



The Impact of Traumatic Stress, Resilience, and Threats to Core Values on Nurses During a Pandemic

Deborah Swavely, DNP, RN
Barbara Romig, DNP, RN, NEA-BC
Guy Weissinger, PhD, RN
Heidi Holtz, PhD, RN

Mary Alderfer, MSN, RN, CNML
Lisa Lynn, MSN, RN, CCRN
Thomas Adil, LPC
Cynda Hylton Rushton, PhD, RN

OBJECTIVE: The aim of this study was to understand the traumatic stress and resilience of nurses who cared for patients with COVID-19.

BACKGROUND: Studies have shown a high proportion of healthcare workers are at risk for developing posttraumatic stress disorder after a pandemic. Resilience factors are believed to play an important role in the well-being of healthcare professionals.

METHODS: This was a triangulated mixed methods study; a phenomenological qualitative approach with survey data was used to triangulate the findings, and sensemaking was used as the theoretical framework.

RESULTS: Four themes emerged from the study: 1) phases of traumatic stress response to perceived threats; 2) honoring their sacrifice; 3) professional self-identity; and 4) sustaining resilience in a stressful work environment.

Quantitative results on traumatic stress, general resilience, and moral resilience supported the themes.

CONCLUSIONS: The findings will help leaders understand the potential for postpandemic mental health problems and the role of resilience in maintaining well-being.

The stress of the COVID-19 pandemic is a unique and complex form of trauma with potentially devastating consequences in the short- and long-term for individual nurses and healthcare systems.¹ Nurses working in acute care settings experience workplace stress and burnout leading to cyclical periods of nursing shortage. It is estimated that the current nursing shortage of 6 million nurses worldwide will worsen because of the “COVID effect,”¹ with the trauma experienced by nurses resulting in the exodus of nurses from acute care settings and the profession. In a survey of critical care (CC) nurses released in September 2021, 92% of respondents reported that that pandemic had depleted the nursing workforce and their careers will be shorter than they intended because of their COVID-19 experiences.²

The stress of the COVID-19 pandemic highlighted the need to focus on the mental health and well-being of nurses working in acute care settings. Studies have shown healthcare workers are at risk for depression, anxiety, posttraumatic stress disorder (PTSD), and moral injury related to the COVID-19 pandemic.³⁻⁵ Resilience plays a key role as a protective mechanism mitigating the impact of traumatic events.⁶ The interplay of resilience and development of mental health disorders is complex, with 1 in 6 of healthcare workers developing significant stress symptoms.³ Moral injury is a response to events that erode a person's moral core

Author Affiliations: Senior Director (Dr Swavely), Nursing Clinical Inquiry and Research; and Vice President, Chief Nursing Officer (Dr Romig), Reading Hospital; and Assistant Professor (Dr Weissinger), Villanova University, Pennsylvania; Assistant Professor (Dr Holtz), Goldfarb School of Nursing Barnes Jewish College, Saint Louis, Missouri; and Johns Hopkins Clinical Research Network Liaison (Ms Alderfer) and Critical Care Clinical Nurse Level 5 (Ms Lynn), and Director, Spiritual Services (Rev Adil), Reading Hospital, West Reading, Pennsylvania; and Anne and George L. Bunting Professor of Clinical Ethics and Professor of Nursing and Pediatrics (Dr Rushton), Johns Hopkins University, Baltimore, Maryland.

The authors declare no conflicts of interest.

Correspondence: Dr Swavely, Tower Health Systems, 420 S Fifth Ave, West Reading, PA 19611 (deborah.swavely@towerhealth.org).

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

DOI: 10.1097/NNA.0000000000001194

values and beliefs to a degree that tarnishes the person's identity, integrity, and moral capability.⁷ Such events may involve transgressions or betrayals by individuals or those with authority.⁸ Moral resilience, the ability to preserve or restore integrity, has been proposed as a protective resource to mitigate the detrimental effects of morally injurious events.⁹ The purpose of this study was to explore the lived experience of nurses during the pandemic to form a better understanding of how leaders can intervene to improve clinical nurses' well-being.

Methods

The research activity was approved by the hospital's institutional review board under expedited review procedures. The study was a triangulation mixed methods design.¹⁰ The primary method was a phenomenological qualitative study with survey data used to triangulate the findings. The research questions addressed nurses' experience of stress, environmental and

personal processes that built resilience, and experiences related to ethical challenges.

