ISSN: 0974-5823 Vol. 7 No. 1 January, 2022

International Journal of Mechanical Engineering

Experiences of Nursing Professionals Involved in the Care of COVID19 Patients: A Qualitative Study

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Introduction: The outbreak of SARS-COV-2 has become an opportunity for nursing professionals of North Eastern states of India to experience handling of patients during pandemics with limited resources.

Objectives: To explore the experiences of nursing staff in the care of COVID-19 patients.

Methodology: Descriptive qualitative study was undertaken to describe the experiences of nursing professionals involved in the care of COVID-19 patients in selected hospitals/COVID centres of Assam, India. The participants were selected using purposive and snowball sampling. Fourteen (14) numbers of nurses were included in the study based on data saturation.

Semi-structured, in-depth telephone interviews were done and recorded at a prescheduled time convenient for participants from 4 August 2020 to 30 September 2020. The telephonic interview took 25-30 minutes per person.

Results: The experiences of nurses caring for COVID-19 patients were summarized into 4 themes and various sub-themes. The themes include: Perspectives about COVID-19 duty, Experience on PPE kit, Conflicts & disagreements and Swab test & the final stage of isolation. Nurses reported changing patterns of nursing care, anxiety regarding COVID-19 duty, professional growth amidst risks and pressure. They also stated physical discomforts like heavy sweating accumulating inside their shoes, restricted fluid intake and bowel and bladder evacuation needs, suffocation, visual difficulty due to fogging while working with PPE. The nurses had to work under certain conflicts and disagreements in relation to patient care, their personal and career related decisions and interprofessional role distribution. At the final stage of isolation, most nurses were prepared to handle the situation even if they test COVID-19 positive.

Conclusion: During this COVID-19 outbreak, positive and negative emotions of the front-line nurses interweaved and coexisted. The experience was new and challenging, the nurses had contributed in the management of COVID-19. Nurses could imbibe new skills and are prepared to handle such pandemics in future.

Key Words: Corona virus disease 2019 (COVID-19), Nursing Professionals, Experience, Qualitative study.

INTRODUCTION

An ongoing outbreak of pneumonia associated with a novel corona virus designated 2019-novel corona virus (2019-nCoV) was reported in Wuhan city, Hubei province in late December 2019.[1] On 11 March 2020, WHO declared Novel Corona virus Disease (COVID-19) outbreak as a pandemic and reiterated the call for countries to take immediate actions and scale up response to treat, detect and reduce transmission to save people's lives.[2]

Healthcare workers (HCWs) were at the frontline during the battle against emerging infectious diseases to save lives while endangering their own. It has been reported that HCWs were the most at risk, accounting for 21% to 24% of all cases worldwide and Canada had the highest proportion of HCWs affected (43%), with China coming in a close second (40.8%).[3] It is imperative to

ensure the safety of health-care workers not only to safeguard continuous patient care but also to ensure they do not transmit the virus.[4]

Unconditional and unprejudiced servitude is one of the principles health workers around the world adhere to, especially in time of peril as the present day. The exposure to the virus causes debility, morbidity and mortality - but to a significant extent, also leads to immense physical and psychological exhaustion. In addition to battling endless hours, draining shifts, staff shortages and deficient supplies, most are isolated from their families, affecting them emotionally and physically.[5]

A phenomenological study among Australian nurses in H1N1 Influenza pandemic revealed that personal protective equipment, infection control procedures, fear of contracting and transmitting the disease, new roles for staff, training for extracorporeal membrane oxygenation and patient care challenges were the most frequently reported challenges of the nurses.[6]

A qualitative study in South Korea during Middle East Respiratory Syndrome (MERS) outbreak showed that the nurses' main experiences in this regard were feeling burnout owing to the heavy workload.[7]

The health and safety of health-care providers are crucial not only for continuous and safe patient care, but also for control of any outbreak. There are few studies carried out on experience of nurses dealing with COVID -19 patients in India.

In the study settings, the nurses were sent on 14-day quarantine after seven days of their duty (The Assam Tribune, 7 April 2020), later the quarantine period was reduced to 7 days. The aim of conducting this study is to understand and explore the experiences of nurses during Novel corona virus outbreak. The researchers also attempt to bring out the focus areas which can be taken care of to enhance quality of nursing care. Hence a qualitative study was conducted with the objective to explore the experiences of nursing staff involved in the care of COVID -19 patients.

