2-2024

Life After the Pandemic: Use of an Educational Coping Strategy Tool Kit for Healthcare Professionals

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This doctoral project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

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Date: Jan 17, 2024

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by

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February 2024

Dedication

This project is dedicated to my mother, Linda Shearer-Thorpe, and father, Clifton Thorpe. My wind beneath my wings, my inspirations, and my role models who nurtured and motivated me throughout the short time I spent with you both. Even though your time on earth was short-lived, you both have instilled some excellent principles in me that have given me renewed strength and focus on achieving the unthinkable; your words have been my driving force, even when I thought the impossible was unattainable. I will forever live by this gem you taught me: “The heights of great men reach and kept were not attained by sudden flight, but they, while their companions slept, were upwards toiling through the night.” I will always be guided by your wisdom and dedicate my achievements to my sleeping yet not-quite chair leaders, as your words of inspiration keep echoing through my mind. My heroes, I know you both would be very proud to see the path I have chosen today. As I press onwards, I know, “I can do all things through Christ who strengthens me.”

Acknowledgments

This project was selected and implemented based on my faith and trust in God to provide the opportunity, guidance, and strength needed to complete the study.

My gratitude to Dr. Tonya Sawyer-McGee, my project chair, and Dr. Marcia Sotelo, my committee member, for their feedback, unswerving support, and tremendous guidance in effectively putting together this research project.

Many thanks to the human resource staff and employees of the organization for volunteering to participate in this research study. I am genuinely grateful to Angie, the nurse educator, for her efforts to get staff coverage on the unit to allow participants to attend the educational session and for the preparation of the venue.

My most tremendous appreciation to my husband, Copeland, and children, Candice and Carson Gilpin, for their support and understanding throughout my preparations and project completion.

To all my family, friends, and cheerleaders, I am eternally grateful for your prayers, love, and emotional support; thanks for inspiring me to strive toward achieving greatness.

Abstract

Research has proven that acute care healthcare professionals (i.e., nurses, certified nursing assistants, and respiratory therapists have been experiencing ongoing challenges and ineffective coping mechanisms. The Toolkit for Emotional Coping for Healthcare Staff (TECHS) educational toolkit has introduced practical coping skills that could benefit healthcare workers. Using the TECHS has effectively inspired the development and usage of practical coping skills among healthcare workers. There were three tools included in the TECHS educational material to understand and manage adversity, which can be repeated for new or recurring stressful situations in a personal or team-based approach. These tools were based on cognitive-behavioral therapy skills and skills for groups and families. The researcher chose a 30-question survey regarding the components of the ProQOL 5.0 questionnaire to perform the quantitative survey and the TECHS educational assessment toolkit to assess the views and coping skills of healthcare professionals in intensive care units 2 years after the onset of the COVID-19 pandemic. An interactive 30-minute presentation was used to share evidence-based coping tools and discuss available coping resources to encourage the development of effective coping mechanisms. Thirty days following the educational session, a postsurvey was conducted to assess the effectiveness of the TECHS tool kit. Results revealed that statistical significance was assumed at an alpha value of 0.05 in the analysis of burnout, post-traumatic stress disorder, and compassion satisfaction.

Keywords: COVID-19, intensive care unit/acute care setting, healthcare workers/professionals, stress, burnout, psychological impact, coping mechanisms

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

The global coronavirus outbreak has negatively affected the U.S. health system. Significantly, the prolonged surges in hospital admissions and deaths have had profound impacts on the psychological wellbeing of healthcare professionals (i.e., nurses, certified nursing assistants, and respiratory therapists). This adverse impact has been shown to cause reports of increased burnout, resulting in feelings of depression and anxiety because of ineffective coping. This can be related to post-traumatic stress disorders to the point of suicide ideation or the actual act (Kamberi et al., 2021). Healthcare professionals (HCPs) have been working in a complex work environment that has increased their risk of undergoing intense-stress levels daily. HCPs exposure was additionally heightened by the COVID-19 pandemic, which resulted in changes in acceptable healthcare practices and demands leading to increased stress levels over 2 years. Koinis et al. (2015) identified various categories in which stress can affect staff, including emotional changes leading to depression, decreased empathy for others, anxiety and changes in psychosomatic conditions affecting abilities to meet job expectations due to being overwhelmed.

According to the Centre for Disease Control and Prevention (CDC; 2021), highly stressed frontline workers during the COVID-19 pandemic had experienced overwhelming emotional responses due to fear. Vast distress and impairment heightened by compassion fatigue where ongoing reports within the healthcare setting, these adverse impacts could have been reduced with practical interventions (CDC, 2021). HCPs were informed to seek help if needed when they are undergoing unmanageable stressful situations. If experiencing feelings such as irritation, anger, denial, uncertainty, nervousness, vulnerability, hopelessness, powerlessness, demotivation, exhaustion, burnout, sad, depress, difficulty sleeping, and thinking there is no way

out of a situation, HCPs should seek help. Stress among healthcare workers is universal and has gravely affected the institution of interest, resulting in high rates of staff turnover, above-average absenteeism, and a decline in the quality of patient care delivery. The institution had invested thousands of dollars in mitigation efforts which have not provided considerable improvement. Ethical dilemmas have developed with concerns for the safety of care delivery due to the current staffing issues and reports of being overworked and highly stressed. Suggestions to help address concerns are highly sought after, hence, the introduction of the TECHS tool and the ProQOL 5.0 questionnaire to provide assessment and psychological support for the staff. It was fundamental to gain an understand of the HCP's perception of stress levels through evidence-based assessments to coin and implement practical solutions geared towards preventing a public health mental catastrophe.

Background of the Project

The COVID-19 pandemic has had an adverse psychological influence on HCPs to the magnitude that some individuals have intensified levels of stress, depression, and viewpoint of being overly exhausted or experiences of suicidal ideation. According to Vizheh et al. (2020), responses from HCPs showed that incidents of anxiety, depression, and stress were 24.1%, 12.1%, and 29.8% at their lowest, with a high of 67.55%, 55.89%, and 62.99%, respectively. Significant emotional reactions to the covid pandemic are more profound among HCPs who had provided direct care to COVID-19 patients due to their level of exposure, perceived risk, heightened stress levels, and limited personal equipment they had to work with.

Nonetheless, ongoing research will provide benefits to overcome the existing challenges and prevent a worsening of the problem. HCPs had communicated the yearning for added

emotional and physical support in a declaration that says, “who cares for the caregiver” unfortunately, this statement has proven to be factual. Some workers may feel abandoned or compelled; however, with the help of research findings, an informed decision can be made to address concerns to promote a healthier workforce. Research findings can also encourage a supportive workplace, and job fulfillment, notwithstanding the global crisis facing the health system, which was furthermore complicated by the COVID-19 pandemic. Ongoing practical plans were helpful to reduce current issues to promote and sustain a robust physical and mental workforce and a more reliable and efficient healthcare infrastructure, thus the proposal of this project. The data gathering and evaluation of information acquired will be disseminated to help develop appropriate interventions to create a positive work environment.

Organizational Needs Assessment

An organizational needs-based evaluation was performed to identify the needs of the organization through a systematic review of the organization's progressions, culture of the work environment, and environmental structure. The needs of the organization were identified by assessing the strengths, weaknesses, and risks of the organization. A strengths, weakness, opportunities, and threats (SWOT) analysis for this project had provided valuable information for quality improvement (see Appendix A). A gap was noted between current practice and desired practice change to enhance patients’ experience at the project site. The institution had initiated mitigation efforts through staff recruitment drives, salary increases, bonuses, tokens of appreciation, employee recognitions, and employee support programs. These measures had not provided much relief to the organization’s distress as HCPs were still experiencing feelings of

stress or burnout. This resulted in high rates of staff turnover, above-average absenteeism, and a decline in the value of patient care delivered.

SWOT Analysis

The SWOT analysis was used to determine the position of the organization by identifying its strengths, weaknesses, possible opportunities, and organizational threats to help guide mitigation efforts for improvement, bridge gaps in practices, identify potential opportunities, sustain strong efforts, and to minimize exposure to risks. The objective was to heighten awareness of the factors that affect decision making and to establish strategies to address concerns that are creating a negative impact for the organization.

Strengths. Three strengths of the health organization were its recognition for its cost effectiveness, high-quality care, and specialized expertise in skills and technology to manage complex brain injuries. The organization also had specialized expertise in skills, technology, and operations that can enhance patient experience with complex brain injuries. These strengths have successfully impacted the ability to maintain change to practice.

Weaknesses. Four significant weaknesses were observed: puny approaches to address or manage concerns leading to high staff turnover, heavy patient nurse ratio, autocratic leadership style, and limited access to mental health support resources. These were issues that have caused increased stress for ICU HCPs resulting in job dissatisfaction, increased chances for medical errors and decrease in the quality-of-care delivery. These risk factors had challenged and negatively impacted effective adaptation abilities to maintain transition in practice.

Opportunities. Four opportunities for the organization improvement included the use of evidenced-based research to inform practice, potential for best practice policy changes and

implementation, prospects for staff retainment, possibility for improvement in job satisfaction. These are efforts that can lead to project sustainability.

Threats. Three potential internal threats identified to the organization were poor management styles, a tense work environment, and increased work demands due to short staffing. Three external threats identified were better paying competitors, state recommended nurse patient ratio or policies, and opportunities for professional growth at other healthcare organizations. These risk factors had acted as significant barriers to achieving a minimal stressful work environment. To successfully mitigate these concerns, managers must first accept that there was a problem and be willing to put plans into action to stimulate changes for improvement.

Statement of the Problem

Regardless of approaches for overseeing mental health distress and work-related stressors, HCPs endured and display intense stress levels, this could have been prevented if available coping methods were employed. HCPs tend to encounter extreme staffing turnovers, which led to increased stress, amplified workload, absenteeism, and risk for avoidable medical errors. CDC (2022) had stated that healthcare providers' risk of developing mental health problems had heightened. Even though the issue existed before the pandemic, the trend has been unrelenting, with over 20 million U.S. healthcare workers still experiencing challenging work conditions resulting in a decline in practical coping abilities and associated poor mental health outcomes (CDC, 2022). Since the advent of the COVID-19 pandemic, the weight of these adverse challenges was further compounded by the prolonged nationwide staffing shortage, fatigue, and fear of the unknown during the pandemic (CDC, 2022). This had been attributed to an increase in concerns among HCPs and might have added a new level of burden that has the

possibility to continue beyond the curbing of the covid outbreak (CDC, 2022). Although alertness and deterrence of workplace stress have been advertised, it was essential to understand the powers of stress, and difficulties that could result in a healthcare crisis. The extent of the TECHS tool kit effectiveness was identified through comparison of the pre- and postProQOL 5.0 survey 30 days after the introduction of the tool kit to the HCPs.