Sample and Setting

The site of the study was a 714-bed Magnet[®]-designated, acute care, academic hospital in Southeastern Pennsylvania. The target population was RNs employed by the hospital and working in medical-surgical (MS) and critical care (CC) in COVID-19–designated units. Intensity sampling was used, with potential participants identified by clinical staff who were known to have rich experiences on the phenomenon.¹¹

Data Collection

Participants completed 3 surveys using REDCap within 1 week before semistructured interviews.¹² The 10-item Connor-Davidson Resilience Scale (CD-RISC 10) was used to assess resilience.¹³ Multiple studies have demonstrated reliability and validity of this tool.¹³ To measure

Table 1. Interview Guide

1. Describe your experience over the past months in caring for COVID-19 patients.
Probes:
 - a. What have been the biggest challenges?
 - b. How has this impacted your professional life?
 - c. How has this impacted your personal life?
 - d. How have the experiences changed over time? (March through present)
 - e. What resources have you drawn upon?
 - f. Did you feel prepared and confident to tackle the task at hand?
2. Sustaining a sense of well-being is important during stressful time. In what ways have you been taking care of yourself?
Probes:
 - a. What has supported you to be able to continue to work as a nurse during the pandemic?
 - b. What has been done at a unit and organizational level to promote wellness?
 - c. How have you engaged in what has been offered?
 - d. What are you doing outside work to promote wellness?
 - e. What has been most and least helpful?
 - f. Do you feel acknowledged for the work you do? If yes, describe what that has been. If no, what would it take for you to feel your work has been acknowledged and by whom?
3. When you think about the last months during the pandemic, how do you explain to yourself or others what has happened?
Probes:
 - a. What are you hearing in handoffs, in the break room, or in conversations? Please describe how and when you share personal experiences in caring for COVID-19 patients with peers.
 - b. What impact does this have on your well-being?
4. As you think back on your experience over the past months, what has stayed with you?
Probes:
 - a. Were there challenges that you have not been able to make sense of? If so, what are they?
 - b. Is there anything that was fulfilling or positive during this time? If so, what was that?
 - c. How has this residue impacted you and your well-being?
5. Was there any time during the pandemic that you were doing something contrary to your professional values.
Probes:
 - a. If so, what was that?
 - b. How has that affected you?
 - c. Have you been able to make sense of it now?
 - d. What would it take for you to be able to come to peace with this issue?
6. What is most needed to address the moral, spiritual, physical, and emotional needs of the clinical staff?
Probes:
 - a. Where and how is this best provided?
 - b. Describe how we continue to staff the units and offer these interventions?
 - c. What is missing?
7. If you could write your narrative about your experience, what would you want to say about yourself as a nurse?

traumatic stress, the revised Impact of Event Scale (IES-R) was used.¹⁴ Studies have shown the correlation between the IES-R and the PTSD Checklist is high ($\alpha = 0.84$).¹⁵ Finally, the 17-item Rushton Moral Resilience Scale (RMRS) was administered to understand the degree of moral resilience.¹⁶ The RMRS overall reliability is $\alpha = 0.84$.¹⁶ Confidential interviews were conducted by the principal investigator until reaching saturation using an open-ended interview guide (Table 1). The interviews were audio taped, transcribed verbatim, deidentified with a code, and stored in Dedoose.¹⁷

Theoretical Framework

Sensemaking theory developed by Karl Weick was used as an organizing model for data synthesis.¹⁸ Although not selected a priori, this theory provided a framework for interpreting the findings. The core elements of the theory are in Table 2. Sensemaking offers a unique opportunity to study lived experiences during the pandemic considering the environment is uncertain, routines are upended, and interactions are disrupted, and risk must be reassessed on an ongoing basis.¹⁹ According to Christianson and Barton,¹⁹ “We have rarely seen a time when sensemaking was so critical yet so difficult to accomplish.” Sensemaking involves forming mental maps of what is going on to create meaning and action during uncertainty.¹⁸ This interplay between meaning and action resulting from sensemaking can provide hope, confidence, and the means to move from anxiety to action.²⁰

Analysis

Univariate descriptive statistics were used for quantitative data using SPSS (version 27.0; Armonk, New York). Qualitative data analysis was iterative. The template style was used to organize data using codes. Initial codes were developed a priori based on concepts of resilience, traumatic stress, moral resilience, and sensemaking. Codes were expanded upon, and additional codes were added through inductive analysis. The general principles of interpretive phenomenological analysis and qualitative content analysis informed data analysis.²¹ Data were displayed to look for connections among codes and text and identify themes and sub-themes, exploring similarities and differences in the sampled groups. Data saturation was achieved when no additional themes emerged.

Results

Twelve nurses from CC and 10 from MS units participated in this study ($n = 22$). All participants were White, non-Hispanic women with professional nursing experience ranging from 1 to greater than 20 years. Four key themes emerged from the data: 1) phases of traumatic stress response to perceived risks; 2) honoring their sacrifice; 3) professional self-identity; and 4) sustaining resilience in a stressful work environment. The quantitative findings supported the themes (Table 3).