MATERIALS AND METHODS

Study designs and Participants:

A descriptive qualitative study was undertaken through telephonic interviews, used to describe the experiences of nursing professionals involved in the care of COVID -19 patients in selected hospitals/COVID centres of Assam, India. Qualitative description (QD) is a label used in qualitative research for studies which are descriptive in nature, particularly for examining health care and nursing- related phenomena.[8] Prior theoretical framework was not selected for this study because the researchers were attempting to obtain an unbiased perspective of nurses' experiences.

The nurses who were assigned the duty in care and treatment of COVID-19 positive patients by State Health Authority in different hospitals and COVID centres and nurses who have completed at least one round of duty including quarantine period were selected using purposive and snowball sampling. The sample size was determined by data saturation where majority of the participants expressed similar experiences and no new themes from participants' experiences arise. Thus, the investigators included 14 (fourteen) nurses in the study. The participants were assured of data confidentiality and anonymity. Verbal informed consent for data collection and audio recordings of the interviews was obtained from the participants after explaining the objectives and nature of the study. In order to collect qualitative data on Nurses' experience, the in-depth interviews were audio recorded. The recordings and transcripts were protected digitally.

Data collection procedure:

A semi-structured interview questionnaire was prepared after reviewing related literature, validated by three (3) experts from the field of Nursing. The questions included were open ended questions which allowed participants to express their experiences without putting any restriction.

In-depth telephone interviews were done at a prescheduled time convenient for participants from 4th August 2020 to 30th September 2020. The telephonic interview took 25-30 minutes per person. The researchers remained neutral during the entire period of data collection. Active listening and clarification techniques were used during communication with participants to collect authentic data thereby avoiding bias. Probing questions, such as "Please explain in detail about that" were used to enhance the depth of information.

RESULTS AND DISCUSSION

The investigators had collected data on some demographic characteristics of the nurses. Demographic data was analysed using descriptive statistics in terms of frequency and percentages (Table 1).

The audio recordings of the interviews on the experiences of nursing professionals involved in the care of COVID -19 were transcribed immediately after the interviews were completed. After completion of data collection from all the participants, the transcribed notes were cross checked from each participant to ensure accuracy of the data collected. Interview findings were summarised by the investigators and meaningful statements were extracted and some themes were formulated and described. The findings are validated from the participants.

Table-1: Demographic Characteristics of the nurses:

n=14

SL.NO.	Demographic Characteristics	Frequency	Percentage (%)
1	**Age (years):**		
	21-30	06	42.9
	31-40	05	35.7
	41-50	03	21.4
2	**Educational Qualification:**		
	Diploma in Nursing	06	42.9
	Graduate in Nursing	04	28.6
	Post Graduate in Nursing	04	28.6
3	**Marital Status:**		
	Married	04	28.6
	Unmarried	10	71.4
4	**Clinical Experience:**		
	1-5 years	08	57.1
	6-10 years	02	14.3
	11-15 years	02	14.3
	16-20 years	02	14.3
5	**Types of Hospital:**		
	Tertiary Hospital	07	50
	District Hospital	02	14.3
	COVID Centres	05	35.7
6	**Area of posting:**		
	General Ward	09	64.3
	ICU	05	35.7
7	**Received Training on Infection control:**		
	Yes	14	100
	No	00	00
8	**Immunity boosting Agents taken:**		
	Government Supplied	05	35.7
	Self-Administered	09	64.3

Table-1 shows distribution of demographic characteristics of the nurses. Out of 14 nurses, 6 (42.9%) were in the age group of 21-30 years, 5 (35.7%) were in the age group of 31-40 years and 3 (21.4%) were in the age group of 41-50 years;6 (42.9%) had diploma in Nursing, 4 (28.6%) were Nursing graduates and 4 (28.6%) had post-graduation, Nursing degree; 4 (28.6%) were married having children and 10 (71.4%) were unmarried; 8 (57.1%) had clinical experience of 1-5 years, 2 (14.3%) had clinical experience of 6-10 years, 2 (14.3%) had clinical experience of 11-15 years, 2 (14.3%) had clinical experience of 16-20 years; 7 (50%) executed COVID-19 duty in tertiary level hospital, 2 (14.3%) in District hospital and 5 (35.7%) in COVID-19 Centres; 9 (64.3) were assigned COVID-19 duty in ICU and 5 (35.7%) in general wards; all (100%) of them received training on Infection control; 5 (35.7%) received and took government supplied immune boosting agents and 9 (64.3%) of them self-administered those agents.