Project Purpose

This project was used to introduce the TECHS educational toolkit to promote effective coping strategies among ICU HCPs over a 30-day period in comparison to current strategies. The project was done in collaboration with the educational team to increase awareness, discuss modifiable identified risk factors, and provide recommendations on implementing interventions throughout the organization as stress-relieving efforts that can be employed to promote a more practical approach to adopting effective coping skills. Maresca et al. (2022) stated that performing self-awareness activities, discussing concerns, and seeking and applying practical coping strategies had improved HCPs' empathy and compassion for others by providing a supportive means to manage stressful situations. A study conducted by Alkhawaldeh et al. (2020) revealed that occupational stress among nurses is increased by 74%, a risk factor for existing emotional and physical gaps in knowledge and awareness and has prevented HCPs from utilizing available strategies to cope with increased stress levels. The creation of evidence-based stress-relieving programs and tools is essential to support HCPs. It has been shown to benefit ongoing stress management relief and enhance coping mechanisms for workers and their families, resulting in more productivity and less burden on an organization.

PICOT Question

RQ1: For this project, the PICOT question was: Does using the TECHS educational tool kit on management and coping with stress improve the quality of life (QOL) for healthcare professionals within the intensive care unit 30 days after an educational session?

Concerning the PICOT format for this project, the question is further defined as the following:

- **P** – Healthcare professionals within the intensive care unit
- **I** – an educational tool kit on management and coping with worsening stress after the COVID-19 pandemic
- **C** – none/no comparison
- **O** – improved coping skills from baseline through the implementation of effective coping strategies
- **T** – posteducational session.

The population had included HCPs such as registered nurses, respiratory therapists, and certified nursing assistants. The participants received educational training on using the TECHs toolkit. I had compared the kit's effectiveness in identifying ineffective coping and promoting effective coping strategies among HCPs before and after the educational session. The research outcome was analyzed and measured 30 days after using a posttest.

Operational Definitions

The ensuing operative definitions were employed to describe the project variables and terminology for ease of understanding.

Burnout. identified as a syndrome of work-related demands and stressors that usually occurs in HCPs due to prolonged, demanding job requirements in the presence of limited work resources, manpower, and a highly stressed work environment over time (De Hert, 2020).

Coping mechanism. recognized as the ability to identify and implement practical coping skills to mobilize and manage perceived stressful situations (Algorani & Gupta, 2022).

Healthcare professionals. identified as a skilled individual who provides quality care and aid to the sick and could be referred to as nurses or healthcare aides such as certified nursing assistants, respiratory therapists, handlers of waste products, environmental stewards, or laboratory technicians, among others employed to enhance the quality of healthcare delivery (Joseph & Joseph, 2016).

Intensive care or acute care unit. identified as a unit of specialty for the more intense direct care of critically ill high-risk patients that require immediate life support to prevent organ failure or death (Ervin et al., 2018).

Stress. recognized as a natural human response that will develop to a perceived life-altering stimulus that exerts adverse effects on an individual ranging from imbalances in the usual way of life to disruptive changes or even death, depending on its severity, type, and timing of occurrence (Yaribeygi et al., 2017).

Summary

Vigorous mental health should be prioritized and campaigned for by healthcare leaders. In reviewing the residual psychological impacts following the COVID-19 pandemic, it was necessary to recognize at-risk populations, risk factors that were changeable, and proposed solutions to the implementation of practical mitigation efforts. Hospital administrators and

organizational leaders should assess the benefits of implementing continuing screening and supportive programs for HCPs to detect ineffective coping abilities and to mitigate the impacts they might have on the effective functioning of their organizations. There have been ongoing campaigns to heighten awareness of the resulting worsening psychological impacts of burnout, and prolonged intense stress levels, that has notably increased during the COVID outbreak and can profoundly impact responses to patients and their families (Shreffler et al., 2020). Therefore, essential data were gathered for analysis to assess the level of psychological impact to implement meaningful interventions. This will help reduce financial costs for the institution to mitigate problems that arise and promote emotional resilience and economic and health sector stability.

Søvold et al. (2021) showed that deprived care outcomes and work efficiency are seen in a highly stressed work environment and have significantly impacted the quality of care, situational judgments, commitment to the delivery of quality care, and perceived work-related stressors and can grossly impact an HCP quality of life. It was crucial to accurately identify and address work-related risk factors to protect healthcare workers' mental wellbeing.

Chapter 2 will present insights on supporting literature reviews and theoretical framework used to address concerns surrounding the topic. The remaining chapters highlight data collection, methods, measurements, analysis, and presentation of findings. The information provided seeks to help healthcare workers evaluate their mental health status and incorporate available coping strategies. These supportive steps will address workers’ wellbeing and promote positive support for the staff through an ongoing commitment to caring for and restoring the healthcare system.

Chapter 2: Literature Review

The research analyzed the psychological concerns affecting HCPs through a quantitative study. This chapter provides an overview of the literature reviewed that supported this project. A global healthcare catastrophe emerged due to the COVID-19 outbreak, leading to chaotic healthcare system disruptions (Gupta et al., 2021). Gupta et al. (2021) also stated that healthcare workers were receiving heightened attention due to the overall effect of the pandemic that had affected their emotional and physical wellbeing. Additionally, emerging research showed increased incidents of psychological distress, feelings of burnout and in some cases suicidal ideation (Gupta et al., 2021). The past 15 years have been associated with some chaotic outbreaks, namely the Middle East respiratory syndrome (MERS), the severe acute respiratory syndrome (SARS), and the recently controlled novel coronavirus pandemic (COVID-19) that has put an increase strain on the healthcare system, resulting in disruption of the normal way of life and increased challenges on the already overburdened healthcare system (Callus et al., 2020). A study conducted by Hawryluck et al. (2004) and Wu et al. (2009) showed that following the SARS pandemic, there was an increase in reports of anxiety, sleep disorders, depression, worsening stress levels, and post-traumatic stress disorders that were all related to these types of events (Callus et al., 2020). The COVID-19 pandemic was an added stressor that further created a strained on the already overburdened HCPs and becoming a significant cause for concern as the impact had created a residual effect on mental health and have influenced a call for additional interventions (Callus et al., 2020). The TECHs toolkit has proven to be effective in promoting practical coping methods among HCPs.

The Jean Watson theoretical framework of self-care was used to support this study. By integrating user-friendly interactional coping approaches into work and family life, HCPS can develop coping techniques to respond more practically to life stressors. Many HCPs had turned to colleagues or guidance counselors, but sometimes the support given is just not enough or suitable to be implemented daily. There were multiple risk factors that influence HCPs to experience stressors, many of which were amendable, requiring a multiprong approach to achieve a balance health status, as there is no good physical health without robust mental health. According to research done on the topic, it was relevant to consider psychological needs and preferences for treatment when faced with stressful or adverse changing situations (Callus et al., 2020).

Literature Search Strategy

A careful literature review was conducted to gain an understanding of the role of an educational tool kit on the management of stress and coping strategies to improve the professional quality of life for healthcare professionals within the ICU. The coronavirus pandemic has heightened awareness for ongoing emotional evidenced-based support to HCPs. Price et al. (2020) stated that ongoing support and resources should be easily accessible and provide guidance on how to obtain emotional support and evidence-based information. Research articles were selected based on my topic of interest and their content relevance to key terms concerning stress, burnout, coping mechanisms, healthcare professionals, and intensive care units. Several research database engines were explored, including ScienceDirect and Medline databases, Cumulative Index to Nursing and Allied Health Literature (CINAHL), EBSCO, ProQuest Nursing, and Allied Health, all of which are deemed credible sites. A 5-year period

was used as a guide for article inclusion. Initially, the search yielded over 400 articles. A Google Scholar search was also conducted using the same terms, which yielded an additional 150 articles. Articles that were published before 2018 were excluded from the study, along with those referring to HCPS other than the population of interest and duplicate articles were excluded. Forty articles remained after these exclusions. Seven research studies were included in the literature review. Four of the 15 articles (25%) provide insight into the impact of COVID-19 on HCPs' mental wellbeing. Another four (25%) focus on stress symptoms further heightened by the COVID-19 advent, and another three (30%) focus on burnout effects on HCPs more affected by the COVID-19 pandemic. The last four articles (20%) focus on coping mechanisms.

Synthesis of Literature

The literature review was an essential part of this study proposal as it provided supportive evidence that affirmed the need for this research project as it captured valuable insights on previously obtained research assessments, evaluation, and validated results that can be used to highlight the issues affecting HCPs, inform practices, implement practical coping strategies, and reduce mitigation cost to individuals and the institution. Fifteen articles addressing the key terms of the project were reviewed, and research findings were summarized to highlight their appropriateness and relevance to the topic of interest (see Appendix B).

The Stimulated Mental Effects of COVID-19

The study article, "Mental health outcomes of ICU and non-ICU healthcare workers during the COVID-19 outbreak: A cross-sectional study," was published by Wozniak et al. (2021). Wozniak et al. (2021) argued that ICU HCPs are working in a highly stressed work environment and are exposed to a high incidence of undesirable changes in their mental

wellbeing. The research was conducted to examine emotional and lifestyle alterations during the first wave of the COVID-19 outbreak and compare the outcomes to other healthcare workers who are not working in the ICU. An additional aim of the study was to gain insights into mental health exacerbating factors during the pandemic (Wozniak et al., 2021).

Wozniak et al. (2021) used a cross-sectional survey method in a study carried out at the Geneva University Hospitals to obtain demographic and social data, variations in lifestyle, and mental health alterations due to the coronavirus pandemic. These were evaluated between May 28th to July 7th, 2020, using the Patient Health Questionnaire 9 items (PHQ-9); also, the Generalized Anxiety Disorder 7 items (GAD-7), the Peritraumatic Distress Inventory (PDI) and the World Health Organization Well-Being Index (WHO-5), a group of eight public hospitals in Switzerland was included (Wozniak et al., 2021). The study encompassed a total of 3461 HCPs, with 352 of them being ICU HCPs; an assessment of ICU HCPs was performed to evaluate for adverse mental health effects and modification of lifestyles due to the pandemic, and then a comparison of results was made with a similar assessment of non-ICU HCPs (Wozniak et al., 2021).