Theme 1: Phases of Traumatic Stress Response to Perceived Risks

Most nurses described experiencing traumatic stress symptoms during the pandemic reporting irritability,

Table 2. Weick's 7 Properties of Sensemaking

Property	Definition
Identity	Who we are and what factors have shaped our lives influence how we see the world. Our identity is continually being redefined as a result of experiences and contact with others.
Retrospection	We rely on past experiences to interpret current events. Thus, sensemaking is a comparative process. To give meaning to the “present,” we compare it with a similar or familiar event from our past and rely on the past event to make sense.
Enactive of the environment	Enactive of the environment suggests that sensemaking is about making sense of an experience within our environment. Thus, our sensemaking can be either constrained or created by the very environment that it has created.
Socialization	The sensemaking process is contingent on our interactions with others. As well, an organization's rules, routines, symbols, and language will all have an impact on an individual's sensemaking activities and provide routines or scripts for appropriate conduct. However, when routines or scripts do not exist, the individual is left to fall back on his/her own ways of making sense.
Sensemaking is ongoing	Sensemaking never starts or ends, assuming the individual is always in the middle of an ongoing situation.
Extract cues	The sensemaking process involves focusing on certain elements, while completely ignoring others, to support our interpretation of an event. Because sensemaking is retrospective, past experiences, including rules and regulations, dictate what cues we will extract to make sense of a situation.
Plausibility over accuracy	Driven by plausibility rather than accuracy means that we do not rely on the accuracy of our perceptions when we make sense of an event. Instead, we look for cues that make our sensemaking seem plausible.

Adapted from Helms Mills, J., Thurlow, A. and Mills, A.J. Making sense of sensemaking: the critical sensemaking approach. *Qual Res Organ Manage.* 2010;5(2):182–195. <https://doi.org/10.1108/17465641011068857>.

Table 3. Summary of Findings

Themes	Subthemes	Sensemaking	Definitions	Qualitative Exemplar Quotes	Survey Scores
Phases of traumatic stress response to perceived risks	Anticipatory phase	Sensemaking was difficult early in the pandemic possibly because of the lack of previous experiences in which to retrospectively help frame the situation and constraints of workload and fear in the environment.	Anxiety and fear knowing COVID-19 was coming to their community.	<p>“We were watching the news in New York city and worrying about what was coming our way.”</p> <p>“Well, in the beginning, we were terrified. The only images we saw were out of, Out of New York where it just was horrifying and we were terrified, we didn't know what to do.”</p> <p>“I wasn't sleeping. There were times I wasn't eating, and then you know I was waking up my family, and it's just like I feel like crap and I have to work tomorrow.”</p> <p>“I was home, trying not to think about it, but I couldn't, I couldn't stop it. I couldn't sleep.”</p> <p>“I was feeling pretty good and then I realized how stressed I was when the surge hit, and I saw a patient with COVID being admitted on our unit...I started shaking all over.”</p> <p>“And then we push the induction meds, as she went to sleep, I cried. And, every day I prayed. Please, let her be the only one who succeeds. She's has an eight-year-old son—it's a heartbreaking disease.”</p> <p>“I was so relieved when that last patient name who had COVID came off the board.”</p> <p>“Now that our COVID census is low I feel so much better than before.”</p> <p>“I think you should share this study with the media so that our community understands what COVID 19 is like and the impact that has had on our life.”</p> <p>“I am feeling better. You're another ear that is listening to the problems that we've had for a past year. So, it feels good to be able to acknowledge night?”</p> <p>“I went home and stayed in the basement. I didn't see my children other than through cracks in the steps for over a month.”</p> <p>“I went home so exhausted that I didn't have anything left for my family.”</p> <p>“Sometimes we would cry, I would cry with the patient when the patient was dying. Family wanted to talk to them they are crying over the phone and then the patient was crying.”</p> <p>“When there was no visitation, we were the ones that were the patients support. We held the phones so</p>	IES-R median scores: CC, 37 (range, 30-63); MS, 13 (range, 9-60)
	Early pandemic phase		Initial acute stress response when caring for patients with COVID-19 early in the pandemic (March 2020 to June 2020)		
Honoring their sacrifice	Mid pandemic phase	Sensemaking began for many, especially for MS nurses, as the stress response declined. Sensemaking was more difficult for CC nurses as the morality rate of patients with COVID-19 remained high, leaving them with a sense of futility.	Periods of stress that continued through the remainder of the pandemic		
	Restoration phase				
Professional self-identity		For the participants, sharing their story was part of making sense of what had happened.	Desire to tell their story and have others understand their experience		
	Empathy and compassion	Maintaining nurses' core values was integral to their professional self-identity and making sense of what was happening.	Feeling the emotions of patients with COVID and wanting to help		

(continues)

