COLLEGE of NURSING
EAST TENNESSEE STATE UNIVERSITY

Nurses' Burnout, Post-Traumatic Stress, and Stress Biomarker Telomere Length: Implications for Nurse Leaders

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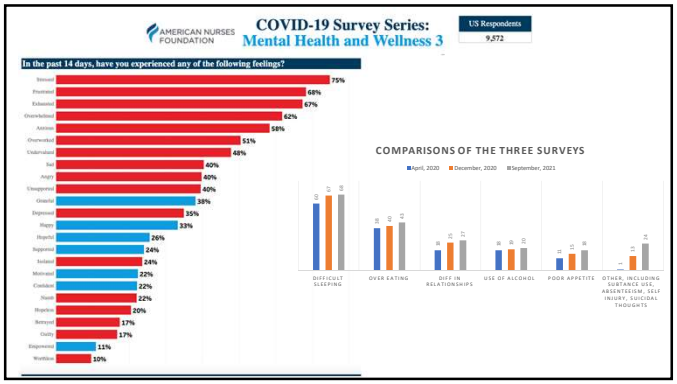
Associate Dean for Research

Learning Objectives

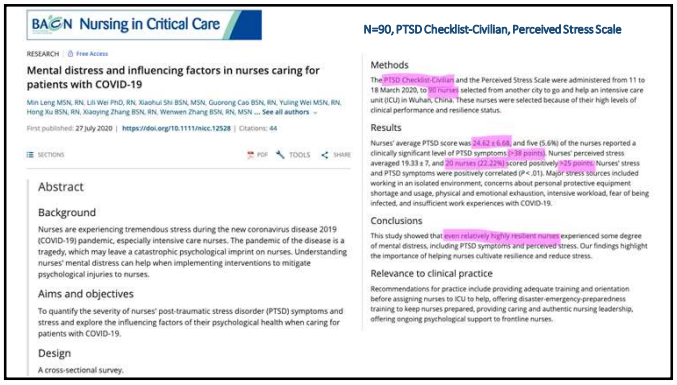
1. Recent studies on nurse burnout, stress, and post-traumatic stress.
2. Strategies to promote nurses' well-being.

I have no conflicts of Interest.

Collective Trauma



Global Studies on Nurses' Psychological Health Peri-Pandemic



BACN Nursing in Critical Care

RESEARCH | Free Access

Mental distress and influencing factors in nurses caring for patients with COVID-19

Min Leng MSN, RN, Lili Wei PhD, RN, Xiaohui Shi BSN, MSN, Guorong Cao BSN, RN, Yuling Wei MSN, RN, Hong Xu BSN, RN, Xiaoying Zhang BSN, RN, Wenwen Zhang BSN, RN, MSN ... See all authors

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Abstract

Background

Nurses are experiencing tremendous stress during the new coronavirus disease 2019 (COVID-19) pandemic, especially intensive care nurses. The pandemic of the disease is a tragedy, which may leave a catastrophic psychological imprint on nurses. Understanding nurses' mental distress can help when implementing interventions to mitigate psychological injuries to nurses.

Aims and objectives

To quantify the severity of nurses' post-traumatic stress disorder (PTSD) symptoms and stress and explore the influencing factors of their psychological health when caring for patients with COVID-19.

Design

A cross-sectional survey.

N=90, PTSD Checklist-Civilian, Perceived Stress Scale

Methods

The PTSD Checklist-Civilian and the Perceived Stress Scale were administered from 11 to 18 March 2020, to 90 nurses selected from another city to go and help an intensive care unit (ICU) in Wuhan, China. These nurses were selected because of their high levels of clinical performance and resilience status.