Wozniak et al. (2021) reported that the mean score results from the measurement tools PHQ-9, GAD-7, and WHO-5 were significantly higher in ICU than in non-ICU HCPs ($p < 0.01$). Additionally, the identification of poor eating practices, difficulty sleeping, and increased alcohol consumption were more significant and associated with a substantial decline in mental wellbeing. In conclusion, the benefit of the study is that it validates suspicions that the relationship between heightened anxiety, PTSD, depression, and low mental wellbeing among HCPs was linked to the wave of COVID-19. This result facilitated a means to identify allied risk

factors and allowed the opportunity for the establishment of long-term psychological follow-up for HCPs (Wozniak et al., 2021). There were no limitations or conflicting interests.

In another article by da Silva and Barbosa (2021), "The impact of the COVID-19 pandemic in an intensive care unit (ICU): Psychiatric symptoms in healthcare professionals," the authors argued that it was of significant concern, the extent to which HCPs' physical and mental wellbeing had been affected. A systematic review was conducted using the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analysis); studies involving HCPs' mental health during the coronavirus pandemic were explored; qualitative and quantitative studies were performed to evaluate the experiences, extent of the challenges, and usefulness of interventions (da Silva & Barbosa, 2021).

da Silva and Barbosa (2021) stated that outcomes obtained by the investigators confirmed that 21 studies speak to the necessity for intercessions to address concerns of increased negative impacts on the mental health of HCPs in the ICU that had been worsened by the COVID-19 outbreak. Eleven studies supported the benefits of organizational inputs in interventions to address concerns in the ICU that were related to emotional struggles trying to combat the covid pandemic. This study was beneficial to the topic of interest as it had supported that the disproportion between increased workloads, scarcity of proper protective personal equipment, and technical supplies to work with might have induced heightened levels of anxiety, difficulty sleeping, psychological distress, and grief during the pandemic (da Silva & Barbosa, 2021). There were no limitations to the study.

Huang et al. (2022) conducted a study on the psychological impact of fear, depression, burnout, anxiety, and fatigue induced by the COVID-19 pandemic in HCPs because of work

demands, heightened risk for virus exposure, and overwhelming work schedules that had led to increased risk for developing psychological disorders. A cross-sectional study was used by the researchers to arbitrarily recruit 439 HCPs in Hunan Cancer Hospital through a web-based selection method. Data were collected based on a selected questionnaire where variances in fear, depression, anxiety, and PTSD among HCPs were analyzed. The incidence of PTSD, depression, and anxiety, in HCPs were 12.8%, 9.6, and 15.7, respectively. Female nurses were identified with higher PTSD and fear levels ($p < 0.05$). Further analysis revealed females in the 35–59 years-old age group experienced higher psychological distress.

This research finding was valuable to healthcare as it revealed that demographic data such as age and gender were linked to varying levels of psychological turmoil in HCPs. The study also emphasized the need for clinical supportive care to be realized for specific HCP groups to enhance psychological health levels during and after the erratic long lasting impact of the COVID-19 pandemic.

Biber et al. (2022) supported that the COVID-19 pandemic had gravely impacted the psychological wellbeing of health care providers (HCPs). Biber et al. (2022) examined the mental health consequences and COVID-related stress influences among HCPs. A Health Care Worker Stress Survey was completed by participants, and a cross-sectional study was conducted. The most significant concern reported was the uncertainty of gaining control over the COVID-19 outbreak. Approximately 50% of HCPs reported more minimal levels of anxiety, including 22.5% who had experienced moderate to severe anxiety levels. Two-thirds of participants had reported poor sleep quality and one-third to one-half described other sleep related problems. It

was concluded that performance limitations due to emotional concerns had correlated with COVID-19 associated anxiety, stress, and sleep disorders.

Sharing these results can be used to educate stakeholders of concerning issues and lead to the strategic design of interventions to reduce the immense burden of stress for HCPs. The findings are useful as it will help to explain psychological outcomes on a broad-spectrum reflecting HCPs delivering care in the United States in the early onset of the COVID-19 pandemic. Results reflected a high anxiety level among HCPs which varies by gender, age, and job functions. This information can be used to inform employer groups and other stakeholders in the delivery of health care.

Stress

Vinkers et al. (2020) presented a crucial summary of the impacts of the pandemic on mental wellness and how stress-related resilience was shaped by the pandemic, as HCPs seem to be highly exposed to developing stress-related emotional problems. Al Maqbali et al. (2021) performed a meta-analysis between January and September 2020 that detected COVID-19 stress affiliated psychiatric symptoms on nurses in 93 published studies, with over one-third of 90,000 nurses reporting elevation in anxiety levels, mood swings, worsening insomnia, and heightened stress levels (Vinkers et al., 2020). Compared to the extent of the SARS pandemic, these findings were considerably higher than normal among nurses working through a pandemic or in contrast with the general population throughout the same period (Vinkers et al., 2020).

Additionally, studies that evaluated the COVID-19 impacts on mental health during the years 2020 and 2021 have quickly developed. Concerns were also expressed for the mental wellbeing of vulnerable groups such as children, adolescents, the elderly, pregnant women,

patients with mental disorders, and HCPs who have been significantly affected (Vinkers et al., 2020). Every individual had reacted differently to the pandemic; therefore, there was an ongoing need to assess and carefully determine the resilience of the vulnerable population to provide the necessary support and tailor interventions to address specific needs for future pandemics (Vinkers et al., 2020). The study revealed that HCPs were predisposed to heighten stress-related psychological symptoms in comparison to the overall population during a pandemic (Vinkers et al., 2020). The limitations of the study show that longitudinal studies are lacking, leaving still to be proven if the increase in psychological symptoms were temporary and considered normal reactions to an acute situational crisis (Vinkers et al., 2020).

Kabito and Mekonnen (2020) showed that emotional and physical health could be gravely affected by work-induced psychosocial threats, which could place HCPs at higher risk for experiencing life-changing events that may significantly reduce their job performance and quality of life among other occupational groups. Healthcare leaders have often been challenged in countries like Ethiopia, to proactively implement preventative measures due to limited data on psychosocial hazards that had led to psychological impairments (Kabito & Mekonnen, 2020). Using a stratified random sampling technique, the study was conducted between April and March 2019. A cross-sectional survey of 422 HCPs was performed to evaluate the extent and motivating risk factors leading to psychological distress among HCPs in Gondar City, Ethiopia (Kabito & Mekonnen, 2020).

A standardized 10 items Kessler Psychological Distress Scale instrument was used to evaluate the extent of psychological stressors among HCPs; a 98.8% response rate was received from the distribution of 417 questionnaires to individuals with ages ranging between 23 and 57

and a mean result of 31.00 (± 8.219 SD) years (Kabito & Mekonnen, 2020). Over a 4-week period of study, psychological symptoms that were work-related resulted at 44.4% (*N* = 185), and 95% was attributed to being a female worker (Kabito & Mekonnen, 2020). High job demand and low job control were 95% related to substantial psychological distress (Kabito & Mekonnen, 2020). The study reinforced my argument that there were heightened levels of psychological distress among HCPs, as supported by Kabito and Mekonnen (2020), who had also stated that socio-demographic factors had significantly evoke psychosocial distress symptoms, including but not limited to job demand control. Hence, efforts to mitigate adverse mental health outcomes in HCPs should focus on job requirements and individual characteristics. No conflict of interest or limitation was identified.

Yaribeygi et al. (2017) found that several pathophysiological disease complications had arisen from stress, and individuals' exposure to stressful work or home environs, had an increase possibility of developing many disorders. Yaribeygi et al. (2017) emphasized that stress can be viewed as an aggravating or triggering factor for many pathological conditions and illnesses. The study had mentioned that mild stress can improve cognitive functions, however, if stress intensity is heightened beyond an individualized predetermined threshold, it could stimulate developments of cognitive disorders, especially in areas of judgement and memory. The authors also stated that there was an association between stress and immune system response, where people under immense stress are at higher risk of experiencing an impaired immune system resulting in more frequent illness. Yaribeygi et al. (2017) also stated that acute or chronic stress had also proven to harmfully affect the cardiovascular and nervous system functions, and negatively affects the GI tract function by increasing responses to inflammation from release of

mediator secretions and can either activate or modify the normal activity of many endocrine processes leading to illnesses and impaired body functions.

This study was beneficial to healthcare as it revealed that various health-related disorders may originate from stress and can be critical if there was prolonged or severe exposure to stressful situations. The health community should show more awareness for the effects of stress causing associated disease so that prompt interventions can mitigate resulting illness and the ripple effects of increase morbidity and mortality. Many individuals have reacted differently to stressful situations, hence there is an ongoing need to raise awareness on the effect of stressful stimuli and the variances and responses from different individuals so that timely support could be given to prevent a healthcare crisis.

Chen et al. (2022) supported that the COVID-19 pandemic has significantly impacted employees' psychological status and negatively impacted their job performances. The researchers sought to identify the relationship between employee satisfaction, mental health, and stress, along with concentrating on possible solutions to ease the effects of work stimulated stress on the performance of employees (Chen et al., 2022). They found that unpredictable results of emergencies and work-related stress events can negatively impact an employee’s performance, specifically by challenging their mental wellbeing (Chen et al., 2022). Chen et al. (2022) had revealed that work stress may trigger burnout, manifesting as frustration and fatigue, and is linked with various adverse reactions, including job discontent, truncated commitment to the organizational, and a high staff turnover and ultimately poor quality.

This study was found to be relevant to health care as the challenges and complexity of work-related induced stress have begun to receive more attention and had become a focal topic

for researchers and health workers alike. Capabilities associated with work stress demands on employees to apply ongoing efforts and applicable coping skills and has been linked to the development of various psychological problems. The results from this study have contributed to providing realistic guidance for organizations to develop effective.

Burnout

Prasad et al. (2021) argued that HCPs continue to be overburdened with a heavy workload and increased demands to care for COVID patients as the incident rate of cases surpasses 28 million and deaths totaling 515,000 in the United States as of the 4th of March 2021. Reported cases of burnout are not new in healthcare; however, since the pandemic, it had been associated with increased rates of substance abuse, difficulty sleeping, anxiety, fear of the unknown, and depression (Prasad et al., 2021). The effects and demands of COVID-19 were felt globally and have created negative impacts on mental health and effective coping abilities among HCPs; conducted research studies have cautioned about possible extended sequelae of the infection (Prasad et al., 2021).

