

# A Study to Assess the Lived in Experiences of Staff Nurses Caring COVID-19 Patients in Sharda Hospital Greater Noida, UP

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**Abstract:** *Healthcare staff, especially nurses, who are in the frontline of caring of patients with COVID-19 have valuable experiences about taking care of these patients. COVID-19 infection is a new disease that infects a large number of people, killing a ratio of whom every day in the world. Healthcare staff, especially nurses, experience a great deal of psychological distress during care of COVID-19 patients. Detecting factors that disturb nurses' mental health during care of these patients can help to reduce their psychological distress.*

## List of abbreviations used or keywords

SNSR: SCHOOL OF NURSING SCIENCE AND RESEARCH

SU: SHARDA UNIVERSITY

N: TOTAL NO OF SAMPLE

NO: NUMBER

F: FREQUENCY

%: PERCENTAGE

PROF.: PROFESSOR

PT: PATIENT

RSN: REGISTERED STAFF NURSE

COVID: CORONA VIRUS DISEASE

SARS: SEVERE ACUTE RESPIRATORY SYNDROME

ARD: ACUTE RESPIRATORY DISEASE

PPE: PERSONAL PROTECTIVE EQUIPMENT

WHO: WORLD HEALTH ORGANIZATION

## 1. Introduction

The coronavirus disease (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues to seriously threaten public health and the health care system (WHO, 2020). Due to its high transmission rate, the virus has caused many deaths with millions of confirmed cases worldwide, and there was no approved drug for treatment until the time the study was conducted (Li et al., 2020; WHO, 2020). Health care professionals who constitute an extremely important source of workforce resource in the control of the epidemic and the care of patients (Liu et al., 2020) face several challenges from being infected to dying, from overloading to psychological risks (Maben & Bridges, 2020).

### 1.1 Objective of the Study

To describe the experiences of staff Nurses who are Caring COVID-19 patients.

## 2. Methods

### Research Approach

The research approach is a plan and procedure that consist of the steps of board assumption to a detailed method of data collection analysis, and interpretation. This collection of the research approach is the basic procedure for conducting the research. The present study aim to describe the experiences of staff Nurses who are Caring COVID-19 patients in Sharda Hospital Greater Noida Uttar Pradesh. In view of accomplishing the research objectives, a qualitative approach was considered appreciate.

### Research Design

A phenomenological research design was adopted to describe the experiences of staff Nurses who are Caring COVID-19 patients in Sharda Hospital Greater Noida Uttar Pradesh.

### Research Setting

The research setting is the location in which the research is conducted. The present study is conducted in Sharda Hospital, Greater Noida, and Uttar Pradesh. The subjects were selected at Sharda Hospital Greater Noida, Uttar Pradesh.

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**Population**

Staff nurses in Sharda hospital, greater Noida, UP.

**Sample**

A part or subset of population elements. Selected to participate in a research study. In this study, the sample were staff Nurses who are Caring COVID-19 patients at Sharda Hospital Greater Noida Uttar Pradesh.

**Sample size**

The sample size for this study were 10 (a total of 10 sample were included in this study)

**Sampling criteria**

Sample criteria is a list of the characteristic (essential for includes or exclusion of the targeted population) of elements that we have determined before and they are essential for eligibility to become part of the sample.

**Inclusion Criteria:**

Staff Nurses who are working in COVID-19 care ward in Sharda hospital in Greater Noida.

Staff Nurses who are willing to participate.

Staff Nurses who can speak Hindi and English.

**Exclusion Criteria:**

Staff Nurses who are not interested to participate in the study.

**Sample Technique**

Sampling is a process of selecting a portion of the in which the entire population is represented. In this study purposive sampling technique will be adopted for the selection of sample.

**Ethical Consideration**

Permission from the ethical committee of Sharda University  
Permission from the principal, school of nursing science and research at Sharda University.

Written formal permission will be obtained from the Sharda hospital.

**Data collection tools and techniques**

Data collection is the identification of the subjects and the precise, systematic gathering of information and a tool in the research is equipment used to collect the data. The instrument used for data collection in the study were, tool 1 and tool 2.