Table 3. Summary of Findings, Continued

Themes	Subthemes	Sensemaking	Definitions	Qualitative Exemplar Quotes	Survey Scores
	Patient and self advocacy		Activities undertaken to benefit the patients	<p>they could Facetime with their family, held their hand when they died, no one should die alone.”</p> <p>“They (doctors) were getting push back because there were no more beds available. I said we're going to be doing CPR on this person very shortly. And we don't have a vent, and we are not ACLS certified, and I don't have the resources to take care of this patient. He deserves to have the resources available to fight.”</p> <p>“The patients were in a prone position for weeks, had difficulty sleeping, and would eventually die. We need to help families make difficult life ending decisions to advocate for a more peaceful death.”</p> <p>“A lot of my personal physicians refused to see me because I was exposed to COVID. I couldn't get healthcare when I am in healthcare. I was so angry.”</p> <p>“We were always short staffed with high acuity patients who could crash at any moment...we were concerned about how we could safely take care of these patients.”</p> <p>“How many patients can you safely take care of, where do we get the supplies we need?”</p> <p>“They need ECMO sooner than later...we asked them to fly him out now and were told he was not a candidate...why not?”</p> <p>“Were decisions driven by insurance?”</p> <p>“I came into nursing to do no harm. I feel as if I am harming my patients.”</p>	<p>RMRS mean scores: CC, 48 (SD, 5.8) MS, 53 (SD, 10.0)</p>
		Threatened core values sensemaking and the nurse professional self-identity.	Moral injury		
Sustaining resilience while in a stressful work environment	Social support and communication	Social support and communication were critical to sensemaking and sustaining resilience.	Support systems they drew upon to sustain resilience	<p>“I definitely leaned on my fellow co-workers. I feel like the only people that really understood what we were going through. There was another nurse that in my 12-hour shifts, there was another nurse who was there the days that I was off and I was constantly texting her.”</p> <p>“I have a good support system at home, my husband is wonderful...having that support was super helpful.”</p> <p>“My co-workers were a huge help. We would go out together and talk about this experience with one another. They were the only ones who could really related to the stress.”</p>	<p>CD-RISC 10 scores: CC, 31 (range, 25–33) MS, 32 (range, 28–50)</p>

(continues)

Table 3. *Summary of Findings, Continued*

Themes	Subthemes	Sensemaking	Definitions	Qualitative Exemplar Quotes	Survey Scores
Self-awareness			Being able to recognize the signs of their own emotional pain, stress, and overload	<p>“So, then my coping mechanisms that I had were just not working. And obviously my profession isn’t working, you know.”</p> <p>“I need to walk away for a couple of days otherwise I’m going to hate everybody.”</p> <p>“...it made us stronger. I mean, they just showed you that you could kind of take on whatever is thrown at you, and you have to do what you have to do to be flexible with that and just overcome it. And I also like I think in terms of teamwork.”</p> <p>“Because no visitors were allowed, we were their family, their support, holding their hands when they passed, helping them to face time to see their family, comforting them when they were frightened.”</p>	
Finding something positive in a challenging situation	Positive experiences helped nurses make sense of a challenging situation.	Finding positive aspects of working during the pandemic		<p>“Two of my good friends that I, you know, were they worked with me through COVID and they just recently left our floor about three or four weeks ago now, they actually left the whole organization.”</p> <p>“A lot of people on my floor were having breakdowns. And they were like, this is why a lot of people probably left.”</p> <p>“Get out and exercise get out and get some fresh air. Make sure you write when you’re not here, talk to everybody that you can.”</p> <p>“I journaled every day. I had to tell my story and it was a place for me to put my anger.”</p>	
Leaving as an act of self-preservation	For some, sensemaking led them to a decision that leaving was the most plausible solution for their well-being.				
Engaging in helpful ways to reduce stress outside work	Communication through storytelling and creating space to relax helped with sensemaking, which has been linked to resilience.	Activities that brought them relief or positive emotions			

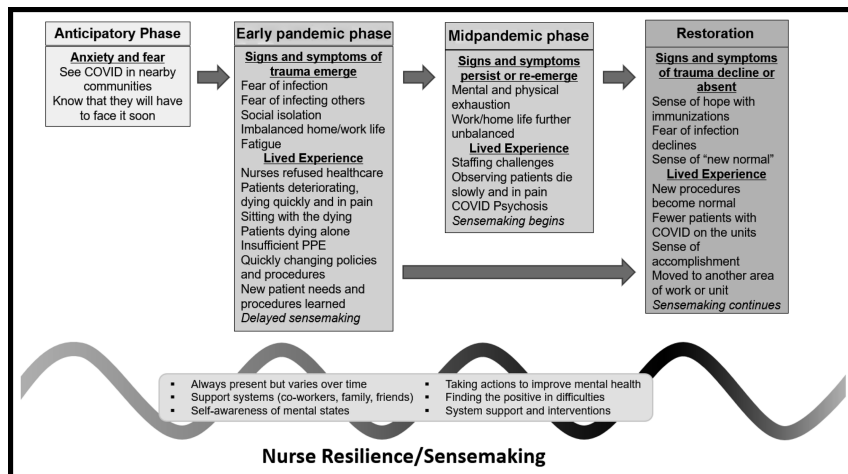


Figure 1. Phases of traumatic stress response during the COVID-19 pandemic.

difficulty sleeping, waves of unwanted feelings/flashbacks, feeling numb, and jumpiness. The experiences of this trauma are organized into phases that nurses moved through, although not linearly (Figure 1). Early in the pandemic, MS and CC nurses had similar experiences and stress triggers. Later, their experiences diverged, with MS nurses starting the restorative process, whereas CC nurses remained stressed. This was evidenced in the IES-R scores where the median score was 37 (range, 30-63) for CC nurses and 13 (range, 9-60) for MS nurses. Importantly, IES-R score of 33 or greater indicates likelihood of PTSD, with CC having 75% (9/12) of participants scoring greater than 33.¹⁴

Anticipatory Phase

The anticipatory phase described participant experiences with COVID-19 before the disease reaching the hospital's community. Nurses saw media reports about COVID-19, especially from New York City (approximately 125 miles away), and experienced fear. They knew that something should be done to prepare but were not able to make sense of what that would be. This may be due to sensemaking as a retrospective process, shaping experience based on our memory of experience. Without previous experience in a pandemic, sensemaking was difficult.