Prasad et al. (2021) provided a full perspective on the effects of burnout and stress on HCPs that intensified during the pandemic; they had perceived that heightened stress levels would be more intense among HCPs such as nurses, certified nursing assistants, inpatient workers, axillary staff, and respiratory therapists. Prasad et al. (2021) theorized that reported emotional instability would be highest among minority workers even though the pandemic had impacted all HCPs. In analysis, it was concluded that COVID-19 experiences and epidemics in the past had proven that there is a need for ongoing assessment to monitor the emotional wellbeing among HCPs during and after the pandemic to mitigate future psychological crisis

from developing as expected (Prasad et al., 2021). The study supported that the workload grossly affected the mental health of HCPS, other professionals, women, and the minority populations (e.g., the disabled), with the resultant stress making them feel less appreciated, affirming the relevance of the research topic of interest. There were no study limitations noted.

De Hert (2020) concluded that burnout was classified as a form of work-related stress syndrome developed due to chronic exposure to job-related stressors and can affect all professional groups, especially those working in an intense work environment. This had led to significant impairment, abuse of substances, dysfunctional personal relationships, and professional inadequacies resulting in poor patient outcomes, medication errors, and malpractice suits with extensive cost to the organization and the caregiver (De Hert, 2020). De Hert (2020) stated that over the previous 10 years, there had been exponential development in research done on the topic to bring more awareness and recognition to the burnout phenomenon so that formulation of effective coping strategies can be developed and supported by organizational interventions to address problems of the modern-day health care systems.

The study affirmed my research project that burnout can be harmful and costly to HCPs, the patient, and the organization and can result in a public health crisis. A risk stratification was used to identify and implement measures to prevent future harm. Limitations to the study were that there was no clear definition or diagnosis consensus on burnout syndrome; also, there is a need for longitudinal research studies to properly investigate the risk factors stimulating burnout and identification of appropriate instruments to measure and evaluate HCPs' wellbeing (De Hert, 2020).

Maglalang et al. (2021) had also reflected in a study that burnout has been a growing problem among HCPs. The researchers examined the combined effects of family and work strains on burnout from a varied healthcare worker sample that included HCPs reflecting a more precise representation of the workforce. Maglalang et al. (2021) used a 2018 survey data of the Boston Hospital Health Workers Study (BHWHS) to assess the connection between the demands on family and the job, work tractability, and burnout (N = 874). Additionally, evaluation efforts were made to identify the controlling effects of flexibility in the work environment and family, and job demands on burnout. A descriptive distribution was used to depict variables, and a binary logistic regression was used to explore the relations of work-family conflicts and tractability in the workplace on likelihood of burnout (Maglalang et al., 2021). The study results had revealed that intense and strained HCPs were linked to heightened experiences of burnout. Results of the study had demonstrated that active and high strained healthcare workers are associated with higher odds of experiencing burnout. The findings also showed that stress related to family responsibilities can filter in from pressures at work and, vice versa, which had impacted job performances and family functionality of HCPs.

The benefits of this study revealed that flexibility in the workplace is vital for decreasing the chances of burnout in HCP population. It was also determined that examining the perception and convenience of workplace flexibility among healthcare workers was imperative to enhance the wellbeing of workers and care quality provided especially during the pandemic. The rising shortage of HCPs in relation to the aging population and the recent COVID-19 pandemic had implied that HCPs will continue to experience high risk for burnout. The results of this study

have helped to advise healthcare organizational in analyzing the effectiveness of their policies and clinical practices that can decrease burnout.

Edú-Valsania et al. (2022) also conducted a study to provide better understanding of burnout, its different mechanisms, how it arises, different trigger and modulating factors. This was done to help understand the impacts of burnout at individual and organizational levels, to properly select the main interventions to avoid and/or lessen burnout, and to present the best mechanism currently available to measure burnout and its relation to chronic workplace stress (Edú-Valsania et al., 2022). A mounting body of empirical evidence has proven that occupational health was more important now than before the COVID-19 pandemic. It was proven that unorganized work and professional environments can lead to adverse outcomes for workers resulting in exhaustion and depletion of their psychological reserves (Edú-Valsania et al., 2022). Being recognized as a significant psychosocial hazard, burnout has generated substantial costs for the individuals and organizations by its massive negative impact on the work performance and personal lives of healthcare workers (Edú-Valsania et al., 2022). Burnout has created a huge effect on the economy and public health infrastructure of several countries and had led to the World Health Organization (WHO) recognizing the burnout syndrome in the 11th Revision of the International Classification of Diseases (ICD-11) as a phenomenon exclusively linked to occupational context (Edú-Valsania et al., 2022).

The study showcases evidence that had shown the importance of including occupational health in the work environment due to the residual impact of the COVID-19 pandemic which had created substantial psychological strain on the healthcare workforce. Evidence from this study

has revealed that long-term cognitive and psychosocial health effects exist. The evidence can be used to develop interventions relevant for healthcare workers and the health sector.

Coping Mechanism

A research study conducted by Maresca et al. (2022) had placed more emphasis on effective coping interventions that could be most useful in a group setting discussing topics of burnout presentations. This technique has helped individuals to feel more appreciated through an improved awareness campaign on emotional crisis and has motivated them to gravitate more towards getting much needed emotional support. Maresca et al. (2022) also argued that it was beneficial to be aware of one's emotional state, as better emotional aptitude helps classify problems, serves as a guide to discussions, and promotes better communication and expressions of feelings. Additionally, it is necessary to structure work groups that allow individuals to voice their concerns and could foster a sense of emotional support as it provided a common medium through which staff can meet and deliberate aspects of work that had affected their emotional wellbeing; this can facilitate clarity and a sense of collective understanding (Maresca et al., 2022). Also, engagement in self-awareness groups had shown to be effective in helping to regulate HCPs' emotions by providing a medium for them to verbalize their concerns, thus enabling them to improve compassion towards themselves and others during stressful situations.

The importance was also identified for organizations to gain the views of their employees and seek expert opinions to select appropriate programs that can manage emotional issues, build resilience, and promote the development of good cognitive skills to help promote practical usage of time and available resources (Maresca et al., 2022). Maresca et al. (2022) have further argued that brief disengagement from stressful work environments was beneficial for HCPs to regain

their composures during challenging periods, as this will help them to engage in self-care activities and realign their psychological equilibrium through resting (Maresca et al., 2022).

The study concluded that high levels of burnout had affected the function of healthcare institutions; hence with the incorporation of resource support groups, it was essential to promote effective coping strategies supported by evidenced-based studies that could be of great benefit and influence to improve work conditions (Maresca et al., 2022). The study supported the topic of interest as it confirms the proposition to use a team approach to implement appropriate coping strategies to combat psychological disequilibrium in stressful working environments. The study's limitations had showed a deficit in access to other research studies about the burnt-out syndrome to measure, compare and evaluate issues in HCPs (Maresca et al., 2022).

Lukan et al. (2022) revealed that chronic stress in the workplace was associated with adverse health outcomes such as cardiovascular disease and mental disorders. The researchers had conducted a systematic review that had included studies evaluating stress exposures in the work environment and stressful outcomes and the study's data were obtained and measured via a subjective questionnaire and a physiological stress discovery method (Lukan et al., 2022). These measures were assessed repeatedly or constantly via an Ecological Momentary Assessment (EMA) or comparable methods performed in real work environments, to identify work related risk factors triggering daily heightened stress levels (Lukan et al., 2022). A qualitative synthesis was conducted to identify research articles and an association evaluation was done using a correlational analysis. The most measured stress risk factor in the workplace was assignment intensity, with stress as an effective response. These two dimensions had yielded results that

were found to be frequently correlated with statistical significance, identifying job intensity as a major daily risk factor for creating a stressful work environment (Lukan et al., 2022).

The benefits of the study to healthcare were that the findings had revealed self-perception of stress exposures and outcomes with physiological effects could be marred by an intense work environment. Hence, the situation had warranted strategic approaches to be taken by leaders to acknowledge and address concerns by identifying the needs of the workforce. Implementing strategic approaches has proven to help reduce the intensity of stress exposures and create a more positive work environment.

Boateng et al. (2021) had conducted a study among nurses at a high dependency unit at a Hospital in Ghana that was aimed to identify the causes of burnout syndrome and potential strategies to cope with them. A descriptive cross-sectional study was employed to determine the triggers of burnout syndrome over a 3-month period. Structured questionnaires were established for data collection. The study had involved 40 nurses. A Maslach Burnout Inventory (MBI) was used to evaluate burnout experienced by these nurses, with a focus on feelings of emotional exhaustion, lack of energy, impersonal response towards patients and personal achievement and depersonalization (Boateng et al., 2021). The result showed that increase emotional fatigue represents 62.5% of the respondents, 55% depersonalization and 52.5% in the personal competence using the MBI (Boateng et al., 2021).

The study had proven that the shared causes of burnout among nurses was related to poor work conditions, low wages, increase patient assignments, emotionally chaos, decrease or missed breaks, inadequate nursing staff, lack of appreciation from leaders, inadequate resources, poor interpersonal relationships, and conflicting work situations. These findings have helped health

care leaders to develop strategic policies that can be used to address burnout and increase coping abilities by providing suitable resources for nurses to use to create positive working environments and good improve relationship with the team and patients.

TECHS

Price et al. (2020) stated that heightened traumatic stress levels and emotional distress due to the COVID-19 pandemic might continue for months and even years to come. This had led to the development of a free online evidenced-based supported program "Toolkit for Emotional Coping for Healthcare Staff (TECHS)," by the Center for Pediatric Traumatic Stress to support providers of healthcare. Internalizing and discussing the TECHS toolkit among team members was highly encouraged to obtain views of colleagues, friends, and family members that might vary in beliefs and consequences in adverse situations (Price et al., 2020). With personal experience, it was found to be beneficial to share in groups with others how the usage of the TECHS toolkit has helped when faced with a similar situation. This had served as a motivation for willingness among peers and family members to use and apply the toolkit for positive results.

ProQOL 5.0

Geoffrion et al. (2019), using the ProQOL scale, conducted a study to assess how aggression in the workplace affected child protection workers. The results of the scale ranged from 30 to 150 after data were analyzed, a low score represented the poor professional quality of life while a higher score represents a good work life (Geoffrion et al., 2019). This result supports the validity of the ProQOL scale in its bifactorial structure as the instrument demonstrates its ability to assess professional workers' quality of life. For clarity, it was beneficial to have an

evidence-based, supported instrumental tool and scale that can assess, measure, and validate an HCP's perspectives on the professional quality of life being experienced.