**Tool 1:** Demographic Profile.

**Tool 2:** living experience will be assessed by using of followed 05 questions.

**Description of the tool**

**Tool- 1: demographic Profile:** Demographic Profile are used to collect the background information of the sample. It consist of the five items like sample code Age in year, Gender, Religion, Professional qualifications, Professional experiences (in year).

All items are rated 100% agreement in terms of the accuracy reliable and appropriateness. Some modifications are made according to the expert's suggestion.

**Tool-2:** Open ended questionnaire related to in depth interview guide to find out the **Lived in experience of Staff Nurses caring COVID-19 patients.**

- 1) Describe your feeling during caring of COVID-19 patient?
- 2) How do you cope with changes in your work and life?
- 3) Describe your thoughts and feelings about these pandemic situations?
- 4) How did you think COVID-19 affects your psychological health?
- 5) Describe the challenges did you face during caring of covid-19 patients?

**Validation of the tool**

According to Polit and Hungler (1999): validity refers to the degree to which an instrument measures what it is supposed to be measuring.

In order to measure content validity, the tools were submitted to five experts specifically from Department (HOD) and I requested to give their valuable suggestion. As per their suggestion, some modification were made in demographic were made in demographic data and questionnaire.

**Pretesting of the tool**

Pretesting is important to pilot study the instrument to ensure that the question is understood by the respondents and there are no problems with the wording or measurements of the questions and their comprehensive.

Pretesting of the tool are done data among staff nurses who are caring COVID-19. To

Describe their living experiences whether the answer got from staff nurses were relevant to meet the objective of the study.

**Tool -1:** Are filled by the researcher by interview method the average time is taken to fill the demographic Profile was 5-10 minutes

**Tool-2:** Data are collected by the interview method the responses of the subjects are recording in audio recorder or mobile. the average time is taken to conduct an interview 10minutes.

**Procedure for data collection**

Data collection is the process of gathering and collecting information to adduce a research. The Hospital selected for the study are Sharda hospital Greater Noida U. P. Data collection was done from 07/07/2021 to 10/07/2021.

The researcher conducted the interview for 4 samples around 10-15 minutes of duration.

**Plan for data analysis**

In this present study descriptive analysis for describing the sample characteristics and

Thematic analysis used to analyze the data collected from the participants regarding their lived Experiences. It has four major steps (Polit and beck 2011) which are as follows.

#### Step-1 Transcribing the qualitative data:

The researcher using the recorded interview the data is transcribed without any alteration in Hindi. The data was pen down accurately after re-coding the data to understand and discriminate the meaning, later translated to English and then entered in to compilation sheet.

#### Step-2 Developing categories scheme:

Generating the summary of verbatim as in compilation sheet in broad aspect and categorizing the verbatim.

#### Step-3 coding the data:

Coding the categorized verbatim according to the themes that are identified during review of literature with minor modification as per the verbatim described.

#### Step-4 organization the verbatim:

The coded verbatim is describing as it is in compilation sheet under the themes and sub themes.

### 3. Results

The primary purpose of this study was to assess the lived in experiences of staff nurses caring covid-19 patients in Sharda hospital Greater Noida, U. P. The total of ten participants with, 5 (50 %) Female participants and 5 (50%) male participants were participated in this study. Accordingly, interviews were conducted to comprehend the ways in which participants view issues related to COVID-19. The collected data to answer the research questions was qualitatively analyzed. The results of this study were organized and presented in accordance with the major themes of these research questions. The approach used in presenting the interview data for each of the thematic areas based on the research questions were first, summary of the findings that the majority of the participants showed their agreements or diversified views were presented under each theme; second, some quotations of the participants from the transcripts were presented. Quotations are presented by P1, P2, P3 ..., and P10, representing Participant 1, Participant 2..., and Participant 10 instead of using name of the participants.

#### Verbatim of each participant

Describe your feeling during caring of COVID-19 patient?