Early Pandemic Phase

The early phase was when patients who were given a diagnosis of COVID were being admitted to the hospital in designated units. This phase spanned from March to June 2020. Nurses attributed acute stress to caring for patients with COVID-19 triggered by fear of infection and infecting others, having insufficient personal protective equipment (PPE), patients deteriorating and dying rapidly, social isolation, short staffing, frequent changes in policies and procedures, and overall emotional and physical fatigue. Nurses isolated themselves and were too fatigued to engage

in meaningful interactions to build social shared understandings and meaning to what was happening. Sensemaking takes effort¹⁹; without the internal or external resources, sensemaking is limited.

Midpandemic Phase

The midpandemic phase started in July of 2020 when PPE was more readily available; policies, procedures, and new medications were now familiar; and the fear of being infected and infecting others was declining. Although the workload remained heavy with its associated fatigue, nurses, particularly in MS, began the restoration process. At this point in the pandemic, the CC nurses had observed few patients survive, leading to a sense of futility and hopelessness. In addition, they reflected on damage the pandemic had in their personal and work lives.

Restoration

Restoration was cyclical in throughout the changing trajectory of the pandemic. Nurses had a recess from the triggers of stress when the COVID-19 patient census was low, reporting a better state of well-being, and had space to make sense of what they were experiencing. Healing occurred when nurses moved past their experiences of caring for patients during COVID-19. Participants felt that they were no longer the same as before COVID-19 but rather that the experience had become a part of their story.

Participants identified interventions that enabled stress reduction. Of importance was the ability to share their story in a psychologically safe environment. Nurses interviewed rated improvement in their emotional well-being on a scale of 1 to 5 as either 4 (better) or 5 (much better) at the end of the interview. Later, several nurses shared that the improvement was sustained for months. Rounding by spiritual care with soothing music, snacks, and refreshments was perceived as a comforting sense that someone cared

for them. Debriefing after a difficult patient situation and a break from caring for patients with COVID during surges were identified as helpful but difficult to achieve given work demands.

Theme 2: Honoring Their Sacrifice

Participants were asked why they participated in this study, with most wanting to tell their story so that others would understand what they experienced. Study participants stated early in the pandemic many times they were the only clinician spending time in the room with the patients, whereas other disciplines chose to see patients from outside the room. Nurses were mentally and physically exhausted from the heavy workload and stress, which negatively impacted their well-being and relationships. During heavy surges in the pandemic, nurses felt loneliness, isolation, and being underappreciated by administration.

Theme 3: Professional Self-identity

Sensemaking is matter of identity, how we understand ourselves to be in relation to the world around us. Nurses' professional self-identity is linked to their core values, which they attempted to sustain while providing quality care and meeting their ethical obligations.²² Self-identity is likely associated with how one appraises their integrity or moral wholeness.²³ Despite ethical challenges, nurses reported moderate moral resilience scores. The mean score for the RMRS was 53 in MS and 48 in CC, compared with a maximum score of 68.¹⁶

Empathy and Compassion

The pandemic had an emotional toll on nurses as they sustained their core values of practicing with compassion and respect for their patients.²² Early in the pandemic when visitation was restricted, nurses were challenged with limited resources, increased workloads, and being surrogates for families. This was especially true with patients who were dying, with nurses having a strong belief that no one should die alone, an acknowledgment of their inherent dignity, and their ethical obligation to respect every person receiving their care.

Patient and Self Advocacy

Nurses' compassion, empathy, and commitment to patient welfare resulted in behaviors ensuring their patients' rights, health, and safety were protected through patient advocacy.²² Advocacy extended from securing resources for their patients or for their own health and well-being, or engaging other members of the healthcare team so that they were able to continue to provide care. Advocacy is a hallmark of nurses' identity and the means for discharging their ethical responsibilities.²²

Threatened Core Professional Values

Insufficient time to provide care, concern about the lack of evidence for the treatment being provided,

lacking resources that threatened quality care, limited access for their own healthcare, and prolonged end-of-life decisions by families threatened nurses' core professional values. Such threats can erode professional and self-identity and integrity because they are dissonant with the profession's code of ethics.²² Despite moderate moral resilience scores, potentially morally injurious events can erode nurses' ability to uphold their core professional values and commitments especially when equity of treatment was in question.