Findings

The reviewed literature provided evidenced-based support for existing levels of personal and occupational stress, burnout, poor job satisfaction, depression, anxiety, PTSD, and ineffective levels of coping due to prolonged exposures to a demanding job environment which has been intensified by the advent of the novel coronavirus pandemic and might continue beyond months and years to come. The concerns for the level of mental health arrangements and emotional instability have led organizations to develop and adopt tools like TECHS and the ProQOL 5.0 questionnaire to assess and identify ways in which professional quality of life can be improved. Watson's theory of human caring has also demonstrated its effectiveness when integrated to bring about positive perspectives of self-care, which can further enhance the quality of care delivered to patients.

EBP Search Methodology

A study on "Self-care as an ethical obligation for nurses" that was conducted by Linton and Koonmen (2020) revealed that 68% of nurses are selfless and, through altruism, place their patients' safety and health before their wellness. The notion of self-care was embodied within the nursing code of ethics; in providing safe patient care, care providers are expected to protect their health through active engagement in self-care activities (Linton & Koonmen, 2020). Additionally, Linton and Koonmen (2020) had also stated that nurses should view self-care as a duty to self while striving towards providing quality and safe patient care as exemplified in the distinctive Code of Ethics adopted by the American Nurses Association. The essence of caring as

a science is a core enforced disciplinary practice supporting the engagement of healthcare providers in self-care activities as supported Watson's theory of human caring (Linton & Koonmen, 2020). Acquiring self-love, forgiveness, and mercy was of foremost importance before we can reciprocate the same to others, and through the spirit of calmness, gentleness, and loving-kindness, we can dignify our care and service to others as a professional in the same manner we would care for ourselves to care for others in using the Caritas (Linton & Koonmen, 2020). In internalizing and applying the caritas, great insights were developed to enhance self-care and improve the care of our patients. This will ultimately improve our work environment and positively impact an individual's emotional, spiritual, and physical wellbeing.

Norman et al. (2016) conducted a study, "Creating Healing Environments Through the Theory of Caring." A hospital environment was used to demonstrate how quality care to self and others was exemplified by implementing Watson's human caring theory and its associated Caritas to create positive changes. The theory was explored with staff through an experimental teaching process that resulted in the successful inclusion of the Caritas into their medical records through their plan of care, which brought a better integration of Watson's theory throughout National Nurses Week celebrations and enhanced courses in support of the hospital's ministry mission to establish a oneness among current and future employees and bring about positive patient experiences (Norman et al., 2016). Watson's theory of human caring was found to have positively impacted HCPs with its successful introduction through open avenues for meaningful discussion and evaluations to assess its helpfulness.

Theoretical Framework

An evidence-based theoretical framework was used to support evidence to address concerns that affect healthcare professionals. According to Srivastava and RM (2021), nursing as a science was identified as a field driven by conceptual models and various theoretical frameworks to support its healing arts. The theoretical framework of "Human Caring" by Jean Watson was applied throughout the research (see Appendix G). Permission was obtained to use the theoretical framework for this project (see Appendix H). Having a solid theory to support the findings of the research, I was able to develop a well-guided analysis of concerns affecting HCPs at the institution.

Human Caring Theory

The "Human Caring" theory by Watson was formed by taking a holistic perspective and unitary worldview on caring; its transpersonal theory was founded on the notions of an all-caring approach, and its transpersonal psychology value system is founded on a continuing ethical-epistemic-ontological, with a focus on its human to human and transpersonal relationships caring moments (Wei & Watson, 2019). Wei and Watson (2019) had also stated that the theory of human caring was a guide to creating a healthy, supportive, and healing environment that can enhance human-to-human relationships; when caring was emphasized among the care team, HCPs are more aware and promote more self-care among self and others this will positively reflect in the improvement of the delivery of quality patient care.

Wei and Watson (2019) stated that the theory of "Human Caring" consists of 10 carative factors associated with caring, which have developed into processes that support these factors. The 10 caritas processes, according to Wei and Watson (2019), include:

- Showing acts of compassion for self and others
- Be truthful when instilling hope, faith, and the inner consciousness of self and others.
- Nurturing personal acts of religious habits
- Fostering the development of trust in interpersonal connections
- Displaying empathy through the forgiveness of self and others
- Applying knowledge in all aspects
- Participate in authentic educational and learning events.
- Nurture an inclusive, caring, and healing environment.
- Respecting humankind
- Acceptance of life's marvels and unknown

One basic human experience was caring for each other, as caring reveals itself to be the most substantial aspect of the nursing field. The theory of human caring in nursing gives a systematic approach for assessing nursing practice, explaining what nursing really is about, direct nursing behaviors, and aiding the creation and dissemination of knowledge development for future practice. The cardinal tenet of the theory revealed that a compassionate environment will promote growth and restoration better than treatments, and nurses should work towards culturing that type of environment.

The theory of human caring was selected because of one of its tenets on advising to nurture a caring, inclusive, and healing environment. Due to its grounded belief that a healthy provider will thrive in a supportive environment resulting in the provision of quality patient care. However, it was important to note that any imbalances might result in poor mental wellbeing, decrease in job performance, self-care, and patient outcomes. This theory had aligned with and

supports the research question: Does using the TECHS educational tool kit on management and coping with stress improve the quality of life (QOL) for healthcare professionals within the intensive care unit 30 days after an educational session? As it seeks to encourage fostering and nurturing a supportive work environment that will help HCPs feel valued and motivated to maintain commitment to the organization.

Human beings are highly sociable and function better with good support and can apply themselves and foster mutual respect by making meaningful connections within a supportive environment that can enhance self-care and personal and professional growth to improve the efficiency and quality of the services they provide. Team spirits can be lifted with ongoing support, nurturing, and sharing of educational opportunities that can lead to functional relationships with colleagues and promote mutual respect for team members' roles and contributions to healthcare (Wei & Watson, 2019).

Synthesis of Nursing Theory

The theoretical framework was evaluated using the Toolkit on Emotional Coping for Healthcare Staff (TECHS) to assess an HCP's management and coping with stress and the Professional Quality of Life Measures (ProQOL) 5.0 questionnaire. These were introduced and reviewed 30 days following the presentation to validate the effectiveness of interventions, as supported by the following research studies outlined below.

Wei and Watson (2019) emphasized that Watson's theory of human caring has evolved and has been used as guidelines to integrate practices into the nursing profession. The study's purpose was to evaluate the perspectives of the interprofessional team about human caring in relation to the 10 caritas of Watson's human caring theory. A qualitative process was used to

guide content analysis, data were obtained through a face-to-face individual interview, and the study participants were inclusive of 27 healthcare professionals. The researchers concluded that the theory of human caring can be used as a guide to deepen human-to-human relationships and foster a caring and healing environment to care for self, team members and facilitate quality patient care and outcomes (Wei & Watson, 2019).

This was further supported by Ghanbari-Afra et al. (2022), who had stated that human caring was a method in which important values are heralded by all other measures and emphasizes the process emphasizes the human mechanisms of caring and potential confrontations. The researchers analyzed that the main idea of human caring is that humans should not be seen as irrelevant and must not be separated from others, themselves, or nature. They also had theorized that organizational backgrounds of human caring involve the presence of adequate individual and material supplies, creating balanced workload, having good leaders, and a supportive organizational culture to enhance care quality, promoting good interpersonal relationships, and presenting courses on human caring to inform nurses. Ghanbari-Afra et al. (2022) examined and categorized the outcomes of human caring into four main categories as it relates to the nurse, nursing as a profession, the patient as an individual, and the organization. The study had revealed that nursing related consequences of human-caring includes professional job satisfaction, successful outcomes, increase patient and interprofessional interactions. Also increase in personal growth and self-esteem that can further develop their commitment and artistic caring abilities. The profession-associated consequences of human caring incorporate improvement in the quality of nursing care and an increase in the amount of empowered and innovative nurses are role models for human caring (Ghanbari-Afra et al., 2022).

Elahi et al. (2021) highlighted that the essence of nursing is caring, and nurses who experienced job dissatisfaction were not able to deliver safe quality patient care. The aim of the study was to identify the impact of the theory of human care on nurses' behavior and job performance. In the study, 110 ICU nurses from an Iran hospital were randomly assigned in control and intervention groups where the assigned group for intervention had received education grounded on Watson's theory of human caring. A collaborative approach with 1 month postreview after planned weekly presentation on care giving scenarios. The postreview had revealed that attitudes towards caring, and job performance scores had substantially increased for the intervention group in comparison to the controlled group ($p < 0.001$). The study findings had concluded that an educational workshop on caring can be effective with behavior and job involvement. Elahi et al. (2021) stated that Watson's theory of human caring is appropriate in clinical settings that provides care for critically ill patients such as the intensive care units.

The theory of human caring can be applied to enhance the public views of nursing, as human caring is the foundation of nursing practice. Understanding the concept of human caring and its tenets has helped to establish recommendations for future research, education, and nursing interventions. Through the provision of adequate resources and support from the organization and nursing leaders, a less stressful practical supportive environment can be established to facilitate human caring concepts.

Summary

The COVID-19 pandemic had gravely affected the mental state of healthcare workers since its advent, especially ICU HCPs. Symptoms of ineffective coping have been reported, including but not limited to PTSD, heightened anxiety, and symptoms of depression. The

literature review presented substantial arguments on the study topic. Wozniak et al. (2021) argued that ICU HCPs work in a highly stressed work environment and are exposed to a high incidence of undesirable changes in their mental wellbeing. In another article, da Silva and Barbosa (2021) confirmed that 21 studies informed of the need for interventions to address concerns for heightened impacts on the mental health of HCPs in the ICU that has been stimulated by COVID-19, and 11 studies supported the benefits of organizational inputs in interventions to address the concerns. Vinkers et al. (2020) emphasized that a meta-analysis between January and September 2020 detected COVID-19 imposed stress-affiliated psychiatric symptoms on nurses, with over one-third of 90,000 nurses reporting elevation in anxiety levels, mood swings, worsening insomnia, and heightened stress levels.