##### P1 said that....

".....I'm done, it must be (novel coronavirus) pneumonia. I'm very scared and my body is shaking. "the majority of patients experienced a fear of death. I feel that I am infected for no reason at all. I am so annoyed and I cannot find the people who infected me. I feel so bad for myself."

##### P2 said that....

".....The first thought I think of is death, I feel like I can't live, and I'm scared." At the same time, some patients remained in denial. I feel that my privacy has been stolen online and Even the privacy of my family and friends has been exposed. I am angry in my heart and have nowhere to

release my emotions. "Most of staff Displayed anxiety and restlessness."

##### P3 said that....

".....Surely not, how could it be such a coincidence? It may be a cold. " A common observation was that patients were afraid of hospitalization and quarantine. At the time of admission, patients considered concealing their contact history or absconding from the Department of Infectious Diseases after hospitalization but took no action. I feel restless and very anxious. During the middle stage, I displayed ease and calmness following Acceptance of these situations."

##### P4 said that....

".....I really don't want to say that I have a history of residence in Wuhan, I really want to just take some antipyretics. I don't want to be hospitalized and it feels scary to be hospitalized. I finally feel relieved, my heart is Calm and I want to be cured of the disease. However, long-term Quarantine led to loneliness, anxiety, depression, and helplessness."

##### P5 said that....

"..... I am very anxious, upset, and want to lose my temper, sometimes I cry, and my heart is very helpless. " During the later stages, I feel Happiness, excitement, and agitation over the course of the Disease. During the duty hours especially my legs and spine are having pain because of the insomnia and restlessness"

##### P6 said that....

".....I often think that the covid-19 test results may be wrong or they have taken the wrong test report. I'm glad to know that the (RTPCR test) is negative, but what should I do if my conditions change after quarantine from my home? What do my Neighbors think of me? Won't they all hide from me and ignore me?"

##### P7 said that....

".....My family has been quarantined (medical observation) because of me, I am worried that they are infected by me and my family is also worried about me. " Family members and others that were previously in close contact with me required isolation and medical observation. This led to Feelings of guilt. And I always want to wash my Hands and change my mask."

##### P8 said that....

".....Because of my illness, they need to isolate nearly a hundred people under medical observation, I feel that I really am troublemaker and I feel guilty. Can't sleep, And I have nightmares? My heart is agitated! The symptoms improved following adaption to timely intervention. Some staffs Reported obsessive-compulsive behavior including repeated hand Washing, wearing a mask, and pacing."

##### P9 said that....

".....Sometimes I think I cannot get too close to the patient, I do not want to die, and the end of this disease is death. After working 12 – 16 hours every day, I feel very tired and can even sleep when standing with pain all over my body."

**P10 said that....**

".....Everyone is dying, who cares, this is too much work, the death rate is increasing, I wish no one would be sad, many of our colleagues died, it is hard to believe this number of deaths, the cemeteries have no place anymore. When wearing protective clothing for a long time, I have headaches, chest Tightness, and palpitations. The surgical mask strap pinches my ears. When I take off my protective clothing, my whole body is sweaty and I feel like I'm going to collapse."

**How do you cope with changes in your work and life?****P1 said that. ....**

".....I've often thought how much better it would be if the epidemic disappeared when I wake up. The stress of caring for COVID-19 patients has its own difficulties compared to the wards that we used to work on. The clothes we wear are more tiring than normal wards, and the challenges are more stressful."

**P2 said that. ....**

".....My method is not to think about stress, I shield it out of my life. In the beginning, we did not know what clothes we should wear to have a lower risk of getting the disease. We also searched to find out what kind of clothing do the CDC or WHO suggest. For example, whether we need to wear head to toe uniform or just gown, or do we need to wear hat or not. This was a primary issue for us. For instance, someone said we should wear foot cover, another said we do not want to wear it. Then we tried to wear everything."