Analysis on the experiences of nursing professionals in the care of COVID-19 patients:

The investigators have categorised the findings of the semi-structured interview in to four broad themes which are derived from the data after repeated modification to achieve heterogeneity between themes and homogeneity within the theme. The themes are then divided into various sub-themes. The data analysis also includes specific verbatim under each theme.

Theme-1: Perspectives about COVID-19 duty:

a. Changing patterns of Nursing Care

All study participants experienced significant amount of increase in workload as numbers of patients continued to rise. None of the nurses had previous experience of rendering nursing care for patients with such a contagious disease. In spite of busy routine in ICU, nurses made efforts to comfort and relieve patients' emotional needs by providing psychological support and other divisional therapy like music therapy.

Mandatory quarantine of health workers after the completion of their duty in COVID wards/centres caused decreased numbers of nurses in proportion to numbers of patients.

The following verbatim were extracted under this sub-theme:

"It took a lot of time to do routine assessments like blood sugar, oxygen saturation, TPR, BP of individual patients as only two nurses were assigned for a large number of patients in the ward per shift."

"Some patients with co morbidities like CKD, DM, and anaemia needed more attention."

"Some COVID patients were found with sudden and serious breathing difficulties in comparison to general medicine wards."

"To work in ICU, it needs more mental and physical preparation. As the COVID ICU set up is new, some equipment /articles were not readily available, and we had to indent often which consumed extra time and energy."

"I always felt I must go an extra mile in my work."

b. Working conditions and Environmental Adjustments

Most of the participants (n=10) expressed physical discomfort while working with PPE. Some nurses (n=4) also experienced insomnia, restlessness and tiredness. They also expressed suffering from headache and inability to eat food out of anxiety. All nurses expressed concern about risk of transmission of the disease being in that environment. Following verbatim were extracted under this sub-theme:

"I felt, I was more at risk of getting infection."

"I was very restless, could not eat anything before going to duty."

"I was not able to sleep the whole night the day before duty started."

"I had to go for three rounds of COVID duty (till date) as there was shortage of nursing staffs in the hospital."

"I was very tired and experienced headache most of the day after completion of my shift. Also, there were 3-4 nurses' station as two of us (nurses) had to provide care to patients in different wards located at 2-3 floors of the hospital."

c. Growth amidst Risk and Pressure

Most nurses (n=11) had experienced emotions such as fear, anxiety and stress. Although there were some negative emotions at the early stage, these subsided after they were on continuous duty. Most nurses (n=13) expressed that, they could adapt to the situations after some time on duty. Despite difficult conditions and challenges in the fight against the disease, most nurses (n=13) expressed happiness and fulfilment. The nurses felt extremely blessed by words of satisfaction of the COVID-19 positive patients and took it as achievement for life.

The following verbatim was extracted under this sub-theme: *"It was immense joy inside, that I could be a part of and successfully complete such a challenging assigned job. Now, I believe that I can further face challenges in life."*

Theme 2: Experience on PPE kit:

Even though few nurses had used PPE before emergence of Covid-19 but wearing full set of PPE kit was new experience for all the nurses. Most of them had experienced physical discomfort at various levels. Some of the nurses (n=7) also asserted to be safe from getting infection because they were wearing PPE.

With the continuous rise in number of patients, same team of nurses were assigned in more than one ward located in different floors of the designated COVID blocks of the hospital. Nurses wearing PPE kit had to struggle to climb the stairs while going to different wards of the hospital. Some Nurses reported of managing accidental falls.

The following verbatim were extracted under this sub-theme:

"I had to put on PPE kit for 8 long hours continuously, experienced heavy sweating which accumulated inside my shoes, leaving them wet which didn't get dry during the whole duty hours and made it slippery to walk. Before donning of PPE, I had to restrict my fluid intake as I knew that I cannot use washroom while on duty. Also, I felt severely dehydrated as I could not drink water even when thirsty because of PPE during this hot summer season."