Additionally, the burnt-out phenomenon has been of ongoing concern, Prasad et al. (2021) stated that cases of burnout were not new within healthcare; however, since the pandemic, it has been associated with increased rates of substance abuse, difficulty sleeping, anxiety, fear of the unknown, and depression. De Hert (2020) further presented that burnout was a form of work-related stress syndrome related to chronic exposure to job-related stressors and can affect all professional groups, especially those working in an intense work environment. Research studies had further affirmed that work-induced psychosocial threats could gravely affect emotional and physical health, placing HCPs at higher risk for experiencing life-changing events that could reduce their job performance and quality of life, as validated by Kabito and Mekonnen (2020). To combat emotional disequilibrium, Maresca et al. (2022) emphasized on introducing effective coping interventions in a group setting, discussing topics of burnt-out and emotional imbalance;

this technique has helped individuals to become more aware of how to handle emotional crises and have help them to gravitate towards getting much needed emotional support.

Even though ongoing research studies have been conducted on the topic of interest, they are limited, hence the need to contribute to research findings by helping to report the extent of the impact and identify possible and practical solutions. The selected theoretical framework of Jean Watson's human caring and the ProQOL and TECHS instruments for measurement was relevant to this project. It will help to provide a better understanding of this phenomenon by providing a basis to obtain, measure, and analyze the study's outcomes. The Literature review had provided evidence-based support and affirmed information on studies conducted about risk factors and issues that cause disequilibrium in mental health. The findings had enlightened my perspective on my PICOT question. In Chapter 3, I discussed research design and method that was used in completing the project. Chapter 4 has the data analysis results and Chapter 5 looks at the usefulness of results to research, healthcare, and nursing practice.

Chapter 3: Methodology

The purpose of this research study was to inform ICU healthcare providers about the intended use of the Toolkit for Emotional Coping for Healthcare Staff (TECHS) and its components. The presentation's effectiveness was evaluated using the ProQOL 5.0 questionnaire. This chapter highlights the project design and discusses how the project was implemented. It provides research methodology and procedure measurements and analysis related to administering the ProQOL questionnaire and implementing the TECHS interactive tools. The research conducted reflects the psychological issues impacting HCPs through a quantitative study. Consent was obtained from participants before the study was conducted. The presurvey was administered to the research participants via survey monkey before they joined the interactive educational session on using the toolkit for Emotional Coping for Healthcare Staff (TECHS). Educational effectiveness was assessed 30 days following the presentation in the form of a postsurvey using the same questions given before the presentation.

This strategy allowed the participants to process and apply the contents of the tool kit to their daily lives and served as a reference point to compare findings from both surveys. It had also provided an opportunity for assessment, reevaluation, education, and encouragement to use the contents of the tool kit and allowed participants to improve coping strategies. The ProQOL 25-item questionnaire was applied during the survey, including measuring tools that revealed the impacted population’s concerns and perceived work-related stressors, current coping skills used, and ease of access to reliable mental health support.

Practice Setting

The practice setting was a nonprofit health institution located in a major urban city in Texas, a 75 licensed hospital-bedded facility offering and not limited to specialized neurological care, rehabilitation, hemodialysis, clinical laboratory, therapeutic services, respiratory care, speech pathology, diagnostic radiology, and nuclear medicine. Along with their affiliated specialty institution, they provide specialized medical care to surrounding communities with over 1000 medical staff. This is not a MAGNET institution. Permission was obtained to use this project site prior to the conduction of the study (see Appendix J).

Target Population

The DNP project's target population was intensive care unit healthcare workers. All participants were older than 18 years of age and licensed to work in Texas. Inclusion criteria were based on HCPs within the ICU, and exclusion criteria were not based on race, gender, creed, or religion to determine the target population selection. All participants voluntarily consented to participate in the project. A free online tool, G*power calculator with a statistical test evaluating the difference between "dependent means," was used to determine the minimum required number of study participants for this research to reduce error.

Applying the G*power calculator, "A Priori" power analysis was used to determine the sample size. The result of the analysis suggested that at least 10 research participants were needed for statistically significant results using the default significance level of .05 and power of .8. with an effect size of 1. The G*Power 3 calculator is a free online flexible statistical power analysis program for the social, behavioral, and biomedical sciences (Faul et al., 2007). A convenience sample was used due to the intended target population availability. Serdar et al.

(2021) stated that Type 11 errors are decreased with larger sample sizes; however, a larger size will increase project costs and might extend the time for project completion.

Risks/Benefits

Minimal psychological risks might have been associated with the initiation and completion of this study related to perceived stress and rekindling of post-traumatic stress disorder were minimal. Participants reported experiencing stress related to the allotted time required to complete the consent form, pre- and postsurvey, and participation in the interactive educational session, which they thought would impede patient care and personal time. Appropriate measures were implemented to facilitate unit coverage of patients to minimize or prevent potential risks. The project was started and implemented within the stated time to prevent going over the personal time allotted time off for those who were not on duty.

Benefits associated with this study included discovering evidence-based data on staff emotional concerns, empowerment of staff to use suitable coping strategies, and engagement in selfcare, as the TECHS tool can be used at any time repeatedly and can be shared with other healthcare workers and by extension the community to promote a decrease in ineffective coping. A reduction in inadequate coping skills will benefit the nurses, other members of the health team, and the organization's leaders, increase productivity, less call-off work, minimized financial costs to address stress disorders among staff, and support a nurturing work environment. No monetary compensation was given to the subjects in this study.

Project Design

A quantitative quasi-experimental research design was used for this research. Schweizer et al. (2016) assessed the association between the intervention and outcome using quasi-

experimental studies. In this study, no random assignment was made. This quasi-experimental research determined the educational intervention's impact on the variables and its effectiveness. The analyzed results showed that the posttest scores were statistically significantly higher than the pretest coping scores, hence the educational session was successful, and supported by the interaction and feedback gained from participants at the end of the presentation.

This research was done to evaluate the effectiveness of the educational Toolkit on Emotional Coping for Healthcare Staff (TECHS) for managing and dealing with stress and improving the quality of emotional functioning for HCPs. The effectiveness of the tool was determined 30 days following the educational session. The TECHS tool kit delivered concrete and appropriate interventions for healthcare staff and attended to their emotional wellbeing by promoting practical coping skills in the work environment. The pre- and posttest 30-question survey (Appendix C) was completed before and repeated 30 days after the interactive educational session on the TECHS tool kit (see Appendix E), and the difference in the test scores was evaluated.

A multidimensional approach was used during data collection. An affiliation agreement was established, and the human resource department research and educational team permitted recruiting of participants from the institution to take part in the project. This was accomplished through dialogue with the education nurse to discuss the topic of interest (POI) and how the study outcome would impact the organization and healthcare. The study flyers' design displayed the topic, research purpose, time and place of the event, inclusion criteria, the presenter, and link to the consent form (see Appendix I). The nursing educator distributed the flyers 3 weeks prior to the presentation date and were displayed on the announcement boards throughout the facility. On

the day of the educational session, the ProQOL 5.0 survey questionnaire was given to participants to complete prior to sharing the TECHS educational information. Thirty days following the educational session the postsurvey questionnaire mirroring the presurvey was repeated by the participants to obtain the relevant data for results comparison to identify statistical changes stimulated by the educational toolkit.

Data Collection Procedures

A multidimensional approach was used during data collection. An affiliation agreement was established, and the human resource department research and educational team permitted recruiting of participants from the institution to participate in the project. This was accomplished by contacting the staff educator at the human resource department to discuss the intended project of interest (POI) and how the study outcome would impact the organization and healthcare. The study flyers' design displayed the topic, research purpose, time and place of the event, inclusion criteria, the presenter, and link to the consent form. These flyers were disseminated 3 weeks before the presentation date through the nursing educator and were displayed on announcement boards throughout the facility.

The project criteria for inclusion were comprised of English-speaking HCPs working in the ICU. Participation in the study was limited to individuals 18 years and older. Demographic data such as age, gender, and educational background were collected to help describe the sample size. Informed consent was obtained from all participants before participation; study participants were not coerced to participate. The exclusion was not based on religious beliefs, gender, ethnicity, or socioeconomic status. Survey questions were disseminated as a preeducational presentation, and 30 days later, the participants were asked to complete the postsurvey questions,

which were the same questions answered in the presurvey to assess and compare responses. An in-person educational session was convened to introduce TECH's educational tool kit. The results from both tests have been compared to determine the effectiveness of the educational toolkit. Figures and tables are used to depict the data collected.

Instrumentation or Data Source

Each participant was asked to complete a pretest survey consisting of 30 questions based on the contents of the ProQOL questionnaire. Questions were about healthcare workers' experiences, both positive and negative, and their perception of the current work environment. Participants were asked to choose a number that represents how often they have undergone these factors during the last 30 days. ProQOL is a free online questionnaire; permission to use it was granted by the ProQOL Office at the Center for Victims of Torture grants (see Appendix D), which is the current owner of the questionnaire. This non-governmental organization supports human rights and suitable mental health in several countries (The Center for Victims of Torture, n.d.). The ProQOL questionnaire was used to help individuals evaluate or consider positives and negatives when caring for persons who have experienced adverse life-changing situations to help them improve their coping abilities and restore their balance (The Center for Victims of Torture, n.d.).

The ProQOL questionnaire consisted of 30 questions that used Likert-style measurements (e.g., 1-*never*, 2-*rarely*, 3-*sometimes*, 4-*often*, 5-*very often*), and were positively worded with no subcategories (The Center for Victims of Torture, n.d.). ProQOL 5.0 was confirmed to be a reliable and valid tool as supported by findings using the Rasch modeling measurement principles for its assessment. According to Heritage et al. (2018), the Rasch

modeling states that for reliability and validity, an instrument's advantage should have theoretical-based construct validity and practical, clear, comparable change in measurement scores with providable interval data. These principles are observed to be accomplished by using the ProQOL measurement tool.

Permission to use the TECHS tool kit was obtained from the Center for Pediatric Traumatic Stress, a service and treatment adaptation center in the National Child Traumatic Stress Network (NCTSN; see Appendix F). The tool kit was developed in 2020 and made available in reaction to the swiftly evolving COVID-19 pandemic; the material was created for HCPs and all other workers within a healthcare setting (Center for Pediatric Traumatic Stress, 2020). In completing this study, I collaborated with my project chair and committee member, the nursing director, the educational manager, and the unit manager. All participants and nursing leaders were considered stakeholders in this DNP project. Following the applicable authorization from the Abilene Christian University's (ACU's) Institutional Review Board (IRB), participants were recruited from the facility to participate in the study. Ethical principles were maintained throughout the study.