**P3 said that. ....**

".....I forget everything when I am busy but the situation here is that, the clothes we wear do not allow us to go to the bathroom. We have to reduce our food and fluid intake. Many nurses do not eat in the shifts, so that they wouldn't have to go to bathroom. I don't drink as much in my shift and if I damage my clothes, I won't get a replacement. Wearing the face mask causes hypoxia, and we have these nutritional and health issues."

**P4 said that. ....**

".....It makes me feel good to think that I'm treating people every day. Now, it is a little better, but in the beginning, the atmosphere was not good at all. People could not accept those who work in the hospital. There was something in the family, because I heard some people said that anyone who works in hospital is infected, and a number of other things. Friends and relatives' behavior was different, which was very annoying."

**P5 said that. ....**

".....When using diapers, I tell myself you're young enough to become a baby (laughs). Often many of our colleagues separate their living space at home, even in their own rooms and live completely away from other family members. I have a colleague who works with me, and now when she goes home, she cannot see her own children, because they live with her mom. She lives alone in her home."

**P6 said that. ....**

".....I write a diary and sometimes write letters. Our shift was so intense that sometimes we could not go home. Maybe we were carriers and we did not know about it. It was a difficult time and it is still a nightmare. I do not think it is going to leave us."

**P7 said that. ....**

".....The progressive breathing relaxation method recommended by my colleague is Good, I often use it. I mean, I can say one hundred percent that life is closed and if we do not take care, we will be certainly infected. Life is very, very closed, and I can safely say that this is not a life that we leave."

**P8 said that. ....**

".....When I rest, I watch comedy, listen to meditation music, or practice yoga. But still, in spite of all these difficulties, we continue to do our duty, and in these critical circumstances we will not leave our stronghold (with tears in the eye). Until the last day that this coronavirus exists, we will serve the people."

**P9 said that. ....**

".....I can't help crying when I'm under too much pressure and I feel relaxed after crying. Some shifts really bothered us, especially the night shifts. We cannot drink anything during the shifts for the fear of contamination, not even water. When we go home we cannot replace the lost fluids. Everyone who sees me will notice that I have lost a lot of weight. During these shifts, I feel my brain has frozen in these clothes."

**P10 said that. ....**

".....I feel good using mindfulness-based stress reduction. Early on, this disease was so frightening because it was an unknown disease. Staffs were scared and did not know whether they become ill or not. But we came to work anyway at the front line and we still fight."

**Describe your thoughts and feelings about this pandemic situations?****P1 said that. ...**

".....I just want to end these difficult days, no one can live with these hardships, people are in trouble, I wish God would help end this tragedy sooner, do you think that I can think about the principles of care now? Do not say that at all, we cannot really see our family, we cannot meet, and it is unbearable."

**P2 said that. ....**

".....I cannot meet my family, we are all in the ward, it is very difficult to be away from my family, everything weighs on me, it is very hard, now think that I will come and think about my care theory, no one can think about these things in this tragedy."

**P3 said that. ....**

".....I am sad for the patients, some of them are very young, I am saddened by their death, a man dies for simple shortness of breath, and they have dreams, what will happen to their poor families."

**P4 said that. . . . .**

“.....Everyone is dying, who cares, this is too much work, the death rate is increasing, I wish no one would be sad, many of our colleagues died, it is hard to believe this number of deaths, the cemeteries have no place anymore.”

**P5 said that. . . . .**

“.....Sometimes I think I cannot get too close to the patient, I do not want to die, and the end of this disease is death.”

**P6 said that. . . . .**

“.....I don't know what my kids are doing now.”

**P7 said that. . . . .**

“.....These days, all of our work is hard, and people have their own problems.”

**P8 said that. . . . .**

“.....We just think our lives will get better, but everything is messed up.”

**P9 said that. . . . .**

“.....Many people will die; disaster is happening.

**P10 said that. . . . .**

“.....I haven't met my family for a long time.”

**How did you think COVID-19 affects your psychological health?**

**P1 said that. . . . .**

“.....Stress becomes a normal issue, when I get close to the patient my whole body sweats, so I cannot work properly.”