"It was painful because of big goggles, felt pain on my nasal bone on wearing it for long hours. Mask was not sealed properly, which caused the expiratory air to enter into the goggles and made it foggy. And because of this, I felt difficulty in visualizing while placing I/V cannula and doing other procedures in the ward including documentation.

"I couldn't wear my specs (medically prescribed spectacles) as it didn't fit inside the goggles of PPE kit. So, it caused strain on my eyes."

"The rubber band of my face shield was very tight."

Theme 3: Conflicts and disagreements:

Most nurses (n=6) expressed various situations of conflicts and disagreements in relation to patient care and communication with patients, their personal and career related decisions and inter-professional role distribution. Despite these mental and physical conflicting situations, the nurses were determined to work harmoniously.

The following verbatim were extracted under this theme:

"Many patients behaved rude and complained about lack of taste in the hospital foods. It is challenging and very difficult to make them understand that lack of taste is one of the symptoms of COVID-19. Many times, patients behaved aggressive also. The same foods were served to staffs and quality and taste was good on an average."

"Many times, I felt overburdened and conflicted with orders from the authority to record videos of different activities like patient care, cleaning, food supply/distribution etc. inside the ward. Also, I had to assist lab technicians in the wards while collecting swabs as they ask for."

Theme 4: Swab test and the final stage of isolation:

a. Self-reflection, confidence and emotional chaos

Most nurses (n=9) had a positive response of fighting COVID-19, even if they test positive. They were mentally prepared to handle the situation even if they become COVID positive. The following verbatim were extracted under this theme:

"I was not fearful about the results. Even if I get positive, I will be hospitalized and will receive care and treatment in the same way I am rendering to my patients."

"Apart from fear of getting positive, I was much concerned about staying away for about 2 more weeks from my child if I get positive."

b. Experience of quarantine and post quarantine period

The nurses shared mixed experiences of happiness and boredom during their quarantine period when they were kept isolated in hotels by State health authority. Most of them (n=12) expressed that they could take complete rest being in hotels and also, they were free from the trouble of quarantining themselves in their home set up.

As the State health authority had to make facility for quarantine of large number of health workers, shared rooms were allotted to them in some quarantine facility. This aroused safety issues of getting infection from co-workers (probably) among some of the nurses (n=5). One of the nurses faced certain difficulties with the food being served in hotels as she was already diagnosed with Irritable Bowel Syndrome.

After facility quarantine, the nurses had to undergo home quarantine as per the protocol of State Health Authority. Most nurses (n=14) were overwhelmed to be able to meet their family and children after days of separation. Post quarantine, Nurses (n=12) were committed to take the responsibility to do COVID duty if assigned again. Few of them (n=2) expressed not to resume COVID duty as it was exhaustive and risky.

Discussion

Findings similar to the present research are seen in a study conducted in China (2020) where nurses experienced negative emotions in early stage consisting of fatigue, discomfort, and helplessness caused by high-intensity work, fear and anxiety, and concern for patients and family members. The study also showed growth under pressure, which included increased affection and gratefulness, development of professional responsibility, and self-reflection.[9] In contrast to these findings, a study conducted in Iran (2020) suggested that the nurses had to choose between caring for either themselves or patients, and that created a duality between fear and conscience during patient care. Verbatim to support this is given below- "*I feel sad for myself that I have to take care of people who may infect me at any moment, and I may infect my family, or I may even die …".*[10]

The study findings showed nurses working for long hours in PPE was a major physical and professional challenge. PPE caused heat, suffocation, heavy sweating, sweats accumulating in shoes making difficult to move, decreased visibility, dehydration due to restrictions in drinking and pain in the nasal bone. Supportive findings are seen in many studies.[10, 11]

The present study found various situations of nurses' conflicts and disagreements in relation to patient care and communication with patients, their personal and career related decisions and inter-professional role distribution. Similar findings are also suggested by a study done in Australia during H1N1 Influenza pandemic period (2009).[6]

The present study depicts that most nurses (n=9) had a positive response of fighting COVID-19, even if they test positive. Post quarantine, nurses (n=12) were committed to take the responsibility to do COVID duty if assigned again. This finding of the study is in contradiction to the findings of a study done in Jeddah City (UAE) in July'2020 which suggested that the main reasons that made some participants unwilling to continue duty were the lack of rewards and incentives (28.3%), and an unsafe work environment (40.0%).[12]

CONCLUSION

The experience was new and challenging, the nurses had contributed enormously in the management of COVID-19. During this COVID-19 outbreak, positive and negative emotions of the front-line nurses interweaved and coexisted. Nurses could imbibe new skills and are prepared to handle such pandemics in future. In-depth training, counselling and provision of infrastructural facilities for nurses by the health authority would be productive for maintaining quality care. Manpower planning and specific role distribution by policy makers are vital to improve nursing care both during and following a pandemic or epidemic.