Variables

Compassion fatigue, burnout, and secondary post-traumatic stress disorders were variables examined during this study. A parametric paired *t* test correlation design was used to measure the difference between results to analyze if the educational intervention session using the TECHS interactive tool kit had improved HCP's knowledge of effective coping strategies. The paired or dependent sample *t* test helped to determine the presence of statistically significant changes in the mean between two paired observations measured at two different points and

observed using two different research methods (Mishra et al., 2019). The ProQOL pretest was given to HCPs, and responses were obtained before the intervention using the TECHs educational tool kit and repeated 30 days after the presentation; the postpresentation results were compared to assess the effectiveness of the educational session. A descriptive statistical method was applied to review biographic and clinical traits such as age, gender, race/ethnicity, skill level, and years of work experience. A control evaluation was done to establish the appropriateness of the study sample size.

Data Integrity and Storage

Data Management

All data collected from implementing the research project was encrypted and stored on an electronic system that is password-protected and labeled under my name; I am the sole person with access to the password. Survey data were not linked to the survey participant, information was collected via survey monkey. Due to the possibility of data management errors, the research ensured that they were the only ones involved in data collection and analysis of information was only shared with approved individuals involved in the research process.

There will be ongoing monitoring of storage data. If any breech is noted, prompt measures will be taken to inform participants and Abilene Christian University research review board. The data obtained are securely stored and will be kept for 3 years after completion of the study. The collected data will be destroyed by shredding, according to the Vice President for Research at the University of Virginia (Baucom, 2021). It is required by federal regulations (45 CFR 46) to store research data for at least 3 years after study completion before destroying it.

Potential Bias and Mitigation

In the initial planning phase of the study, there was a potential for biases related to the project design, sampling method and data collection that would have omitted key information making the results partially accurate. This was avoided by ensuring selection of an appropriate design, and all the relevant demographics and relevant information was collected through proper sampling techniques and analyze and reported using valid tools to ensure accuracy of study. Popovic and Huecker (2022) concluded that research bias implies to a type of systematic error that can alter measurements and/or change the study investigations and findings.

There was also the potential for confirmation bias that could be influenced by me as the researcher using personal belief systems to guide data collection or analysis protocols. This was mitigated by avoiding narrowing focus to one hypothesis for which I may inadvertently recall more information that supports it. Popovic and Huecker (2022) explained that there will always be some degree of partiality resulting from personal biases, natural research limitations, the study design, ethical issues, or study implementation.

Another potential bias was that some HCPs did not participate in the research study due to fear of becoming targets. This concern would have altered getting true responses, a good sample size and accurate representation of the population of interest. Prospective participants were assured that all identifiable data would be removed from responses and kept anonymous to protect their rights and privacy. Smirnoff et al. (2018) revealed there is a shared agreement on the trust participant have in the research process and institution being one of or the most, substantial factor determining research participation, a lack of this trust is seen as one of the most noteworthy research participation obstacles.

Another potential bias was time allotment. Participants had conveyed experiencing perceived stress related to the allotting time required to complete the consent form, pre- and postsurvey, and participating in the interactive educational session, which they thought would impede patient care and personal time. Allison et al. (2022) stated that individuals may be unwilling to participate in research studies due to time demands and constraints associated with participation commitment. To mitigate this bias, appropriate measures were implemented to facilitate unit coverage of participants' patients to minimize or prevent potential risks; the project was started and implemented within the stated time to prevent going over the personal time allotted time off for those who were not on duty.

A bias that did impact the final project result was that only 11 participants out of the 12 completed the final phase of the project, this could have affected the accuracy of the study results. Hence, the participant who had not completed the final survey was removed from the study, only participants who had completed the project requirements were included to ensure the research validity. The inability to retain recruited participants and obtain outcome data can result in added problems and possibly biased research findings (Kearney et al., 2018).

Feasibility

The development and execution of the project started at the beginning of the DNP program in January 2022 and will continue until program completion in spring 2024. It took 30 days to complete the study at the facility. This allotted time gave participants the opportunity to employ the educational tool and to provide a more objective response to the postsurvey. The project was applicable to the researched organization as it is experiencing high staff turnover, delinquency in attendance, and complaints of being highly stressed and burnt out, in addition to

job dissatisfaction. By implementing effective evidence-based interventions, concerns surrounding the topic can be mitigated or reduced.

The educational session was held in person at the proposed project facility board room at no cost. Participants on duty were allowed patient coverage to facilitate their absence from the unit for participation in the study. The facility educational team was available if assistance was needed. Their services were employed to set up the presentation room and a projector that was used to present the information to the participants.

Ethical Considerations

A formal ethics review of the project was undertaken by the institutional review board (IRB) at Abilene Christian University (ACU) to ensure human subjects are protected and appropriate approval was obtained from. The project was of minimal risk criterion to participants and had fallen under a research-exempt category, which was approved by the ACU's Office of Research and sponsored programs to obtain exempt status. Participants' information will be protected according to research ethics and requirements for implementation and analysis of data. The project was initiated upon receipt of approval from ACU's IRB; no institutional IRB approval was required for the site prior to gaining authorization to implement the project.

Summary

Applying a quantitative research design has enabled me to perform a pre- and postsurvey using the ProQOL questionnaire. This has allowed me to obtain answers about whether the educational session using the TECHS tool kit had been beneficial in helping healthcare workers to be more informed about practical coping mechanisms. The interactive educational session has proven HCPs' willingness to develop effective coping strategies to overcome challenges with

depression, stress, burnout, and symptoms of PTSD amid the now-adopted new norm after the COVID-19 pandemic.

The ProQOL questionnaire and the interactive TECHS tool kit have proven to be reliable, maintain their credibility, and have helped to increase awareness among healthcare workers on coping within a stressful environment. The study results will be shared with the relevant stakeholders with the aim of creating a supportive job environment if indicated. The study was implemented after receiving the approval to complete it from ACU's IRB. Chapter 4 will highlight analysis results of data collected, this will be illustrated using tables and graphs. Chapter 5 will speak towards practicality of results to research, healthcare, and the nursing profession.

Chapter 4: Data Analysis and Results

The purpose of the study was to find out if the Toolkit for Emotional Coping for Healthcare Staff (TECHS) was effective to lower stress levels in HCPs. I had introduced an educational toolkit that can promote effective coping strategies among ICU HCPs. It was coordinated with the employee support team to increase coping awareness, identify risk factors that can be modified, and introduce recommendations to improve coping efforts and encourage a more practical approach to employ effective coping skills.

Data Analysis Procedures

A quasi-experimental approach was used for this study with the initiation of a presurvey, followed by an educational session, and completed 30 days later with a postsurvey mirroring the presurvey questions. A voluntary sample of convenience was used due to the availability of participants and rapid staff turnover. Comparison of scores were analyzed using a parametric paired *t* test; a consistent measurement method was used to present a more accurate analysis. The educational session/intervention was the independent variable; its measurement was conducted prior to and 30 days after the educational session. The difference between the two paired measurements was considered the dependent variable will be assessed to identify if the values between the two have changed. A two-tailed test will be used to detect if the results of the pre- and postsurvey have decreased or are more significant than the specific range of values to determine statistical significance. Hence, the tow-tailed test hypotheses can be stated statistically as follows:

H0. The median changes for individual participants in questionnaire items of pre- and postsurvey interventions equals 0.

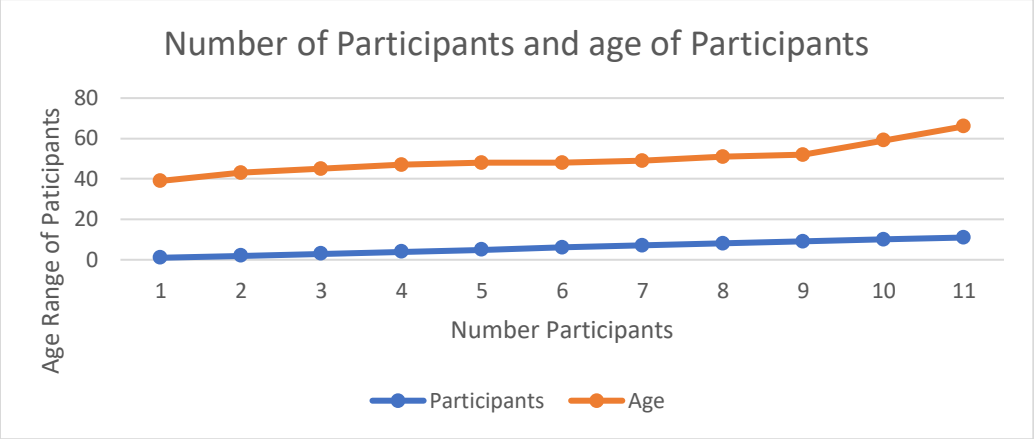
H0. The median changes for individual participants in questionnaire items of pre- and postsurvey interventions do not equal 0. Differences in the measurements prior to and after the study were analyzed with the investigation revealing no significant increases or decreases in coping strategies with the introduction of the toolkit interventions.

Descriptive Data of Sample Population

Demographic data collected includes age, sex, skill level, race, and years of service of the participants. This is illustrated in Figures 1–2 as a line and bar graph with various colors indicating the different data captured. All participants were female within the intended population targeted. Demographic data were captured after the completion of the pre-survey on the day of the educational presentation. The target population for this project was native English-speaking intensive care unit healthcare workers, including nurses, certified nursing assistants, and respiratory therapists who were 18 years or older. The method used for data collection was based on the questions from the ProQOL 5.0 questionnaire, labeled as pre- and postsurveys. The ProQOL 5.0 questionnaire was a measurement tool used to collect relevant data from pre- and posteducational sessions for comparison to determine the effectiveness of the TECHs tool kit for promoting adaptation to practical coping. The project was implemented over a 7-week period, starting with the dissemination of a project flyer to promote the study and obtain consent to participate through an online link provided; 3 weeks later, a presurvey was captured through participants' completion, followed by an in person educational presentation on the TECHs toolkit for effective coping. The study was completed 30 days later, with participants repeating the presurvey questionnaire. The combined allotted time for this project was 1 hour. A paired *t* test was used to analyze the data collected to determine if there were any statistical implications.