**P2 said that. . . . .**

“.....Maybe I am sick too, if I am a carrier, I might cause others to be infected, my symptom show that I am sick too, I am always afraid I will become sick too, I will easily get the disease, I cannot be here anymore, I wish it would end sooner, I am afraid I will do something wrong for the patients.”

**P3 said that. . . . .**

“.....I am sad for the patients, some of them are very young, I am saddened by their death, a man dies for simple shortness of breath, and they have dreams, what will happen to their poor families.”

**P4 said that. . . . .**

“.....I'm not calm at all, and I do not know what's going on. Often many of our colleagues separate their living space at home, even in their own rooms and live completely away from other family members. I have a colleague who works with me, and now when she goes home, she cannot see her own children, because they live with her mom. She lives alone in her home.”

**P5 said that. . . . .**

“.....I don't think anything good will happen. Our shift was so intense that sometimes we could not go home. May be we were carriers and we did not know about it. It was a difficult time and it is still a nightmare. I do not think it is going to leave us.”

**P6 said that. . . . .**

“.....Why should the world be so involved and then do nothing?”

**P7 said that. . . . .**

“.....Maybe I die, but I still have lots of dreams.”

**P8 said that. . . . .**

“.....I'm scared for my family and also for myself.”

**P9 said that. . . . .**

“.....How horrible these days are, we're all dying.”

**P10 said that. . . . .**

“.....It was a difficult time and it is still a nightmare. I do not think it is going to leave us.”

**Describe the challenges did you face during caring of COVID-19 patients?**

**P1 said that. . . . .**

“.....We cannot cover a large number of the patients, the number of nurses is small, every patient needs as much work as a few ordinary patients, and I do not know how to take care of them anymore.”

**P2 said that. . . . .**

“.....I can principally take care when our numbers are so small, so much pressure is on co-workers, you know how many patients come per day, just hospitalization and hospitalization again.”

**P3 said that. . . . .**

“.....If there was a clear policy about this condition that we acted based on it, it would be much better, our care is performed based on our previous experiences, I think a series of clear and scientific care and treatment policies should be provided.”

**P4 said that. . . . .**

“.....We do not have enough facilities, there are few basic facilities, and this ward is not similar to an isolated ward.”

**P5 said that. . . . .**

“..... The cooperation of others is not very good. I don't know how to take care of them, whatever I do, it's just like I do nothing.”

**P6 said that. . . . .**

“..... We don't have a well-known employment situation, but we have to work.”

**P7 said that. . . . .**

“..... The number of nurses is low and the tasks are very high.”

**P8 said that. . . . .**

“..... They told me to come and work here, I didn't have much experience.”

**P9 said that. . . . .**

“..... We work hard, we work so much. No one is accountable.”

**P10 said that. . . . .**

“..... I don't know how to take care of them, whatever I do, it's just like I do nothing.”