Theme 4: Sustaining Resilience in a Stressful Work Environment

Sensemaking has been identified as an important resource to support resilience.¹⁹ Although most of this literature focuses on sensemaking at the macrolevel organization, this theme focuses on resilience on the microlevel, the members of a clinical unit, and their interconnectedness as a critical dimension of their lived experience.

Although nurses described working during the COVID-19 pandemic as extremely stressful, nurses who remained in the hospital were resilient. Median CD-RISC 10 score was 31 (range, 25-33) for CC and 32 (range, 28-50) for MS, comparable with the national mean of 32.1.10. Nurses demonstrated the highest resilience with their adaptability (mean, 3.4), their ability to bounce back (mean, 3.2), and their belief that they are a strong person (mean, 3.1).

Social Support and Communication

Nurses reported the value of support systems that they drew upon to meet the challenges created by the pandemic, including coworkers, family, and friends. Interdependence and feeling connected resulted in increased resilience. Many of the nurses felt that their coworkers were the only people who understood what was happening and consequently relied heavily on their support. Others articulated their perceptions of the experience through writing in journals and creating a sensemaking dialogue with themselves.

Self-awareness

Being able to recognize the signals of one's emotional pain, stress, and overload was cited as being critical to nurses' resilience. They could see when they had sufficient resources to support their resilience to address the burdens they experienced. Nurses also had the self-awareness to recognize when situations overwhelmed their internal and external resources to be resilient and the consequences that followed.

Reflection to Find Meaning and Benefit in a Challenging Situation

A subset of participants reflected and found valuable meaning from working with COVID patients. While acknowledging the stress, they reported growth and

learning about themselves. Some spoke about learning new procedures and medications, seeing their team rally together, and having internal strength they did not know they had.

Leaving as an Act of Self-preservation

Participants described nurses who left their unit as protecting themselves from the consequences of the trauma and increased workload. One participant reported being so distracted by anxiety she had an automobile accident that culminated in her transferring out of CC. A few nurses considered options outside the acute care setting, with a subset of nurses who left for a higher salary with nursing agencies.

Engaging in Helpful Ways to Reduce Stress Outside Work

Nurses spoke about the importance of finding things that would help them reduce their stress, engage in positive emotions, and promote stability. These ranged from turning to their spirituality, journaling, sewing, avoiding news about COVID-19, exercise, and meditation.

Discussion

Our study offers insight into the lived experience of nurses providing care during the COVID-19 pandemic. A trajectory of responses was revealed during COVID-19 that offered insights into the restoration process through sensemaking. Despite moderate resilience scores, many nurses in this study experienced traumatic stress.²⁴ Our findings are consistent with other studies.^{1,25} This suggests that the issue is not lack of individual resilience but rather that the circumstances exceeded their resources and invites inquiry into the role of organizations to support and amplify individual resilience through organizational investments.

Maintaining nurses' core professional values during the pandemic was integral to professional self-identity, integrity, and well-being. Potentially morally injurious events eroded nurses' ability to uphold their core professional values (eg, respect for all persons; safe, equitable, and quality care; fair allocation of scarce resources), despite moderate levels of moral resilience, suggesting that concepts such as burnout may not sufficiently capture the moral aspects of their experience. Their moral resilience scores suggest that it may be a protective resource when confronting moral and ethical challenges and is consistent with other recent studies.^{9,26} As the pandemic continues to produce surges of hospitalized patients with COVID-19 coupled with the potentially long-term impact of traumatic stress and moral injury, it is evident that leaders must continue to address the physical, emotional, and moral well-being of nurses who remain in acute care settings and to dismantle the systemic

contributions. This is especially true considering nurses are leaving as an act of self-preservation, which is exacerbating the stress experienced by nurses who remain.

The sources of trauma and potentially morally injurious events suggest that although nurses were generally resilient, the system input to their stress and distress was significant. Nurses' perception of the lack of acknowledgment of their sacrifice by senior leaders and policies governing resource allocation were some of the factors reported and are consistent with other studies.²⁷ The concept of institutional betrayal, and violations of trust and confidence committed by an institution toward a nurse, has been highlighted during the pandemic.²⁷ The outcomes are likely negative, including impacts on nurse psychological and workplace well-being.^{27,28} In retrospect, none of these problems are unsolvable but will require focused strategies to rebuild trust.²⁷

Sensemaking originated as an organizational theory and can be a key leadership capability for the complex environments we work in today and has been highly correlated with leadership effectiveness.²⁰ The 1st step is for leaders to listen without defending or overly explaining the issue and broadly engage internal and external stakeholders that have been impacted by a problem to define the issue from multiple perspectives. Doing so can demonstrate relational communication, transparency, and intentional engagement of nurses providing care—key elements of trust building.²⁹ From this foundation, leaders can map the experience and co-create a framework of solutions gleaned from multiple stakeholders that will be tested, evaluated, and revised over time with reliable communication and feedback loops.