Results

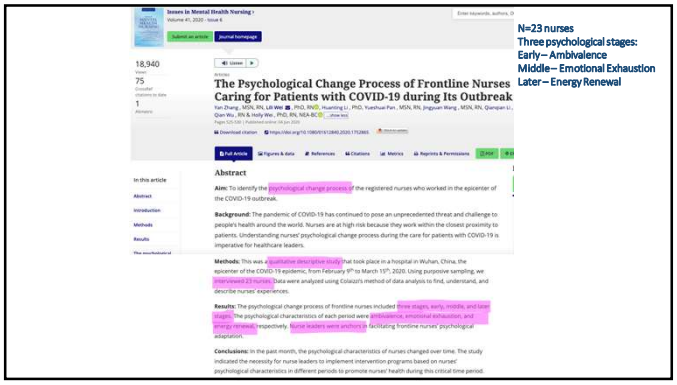
Nurses' average PTSD score was 24.82 ± 6.66, and five (5.6%) of the nurses reported a clinically significant level of PTSD symptoms (≥38 points). Nurses' perceived stress averaged 19.33 ± 7, and 20 nurses (22.22%) scored positively (≥25 points). Nurses' stress and PTSD symptoms were positively correlated ($P < .01$). Major stress sources included working in an isolated environment, concerns about personal protective equipment shortage and usage, physical and emotional exhaustion, intensive workload, fear of being infected, and insufficient work experiences with COVID-19.

Conclusions

This study showed that even relatively highly resilient nurses experienced some degree of mental distress, including PTSD symptoms and perceived stress. Our findings highlight the importance of helping nurses cultivate resilience and reduce stress.

Relevance to clinical practice

Recommendations for practice include providing adequate training and orientation before assigning nurses to ICU to help, offering disaster-emergency-preparedness training to keep nurses prepared, providing caring and authentic nursing leadership, offering ongoing psychological support to frontline nurses.



Issues in Mental Health Nursing

18,940 Views | 75 Crossref citations to date | 1 Altmetric

The Psychological Change Process of Frontline Nurses Caring for Patients with COVID-19 during Its Outbreak

Yan Zhang, MSN, RN, Lili Wei, PhD, RN, Huanling Li, PhD, Yueshuai Pan, MSN, RN, Jingyuan Wang, MSN, RN, Qianqian Li, Qian Wu, RN & Holly Wei, PhD, RN, NEA-BC

Pages 525-530 | Published online: 04 Jun 2020

Full Article | Figures & data | References | Citations | Metrics | Reprints & Permissions | PDF

Abstract

Aim: To identify the psychological change process of the registered nurses who worked in the epicenter of the COVID-19 outbreak.

Background: The pandemic of COVID-19 has continued to pose an unprecedented threat and challenge to people's health around the world. Nurses are at high risk because they work within the closest proximity to patients. Understanding nurses' psychological change process during the care for patients with COVID-19 is imperative for healthcare leaders.

Methods: This was a qualitative descriptive study that took place in a hospital in Wuhan, China, the epicenter of the COVID-19 epidemic, from February 9th to March 15th, 2020. Using purposive sampling, we interviewed 23 nurses. Data were analyzed using Colaizzi's method of data analysis to find, understand, and describe nurses' experiences.

Results: The psychological change process of frontline nurses included three stages, early, middle, and later stages. The psychological characteristics of each period were ambivalence, emotional exhaustion, and energy renewal, respectively. Nurse leaders were anchors in facilitating frontline nurses' psychological adaptation.

Conclusions: In the past month, the psychological characteristics of nurses changed over time. The study indicated the necessity for nurse leaders to implement intervention programs based on nurses' psychological characteristics in different periods to promote nurses' health during this critical time period.

N=23 nurses
Three psychological stages:
Early– Ambivalence
Middle– Emotional Exhaustion
Later– Energy Renewal

ORIGINAL ARTICLE

Current State and Influencing Factors of Nurse Resilience and Perceived Job-Related Stressors

Min Leng, MSN, RN, Hong Xiu, BSN, RN, Peng Yu, MSN, RN, Juan Feng, MSN, RN, Yuling Wei, MSN, RN, Yanuan Cui, BSN, RN, Mingming Zhang, BSN, RN, Yun Zhou, BSN, RN, and Holly Wei, PhD, RN, CPN, NEA-BC

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N=2,981 nurses, Connor-Davidson Resilience Scale