ACKNOWLEDGEMENT

We express our gratitude to all the participants who consented to volunteer in the project. The authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript.

Conflict of Interest: Nil
Source of funding- This research project was self funded by the researchers.

REFERENCES

1. Chaolin H, Yeming W, Xingwang L. et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China.Lancet 2020;395:497–506. Available from URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7159299/
2. Situation update as on: 09 July 2020, Available from URL: https://www.who.int/india/emergencies/coronavirus-disease-(covid-19)
3. Chen P, Lei J, Chen F. Zhou B.Experiences and perceptions risk of health-care workers from coronavirus- A protocol for systematic review**.** May 15, 2020; 99(20): e20308Available from URL:https://journals.lww.com/md-journal/Fulltext/2020/05150/Experiences_and_perceptions_risk_of_health_care.96.aspx#JCL-P-12
4. Chang D, Xu H, Rebaza A, Sharma L, Cruz CSD. Protecting health-care workers from subclinical coronavirus infection. Lancet Respir Med. 2020 Mar; 8(3): e13. doi: 10.1016/S2213-2600(20)30066-7.Available from URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7128440/
5. Nagesh S, Chakraborty S. Saving the frontline health workforce amidst the COVID-19 crisis: Challenges and recommendations. J Glob Health. 2020 Jun; 10(1): 010345.doi: 10.7189/jogh-10-010345.Available from URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7183244/
6. Corley A, Hammond NE, Fraser JF. The experiences of health care workers employed in an Australian intensive care unit during the H1N1 Influenza pandemic of 2009: a phenomenological study. Int J Nurs Stud. 2010 May;47(5):577-85. doi: 10.1016/j.ijnurstu.2009.11.015. Available from URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7125717/
7. Kim J. Nurses' Experience of Middle East Respiratory Syndrome Patients Care. Journal of the Korea Academia-Industrial Cooperation Society, 2017. 18(10), 185–196. Available from URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7132718/
8. Polit DF, Beck CT. Essentials of Nursing Research: Appraising Evidence for Nursing Practice. 8. Philadelphia, PA:Wolters Kluwer Health; Lippincott Willians & Wilkins; 2014. Supplement for Chapter 14: Qualitative Descriptive Studies. Retrieved from: http://downloads.lww.com/wolterskluwer_vitalstream_com/sample-content/9781451176_polit/samples/CS_Chapter_14.pdf. [Google Scholar] [Ref list]
9. Niuniu S,Luoqun W,Suling S,Dandan J, Runluo S, M Lili. et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020 Jun; 48(6):592–598. doi: 10.1016/j.ajic.2020.03.018. URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7141468/

10. Galehdar N, Kamran A, Toulabi T, Heydari H. Exploring nurses' experiences of psychological distress during care of patients with COVID-19: a qualitative study. *BMC Psychiatry* **20,** 489 (2020). https://doi.org/10.1186/s12888-020-02898-1. Available from URL: https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-020-02898-1
11. Qian L, Dan L, Joan EH, Qiaohong G. Xiao QW, Shuo L. et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. The Lancet. Global Health.8(6) E790-98, JUNE 01, 2020. doi:https://doi.org/10.1016/S2214-109X(20)30204-7. Available from URL: https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30204-7/fulltext
12. Aljedaani S. Quarantine and isolation: nurses' conditions during COVID-19 in Jeddah City. Journal of Nursing Education and Practice. 2020 July:10(10):90. doi: 10.5430/jnep.v10n10p90. Available from: https://www.researchgate.net/publication/342989988_Quarantine_and_isolation_nurses_conditions_during_COVID-19_in_Jeddah_City