Traumatic stress can have long-reaching impact on mental well-being, including PTSD.^{24,30} Organizations have a significant impact on mitigating trauma responses, highlighting the need for trauma-informed approaches at an organizational level.³¹ When employees perceive their organizations to be supportive and caring, they experience lower levels of trauma.³¹ As organizations adopt these strategies, nurses in this study identified low-cost short-term interventions that can assist nurses in restoration, such as a psychologically safe environment to share their stories, a key element of healing from traumatic stress,³¹ and rounding by spiritual care.

Although the nurses involved in this study had moderate general resilience, amplifying resilience for nurses remains paramount because it is positively correlated with good mental health with lower levels of burnout.^{32,33} Sensemaking has been recognized as a factor influencing resilience.¹⁹ Research in previous pandemics and other disasters has shown resilience as a critical attribute of a strong healthcare system.³⁴

Having coworkers, friends, and family members to talk to and lean on enhanced nurses' abilities to sensemaking and contributed to sustaining resilience, which aligns with previous studies emphasizing the vital role of social support to maintain a healthy state of mind.³⁵ Self-awareness, a novel finding as part of sensemaking, enables nurses to uphold emotional balance and has been shown to increase their commitment to continuing to care for patients with COVID-19. Other factors that have been shown to build resilience include cognitive reframing, listening with compassion, nurturing, and encouraging self-care.³³

Limitations

Inherent in qualitative methods are certain constraints in transferring findings. Although the number of study subjects was small and not diverse in ethnicity, the findings align with studies of previous pandemics, offering a rich description of the experience and suggestions for future interventions. Travel nurses and nurses who left the profession were not included in

this study. Future studies aimed at understanding their perspectives may assist leaders in more fully understand the factors that influence nurses' experiences during the pandemic.

Conclusion

This study adds to the literature by examining the challenges and consequences experienced by nurses during the pandemic that need to be addressed at an organizational level. Nurse leaders must be poised to address nurses' traumatic stress and threats to core values, build resilience, and apply these learnings to other traumatic events in healthcare.

Dedication

This article is dedicated in memory of Deanna L. Reber, BSN, RN, CCRN, from Tower Health Reading Hospital. Deanna was a devoted ICU nurse of 29 years and a frontline worker during the pandemic who passed after her courageous battle with COVID-19.

References

1. The International Council of Nurses. The COVID-19 effect: world's nurses facing mass trauma, an immediate danger to the profession and future of our health systems. <https://www.icn.ch/news/covid-19-effect-worlds-nurses-facing-mass-trauma-immediate-danger-profession-and-future-our>. Accessed August 20, 2021.
2. Yang YT, Mason D. COVID-19's impact on nursing shortages, the rise of travel nurses, and price gouging. *Health Affairs*. <https://www.healthaffairs.org/doi/10.1377/forefront.20220125.695159/>. Accessed April 13, 2022.
3. Carmassi C, Foghi C, Dell'Oste V, et al. PTSD symptoms in healthcare workers facing the three coronavirus outbreaks: what can we expect after the COVID-19 pandemic. *Psychiatry Res*. 2020;292:113312. doi:10.1016/j.psychres.2020.113312.
4. Chew NWS, Lee GKH, Tan BYQ, et al. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain Behav Immun*. 2020;88:559-565. doi:10.1016/j.bbi.2020.04.049.
5. Mantri S, Song YK, Lawson JM, Berger EJ, Koenig HG. Moral injury and burnout in health care professionals during the COVID-19 pandemic. *J Nerv Ment Dis*. 2021;209:720-726. doi:10.1097/NMD.0000000000001367.
6. Davydov DM, Stewart R, Ritchie K, Chaudieu I. Resilience and mental health. *Clin Psychol Rev*. 2010;30(5):479-495. doi:10.1016/j.cpr.2010.03.003.
7. Rushton C, Turner K, Brock R, Braxton J. The invisible moral wounds of the pandemic: are we experiencing moral injury? *AACN Adv Crit Care*. 2021;32(1):119-125. doi:10.4037/aacnacc2021686.
8. Griffin BJ, Purcell N, Burkman K, et al. Moral injury: an integrative review. *J Trauma Stress*. 2019;32(3):350-362.
9. Rushton CH, Thomas TA, Antonsdottir IM, et al. Moral injury and moral resilience in health care workers during COVID-19 pandemic. *J Palliat Med*. 2022;25:712-719. <https://www.liebertpub.com/doi/epub/10.1089/jpm.2021.0076>. Accessed April 19, 2022.
10. Turner S, Cardinal L, Burton R. Research design for mixed methods: a triangulation-based framework and roadmap. *Organ Res Methods*. 2017;20(2):243-267. <https://doi.org/10.1177%2F1094428115610808>. Accessed April 19, 2022.
11. Benoot C, Hannes K, Bilsen J. The use of purposeful sampling in a qualitative evidence synthesis: a worked example on sexual adjustment to a cancer trajectory. *BMC Med Res Methodol*. 2016;16:21.
12. Harris PA, Taylor R, Minor BL, et al, REDCap Consortium. The REDCap consortium: building an international community of software platform partners. *J Biomed Inform*. 2019;95:103208. doi:10.1016/j.jbi.2019.103208.
13. Davidson JRT. Connor-Davidson Resilience Scale (CDRISC) manual. Unpublished. www.cdrisc.com.
14. Hyer K, Brown LM. The Impact of Event Scale-Revised: a quick measure of a patient's response to trauma. *Am J Nurs*. 2008;108(11):60-68.
15. Creamer M, Bell R, Failla S. Psychometric properties of the Impact of Event Scale-Revised. *Behav Res Ther*. 2003;41(12):1489-1496. <https://doi.org/10.1016/j.brat.2003.07.010>. Accessed April 19, 2022.
16. Heinze KE, Hanson G, Holtz H, Swoboda SM, Rushton CH. Measuring health care interprofessionals' moral resilience: validation of the Rushton Moral Resilience Scale. *J Palliat Med*. 2021;24(6):865-872. doi:10.1089/jpna.2020.0328.
17. Dedoose Version 9.0.17, *Web Application for Managing, Analyzing, and Presenting Qualitative and Mixed Method Research Data*. Los Angeles, CA: SocioCultural Research Consultants, LLC; 2021. www.dedoose.com.
18. Weick K, Sutcliffe KM, Obstfeld D. Organizing and the process of sensemaking. *Organ Sci*. 2005;16(4):409-421.
19. Christianson MK, Barton MA. Sensemaking in the time of COVID-19. *J Manage Stud*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7675368/pdf/JOMS-9999-na.pdf>. Accessed March 13, 2022.