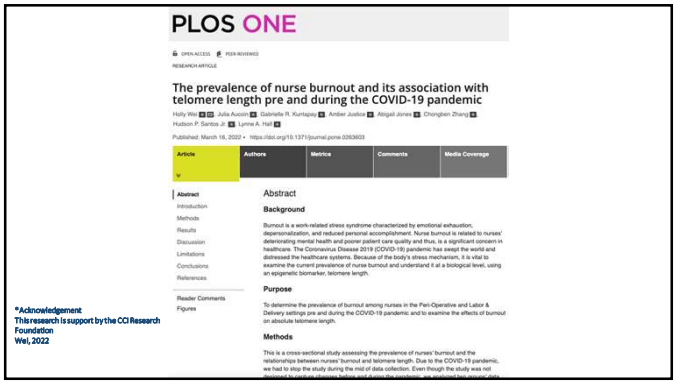
Abstract

BACKGROUND: Resilience is a characteristic and skill that nurses can learn. This study examined the current state and influencing factors of nurse resilience and nurse perceived job-related stressors.

METHOD: This cross-sectional survey study was conducted at a university-affiliated hospital in China between May and August 2018. The Connor-Davidson Resilience Scale was used to measure nurse resilience.

RESULTS: A total of 2,981 nurses participated in the study, with an average resilience score of 61.35 ± 13.12. Nurse resilience was significantly correlated with age, years of employment, clinical rank, and education ($p < .05$). Main job-related stressors included frequent inspections and examinations, heavy workload, mandatory overtime, and low wages.

CONCLUSION: The participants had resilience scores that were lower than in the general public in the United States and China, as well as in nurses in developed countries. This study indicated a need for hospital leaders to find ways to reduce nurse work-related stress. Building nurse resilience should be an important focus for leaders. [*J Contin Educ Nurs.* 2020;51(3):132–137.]



PLOS ONE

The prevalence of nurse burnout and its association with telomere length pre and during the COVID-19 pandemic

Abstract

Background

Purpose

Methods

*Acknowledgement
This research is support by the CCI Research Foundation
Wei, 2022

Methods

Sample

N=146 nurses

OR, Post-Anesthesia, Labor & Delivery Units

Measures

Demographics

Maslach Burnout Inventory

Finger prick

Data Collection

Collected before and during the COVID-19 pandemic

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Results

- Demographics highlights:
  - Predominately female and Caucasian
  - Median age range was ~45 years
  - Most nurses had a bachelor's degree or higher
  - Most nurses were at the second of four levels of seniority
  - Median years of experience as an RN was ~20

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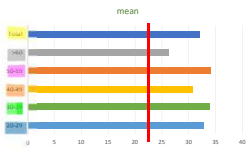
Prevalence of Burnout

Prevalence of burnout among nurses in the sample (N = 146)

MBI Subscales	Burnout Levels	Frequent	Percent
Emotional Exhaustion (Score: 0 – 54)	High (≥ 27)	95	65.1
	Moderate (19 – 26)	35	24.0
	Low (0 – 18)	16	11.0
Depersonalization (Score: 0 – 30)	High (≥ 10)	56	38.4
	Moderate (6 – 9)	68	46.6
	Low (0 – 5)	22	15.1
Personal Accomplishment (Score: 0 – 48)	High (0 – 33)	1	0.7
	Moderate (34 – 39)	13	8.9
	Low (≥ 40)	132	90.4
Total Burnout (Total High Burnout refers to the	Low Burnout	43	29.5
	High Burnout	103	70.5

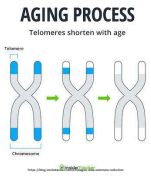
MBI Emotional Exhaustion by Age Groups

Age groups (yrs; n)	Score Range	Mean
20 – 29 (31)	28.57 – 37.05	32.81
30 – 39 (28)	29.38 – 38.48	33.93
40 – 49 (25)	26.31 – 35.13	30.72
50 – 59 (34)	29.53 – 38.59	34.06
>60 (18)	22.27 – 30.39	26.33
Total (136)	30.15 – 34.07	32.11



