowledge, attitude, practice and perceived barriers among healthcare workers regarding COVID-19: a cross-sectional survey from Pakistan. *J Hospital Infect*. 2020; 105(3):419-23.
- Sharma M, Sharma D, Sharma AK, Mohanty A, Khapre M, Kalyani CV. Barriers faced by health-care workers in use of personal protective equipment during COVID pandemic at tertiary care hospital Uttarakhand, India: A qualitative study. *J Edu Health Promot* 2022; 11:74,1
- Akter M, M. Mondol AR, Sultana H. Workplace barriers experienced by nurses in a tertiary level hospital during COVID-19 pandemic. *Int J Community Med Public Health* 2023; 10:1720-5.
- Maame Kissiwaa Amoah V, Anokye R, Boakye DS, Gyamfi N. Perceived barriers to effective therapeutic communication among nurses and patients at Kumasi South Hospital. *Cogent Medicine*. 2018;5(1):1459341.
- Sugg, H. V., Richards, D. A., Russell, A-M, Burnett, S., Cockcroft, E. J., Thompson Coon, J., Cruickshank, S., Doris, F. E., Hunt, H. A., Iles-Smith, H., Kent, M., Logan, P. A., Morgan, L. M., Morley, N., Rafferty, A. M., Shepherd, M. H., Singh, S. J., Tooze, S. J., & Whear, R. (2023). Nurses' strategies for overcoming barriers to fundamental nursing care in patients with COVID-19 caused by infection with the SARS-COV-2 virus: Results from the 'COVID-NURSE' survey. *Journal of Advanced Nursing*, 79, 1003–1017