20. Ancona D. Framing and acting in the unknown. In: Snook S, Nohria N, Khurana R, eds. *The Handbook for Teaching Leadership*. 3–19. Thousand Oaks, CA. https://in.sagepub.com/sites/default/files/upm-assets/42924_book_item_42924.pdf. Accessed March 13, 2022.
21. Giorgi A. The descriptive phenomenological psychological method. *J Phenomenol Psychol*. 2012;43(1):3-12. doi:<https://doi.org/10.1163/156916212X632934>.
22. Nursing World. The code of ethics for nurses. www.nursingworld.org/practice-policy/nursing-excellence/ethics/. Accessed September 23, 2021.
23. Rushton C. *Moral Resilience: Transforming Moral Suffering in Healthcare*. New York, NY: Oxford University Press; 2018.
24. Gerhart J, Canetti D, Hobfoll S. Traumatic stress in overview: definition, context, scope, and long-term outcomes. In: Cherry K, ed. *Traumatic Stress and Long-Term Recovery*. Cham, Switzerland: Springer; 2015. https://doi.org/10.1007/978-3-319-18866-9_1. Accessed September 23, 2021.
25. Marvaldi M, Mallet J, Dubertret C, Moro MR, Guessoum SB. Anxiety, depression, trauma-related, and sleep disorders among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis. *Neurosci Biobehav Rev*. 2021;126:252-264.
26. Spilg EG, Rushton CH, Phillips JL, et al. The new frontline: exploring the links between moral distress, moral resilience and mental health in healthcare workers during the COVID-19 pandemic. *BMC Psychiatry*. 2022;22(1):19. <https://doi.org/10.1186/s12888-021-03637-w>. Accessed April 13, 2022.
27. Nelson KE, Hanson GC, Boyce D, et al. Organizational impact on healthcare workers' moral injury during COVID-19: a mixed-methods analysis. *J Nurs Adm*. 2022;52(1):57-66.
28. Brewer KC. Institutional betrayal in nursing: a concept analysis. *Nurs Ethics*. 2021;28(6):1081-1089. doi:10.1177/0969733021992448.
29. Reina D, Reina M. *Trust and Betrayal in the Workplace: Building Effective Relationships in Your Organization*. 2nd ed. Berrett-Koehler Publishers; 2015.
30. Wiki Wisdom. Frontline nurses. <https://www.wikiwisdom.net/frontline-nurses>. Accessed September 20, 2021.
31. Sansbury B, Graves K, Scott W. Managing traumatic stress responses among clinicians: individual and organizational tools for self-care. *Dent Traumatol*. 2015;17(2):114-122. doi:10.1177/1460408614551978.
32. American Psychological Association Foundation. Building your resilience. American Psychological Association Foundation Web site. <https://www.apa.org/topics/resilience>. Accessed August 23, 2021.
33. Wei H, Roberts P, Strickler J, Corbett RW. Nurse leaders' strategies to foster nurse resilience. *J Nurs Manag*. 2019;27:681-687.
34. Louise Duncan D. What the COVID-19 pandemic tells us about the need to develop resilience in the nursing workforce. *Nurs Manag (Harrow)*. 2020;27(3):22-27. doi:10.7748/nm.2020.e1933.
35. Labrague LJ, De Los Santos JAA. Covid-19 anxiety among front-line nurses: predictive role of organisational support, personal resilience and social support. *J Nurs Manag*. 2020;28(7):1653-1661. doi:<https://doi.org/10.1111/jonm.13121>.