(score: 0 – 54)
High burnout >= 27
Moderate 19 – 26
Low burnout 0 – 18

Telomeres

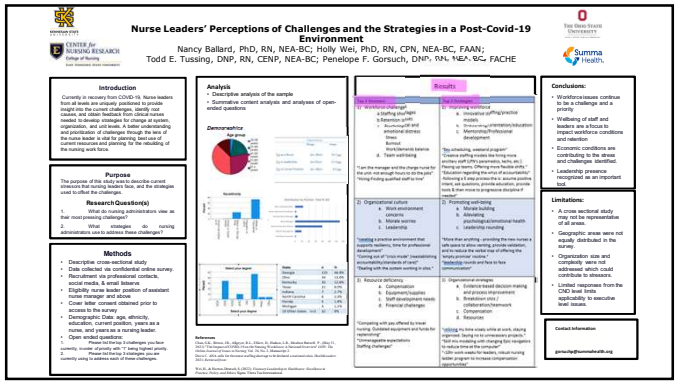


Telomere Lengths Pre and During the Pandemic

Results of Parametric and Non-Parametric Tests of Pre- vs. During Pandemic Telomere Lengths

Variable	Pre - Post Difference	*t*	*df**	*p*	Mann-Whitney U	*z*	*p*
Telomere Total Length	253.238	6.086	93.60	<.001	733.5	-5.479	<.001
Telomere Average Length	2.752	6.085	93.61	<.001	734.5	-5.473	<.001

* Levine test for homoscedasticity $p < .001$, equal variances not assumed, Satterthwaite correction to degrees of freedom applied.



Nurse Leaders' Perceptions of Challenges and the Strategies in a Post-Covid-19 Environment

Nancy Ballard, PhD, RN, NEA-BC; Holly Wei, PhD, RN, CPN, NEA-BC, FAAN; Todd E. Tussing, DNP, RN, CENP, NEA-BC; Penelope F. Gorsuch, DNP, RN, NEA-BC, FACHE

Introduction

Purpose

Research Question(s)

Methods

Analysis

Results

Conclusions:

Limitations:

Contact Information

Top 3 Stressors

1) Workforce challenges
   a. Staffing shortages
   b. Retention issues
   c. Psychological and emotional distress
      Stress
      Burnout
      Work/demands balance
   d. Team well-being

- "I am the manager and nurse. I just don't have enough hours to do the job."
- "It's hard to keep nurses."
- "Difficult to hire qualified nursing staff."
- "Nurses are tired."

Top 3 Stressors

2) Organizational culture
   a) Work environment concerns
   b) Morale worries
   c) Leadership

- "Creating a practice environment that supports resiliency."
- "Finding time for professional development."
- "Coming out of crisis mode, reestablishing accountability/standards of care."
- "Working in silos."

Top 3 Stressors

3) Resource deficiency
   a. Compensation
   b. Equipment/supplies
   c. Staff development needs
   d. Financial challenges

- "Competing with pay offered by travel nursing."
- "Working with outdated equipment and lacking funds for replenishing."
- Unmanageable financial expectations and staffing challenges."

Top 3 Strategies

1) Improving workforce
   a. Innovative staffing/practice models
   b. Onboarding/orientation/education
   c. Mentorship/Professional development

- "Using flex scheduling, weekend program."
- "Creative staffing models like hiring more ancillary staff (LPNs, paramedics, techs, etc.)."
- "Education regarding ways of accountability."
- "5-step process: Assume positive intent, ask questions, provide education, provide tools, and move to progressive discipline if needed."

Top 3 Strategies

2) Promoting well-being
   a. Morale building
   b. Alleviating psychological/emotional health
   c. Leadership rounding

- "Provide new nurses a safe space to allow them to vent, offer validation, and reduce the verbal trap of offering empty promises."
- "Leadership rounds."
- "Face-to-face communication."

Top 3 Strategies

3) Organizational strategies
   a. Evidence-based decision making and process improvement
   b. Breakdown silos/collaboration/teamwork
   c. Compensation
   d. Resources

- "Utilizing time wisely, staying organized, and saying no to unnecessary projects."
- "Skill mix modeling with changing Epic navigators to reduce time at the computer."
- "Robust nursing ladder program and increase compensation opportunities."

Implications for Nurse Leaders:
Strategies to Prepare Beyond the Pandemic

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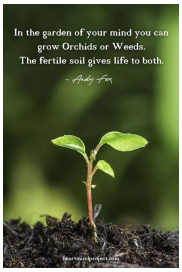
Vroom's Expectancy Theory

- The assumptions:
- The more an employee values the outcome, the more motivated they are to achieve it.
- The more effort they put in to succeed, the more certain they are to get that satisfying reward.
- Keep promises.
- Value nurses' work.
- Recognition.