#### 4. Discussion

The present study findings of the study were discussed based on the objective of the study and statistical findings and with similar study findings. This study explored the lived in experience of staff nurses of patients with COVID-19 using phenomenological methods and we summarized our findings into **five themes: Feelings towards the caring of COVID-19 patients, coping strategies, Emotional condition, Psychological health, challenges.** In the present study, majority (30%) of them belongs to the age group of 36-40 years, most (50%) of them were males, around 50% of them were Christian, majority (40%) of them had BSc. Nursing education, (40%) of them had professional experience. In This study explored the living experience of the staff nurses caring of COVID-19 patients using phenomenological methods and we summarized our findings into **5 themes: Feeling towards the caring of covid-19 patients, Coping strategies, Emotional condition, Psychological health, Care context/challenges.** The nurses caring for COVID-19 patients felt extreme physical fatigue and discomfort caused by the outbreak, intense work, large number of patients, and lack of protective materials. The physical exhaustion, psychological helplessness, health threat, lack of knowledge, and interpersonal unfamiliarity under the threat of epidemic disease led to a large number of negative emotions such as fear, anxiety, and helplessness, negative emotions are more pronounced in the first week when entering pre-job training and negative pressure ward for the first time. it is important to establish early support systems, 7 such as adequate supplies of protective materials, reasonable allocation of human resources, elderly and infant care services for nurses' families, pre-job training, and interpersonal interaction among nurses to facilitate nurses' adaptation to the anti-epidemic tasks. It is known that coping style, cognitive evaluation, and social support are all mediators of stress. In our study, nurses adopted avoidance, isolation, speculation, humor, self-consciousness, and other psychological defenses to psychologically adjust to the situation. It has been demonstrated that all coping measures under the epidemic disaster can alleviate stress and promote mental health.<sup>1, 3</sup> Participants adopted breathing relaxation, music, meditation, mindfulness, and other ways to reduce stress, which was consistent with the study of nurses in the COVID-19 wards that adopted multiple ways to deal with stress. Our finding of the existence of positive emotions in our nurses such as confidence, calmness, relaxation, and happiness, which simultaneously or gradually appeared with negative emotions, was in contrast to the results several studies that describe only the presence of a large amount of negative emotions during outbreak stress. Some Our participants generally believed that positive emotions were related to the multi-dimensional support of patients, family members, team members, government, social groups etc. In this study after starting the anti-epidemic tasks is rarely mentioned in other studies and may be related to Nurses' gradual adaptation, acceptance, positive response, and personal growth.<sup>1, 4, 2, 6</sup> Studies have shown that positive emotions play an important role in the recovery and adjustment of

psychological trauma.<sup>3, 10</sup> Optimism has a protective effect on psychological trauma under disasters and can promote the psychological rehabilitation of post-traumatic stress disorder.<sup>3, 1</sup> Therefore, in the process of psychological intervention of nurses in an epidemic, strengthening multi-dimensional social support, adjusting cognitive evaluation, guiding positive coping styles, and stimulating positive emotions are crucial to promote the psychological health of nurses.

#### 5. Conclusion

This study provided a comprehensive and in-depth understanding of the living experience of the staff nurses caring of patients with COVID-19 through a phenomenological approach. We found that during the epidemic, positive and negative emotions of frontline nurses against the epidemic interweave and coexist. In the early days, negative emotions were dominant and positive emotions appeared simultaneously or gradually. Self-coping style and psychological growth are important for nurses to maintain mental health. This study provided fundamental data for further psychological intervention. We have an opportunity to mitigate the negative mental health impact of COVID-19 and support the longer-term wellbeing of the healthcare workforce across the world.

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## References

- [1] Lin Q, Zhao S, Gao D, Lou Y, Yang S, Musa SS, Wang MH, Cai Y, Wang W, Yang L, He D. A conceptual model for the coronavirus disease 2019 (COVID-19) outbreak in Wuhan, China with individual reaction and governmental action. *International journal of infectious diseases.*2020 Apr 1; 93: 211-6.
- [2] Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): the epidemic and the challenges. *Int J Antimicrob Agents.*2020; 55 (3): 105924. doi: 10.1016/j.ijantimicag.2020.105924
- [3] Li G, De Clercq E. Therapeutic options for the 2019 novel coronavirus (2019-nCoV) *Nat Rev Drug Discov.*2020; 19: 149–150.
- [4] Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, Zhao X, Huang B, Shi W, Lu R, Niu P. A novel coronavirus from patients with pneumonia in China, 2019. *New England journal of medicine.*2020 Jan 24.
- [5] Shrivastava SR, Shrivastava PS. Minimizing the risk of international spread of coronavirus disease 2019 (COVID-19) outbreak by targeting travelers. *Journal of Acute Disease.*2020 Mar 1; 9 (2): 47.
- [6] Bogoch II, Watts A, Thomas-Bachli A, Huber C, Kraemer MU, Khan K. Potential for global spread of a novel coronavirus from China. *Journal of travel medicine.*2020 Mar; 27 (2): taaa011.
- [7] World Health Organization. World Health Organization coronavirus disease (COVID-19) dashboard.
- [8] World Health Organization (WHO). World Health Organization Coronavirus Disease (COVID-19).2020.