The Human Mind

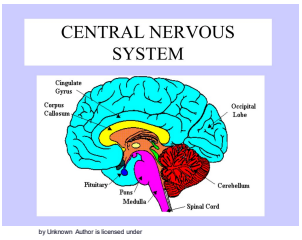
The human mind is like a fertile ground where seeds are continually being planted. The seeds are opinions, ideas, and concepts. You plant a seed, a thought, and it grows.

New Age author and spiritualist Don Miguel Ruiz



Human Brain and Emotions

- The emotion control functions
  - Neocortex
  - The Limbic system
- Two types of processing
  - Sensation processing
  - Perception processing
- Hypothalamic–pituitary–adrenal (HPA) axis
  - Hypothalamus: corticotropin-releasing hormone (CRH) and arginine vasopressin (AVP)
  - Pituitary gland: the adrenocorticotropic hormone (ACTH)
  - Adrenal glands: cortisol



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HEALTHY NURSE

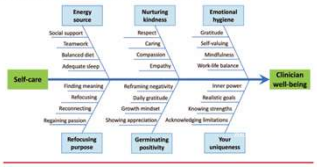
The power of self-care: An ENERGY model to combat clinician burnout

It's more important than ever for nurses to take care of themselves.

By Holly Wei, PhD, RN, CPN, NEA-BC, and Trent L. Wei, MD

ENERGY self-care model

Use this model to incorporate self-care strategies that can help reduce stress and mitigate burnout.



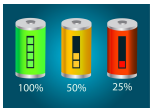
A unitary caring science resilience-building model: Unifying the human caring theory and research-informed psychology and neuroscience evidence

Holly Wei [a,*], Sonya Renae Hardin [b], Jean Watson [c]

Energy Sources

Two energy sources

- Physical energy sources.
- Emotional energy courses.



Science behind:

- The hypothalamic-pituitary-adrenocortical (HPA) axis, central oxytocin pathways, and Endorphin.

Nurturing Kindness

Emotional Hygiene

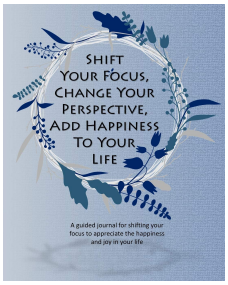
- Emotional Regulation
- "down-regulation"
  - Deep Breathing
  - Exchange positions
  - Focus on reasons to feel calm
  - Disclose difficult feelings
  - Expressive writing
  - Mindfulness practice
  - Yoga and Meditation
- "up-regulation
  - Service to others
  - Develop inner power

Do you have a best friend at work?

- The Gallup Q12 employee engagement survey.
- Gallup has found staff who have a best friend at work are more engaged and less likely to leave.

Refocusing and Refining Purpose

- Cognitive reappraisal
- Shift focus
  - Limiting news consumption
  - Letting go perfectionism
  - Being compassionate with ourselves
  - Finding meaning in what we do
  - New opportunities



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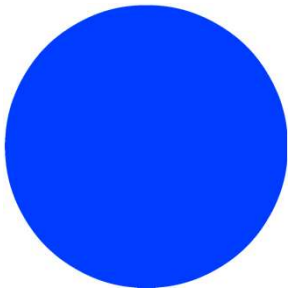
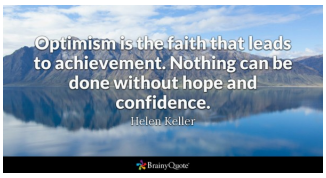


Germinating Positivity

- Cultivate optimism
- Optimistic ABCDE
  - **A**ppreciating life
  - **B**eginning our day with gratitude
  - **C**ultivating a growth mindset
  - **D**eveloping positive habits
  - **E**ncouraging constructive language



We are all in this together

Leader as Coach

A Leader: a coach, a cheerleader, and a gardener

Thank you!

Dr. Wei Profile

Dr. Holly Wei – LinkedIn

Visionary Leadership in Healthcare

Dr. Holly Wei - ResearchGate

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