Figure 1

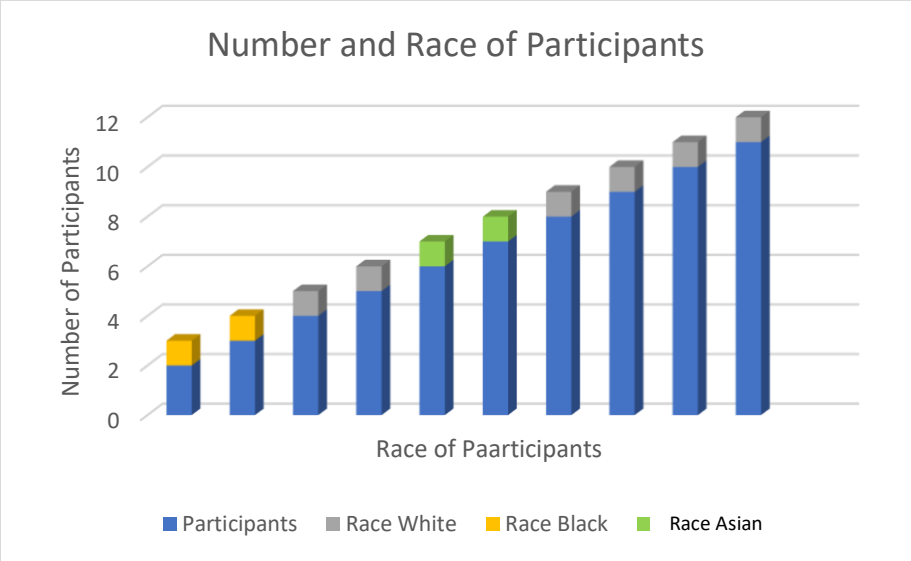
Illustration of Number of Participants and Age of Participants



This chart illustrates the age and race of the research study participants. All participants were female. The study included White, Black, and Asian participants. The blue represents the number of participants, the orange the age of the participants.

Figure 2

Illustration of Number of Participants by Race



The gray individuals identified as Whites, the orange the individuals who identified as Blacks, and the green the participants who identify themselves as Asians. The average age of the sample was M = 51.9, SD = 8.69, and participants had an average of M = 18 years of service, SD = 7.94. Every participant was female n = 11 (100%), n = 6 (54.5%) were RNs, n = 4 (36.4%) were certified nursing assistants, and n = 1 (8.1%) was a respiratory therapist. Demographic characteristics are presented in Table 1.

Table 1

Demographics

Variable/level	*M* (SD) *f*(%)
Age	51.90 (8.69)
Years of Service	18.00 (7.94)
Gender (female)	11 (100.0%)
Registered Nurse	6 (54.5%)
Certified Nursing Assistant	4 (36.4%)
Respiratory Therapist	1 (8.1%)

Data Analysis

Statistical Methods

The subscales of the PROQOL survey were calculated using the associated scoring rubric. Frequency and percentage statistics were used to describe the categorical variables. The subscales and the other continuous variables were checked for the assumption of normality using Kolmogorov-Smirnov tests. When the assumption was met, repeated-measures *t* tests were performed to assess the level of change in the subscales from pre-intervention to

postintervention. Means (*M*) and standard deviations (SD) were reported and interpreted for the *t* test analyses and variables that met the normality assumption. Statistical significance was assumed at an alpha value of 0.05, and all analyses were performed using SPSS Version 29. The assumption of normality was met for each observation (pre- and post) of the PROQOL survey. There was not a significant increase in compassion satisfaction, $t(10) = -1.15$, $p = .28$. There were no significant decreases in burnout, $t(10 = 0.74$, $p = .48)$, or in secondary traumatic stress, $t(10) = 0.93$, $p = .38$. The means and standard deviations for the *t*-test analyses are presented in Table 2 and Figure 2.

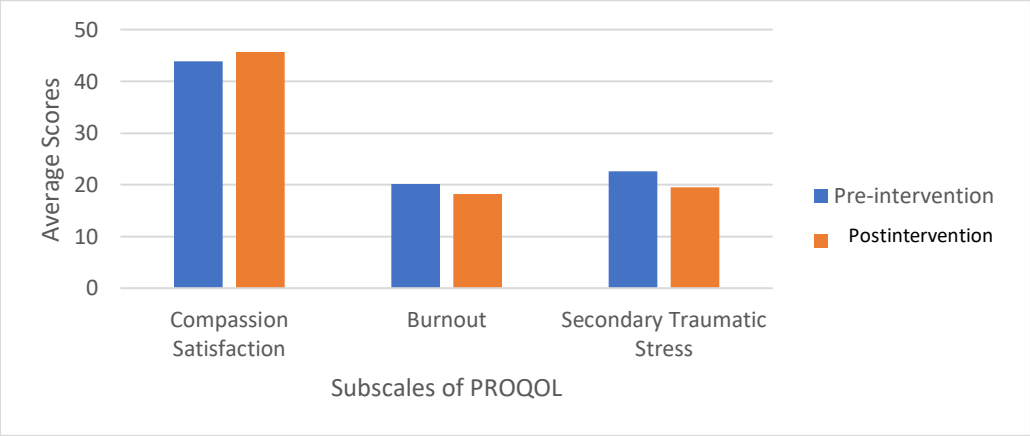
Table 2

Descriptive Statistics for Repeated-Measures t Tests

Subscale	Pre-intervention	Postintervention	*p*-value
Compassion Satisfaction	43.82 (3.55)	45.73 (3.04)	.28
Burnout	20.18 (5.79)	18.27 (5.02)	.48
Secondary Traumatic Stress	22.64 (8.00)	19.46 (6.52)	.38

Figure 3

Means and Standard Deviations Associated With Change Across Time



Summary

All relevant steps were followed as outlined in the IRB approval to maintain the integrity of the research. The presurvey was conducted before the presentation with the TECHS tool kit, the postsurvey was done 30 days after the educational session, and results were collected as outlined in the project proposal. Statistical score results were depicted in the figures and tables; these findings were from analysis of the questionnaire responses. At least one representative was present from each target group. The study has achieved statistical significance, however, there were only slight changes with the variables when comparing the presurvey scores to that of the postsurvey.

According to the findings, statistical significance was met at an alpha value of 0.05 using the SPSS Version 29. The assumption of normality was assumed for each pre- and postobservation of the PROQOL survey. There was no significant increase in compassion satisfaction, burnout, or in secondary post-traumatic stress disorders. The standard deviations and means for the *t*-test analyses were shown in Table 2 and Figure 2.

Chapter 5: Discussion, Conclusions, and Recommendations

Summary of the Project

This project aim was to evaluate the strengths, weaknesses, opportunities, and threats to the organization concerning issues affecting HCPs in the intensive care unit. Fifteen supportive research studies were reviewed and based on findings concerning reports of burnout, compassion fatigue, being highly stressed and experiencing ineffective coping the study was conducted. The theory of human caring was explored and the TECHS Toolkit for professional healthcare workers was introduced. This was done to promote adaptation to effective coping strategies among healthcare professionals within the ICU.

The ProQOL 5.0 questionnaire survey was also a screening tool administered before and after the TECHS educational sessions and have been validated to be an effective instrument to measure the three domains of compassion satisfaction, burnout, and post-traumatic stress disorder. Data collected using the ProQOL survey instrument allowed for a paired *t* test using the pre- and postsurvey results. At the beginning of the project implementation, there were 12 participants aged 35 to 67. However, one participant failed to complete the study, and I could not locate the participant, which might have been due to the participant's resignation from the job. This chapter discusses the interpretation and conclusion of the findings and possible recommendations for future research studies.

Major Findings

The postsurvey has shown slight changes in compassion fatigue, burnout, and secondary post-traumatic stress disorders. Even though not significant, the result has proven that HCPs have been experiencing heightened levels of perceived work-related stress which might be

interfering with their job performance, quality of patient care and ultimate satisfaction with their jobs which can also spill over to their home environment. The findings are further discussed below.

Interpretation of Findings

The assumption of normality was met for each observation (pre- and post) of the PROQOL survey. There was no significant increase per result in compassion satisfaction, $t(10) = -1.15$, $p = .28$. There were also no significant decreases in burnout, $t(10 = 0.74$, $p = .48)$, or in secondary traumatic Stress, $t(10) = 0.93$, $p = .38$. The findings have supported and aligned with existing literature that there were some tense situations experienced by HCPs. However, with the interventions, there were some positive changes in the postsurveys. This can be used as supportive findings to available literature as not much research has been done in this area.

This leads to the fact that organizational leaders and professional healthcare bodies or associations should try to develop clear standards and practices to support HCPs who may need a higher level of emotional support. The TECHS toolkit and ProQOL questionnaire demands minimum usage of resources from any organization and can be sustained consistently and used repeatedly for successful integration into the hospital culture. This requires leaders at all levels to employ and demonstrate the benefits of using emotional coping strategies.

Project Strengths and Limitations

The project was successfully implemented using the evidenced based TECHS educational tool kit, the ProQOL 5.0 tool survey questionnaire, and various analytical methods to elicit the data needed to validate the concerns of HCPs at the facility. Leaders provided strong support as

they work towards identification of issues affecting their staff and possible solutions that could be used to help mitigate the issues identified.

The study has experienced several limitations due to high staff turnover, the unwillingness of participants to access the required database platform to complete forms for participation, and the unwillingness of staff to leave the patient care area despite being provided coverage for their patients or coming to the facility while off-duty. Other potential participants had stated they were fearful of being identified and reprimanded for their responses to the survey questions.

Due to the limitations mentioned above, a true reflection of the concerns might not have been fully captured due to the number of research participants in comparison to the total number of HCPs that staff the entire intensive care unit. Time constraint was also a factor given that individuals had challenges to dedicate the time needed for participating in the research. Mitigation efforts were not appreciated by all the intended HCPs, hence the number of participants.

Implications

There were various implications related to this study. I considered these implications important to the research study as it provides information for both theoretical and nursing approaches that can be used to inform practice for future transformation efforts, address HCP's concerns and enhance the nursing practice.

Theoretical Implications

Care is an integral part of nursing and embodies interactive attempts to improve and preserve health, intellectual wellbeing, and selfcare. The application of the human-caring theory

has proven to help facilitate a caring environment established on the carative factors of self-respect, compassion, love, consideration, reliability, and altruistic presence as the population of interest struggle with handling complex and intense situations.

Intensive care unit HCPs work in a complex and challenging environment that can become overwhelming and depressing as they face disregard, frustration, stress, anger, burnout, and indifference from factors within the workplace. The introduction and adaptation of the theory of Human-caring is demonstrated through the display of understanding, empathy, equality, loving-kindness, equability, and cultivation of a spiritual practice towards developing a trusting relationship and a thoughtful and healing environment. The project implementation process had demonstrated the need to exam additional nursing theories to support the problem of concern due to the complexity of the stress phenomenon.

Nursing Practice Implications

Identifying implications can help to improve the clinical nursing profession and leadership. Findings from this research will be shared with clinical leadership to help guide clinical decision-making and nurture a supportive environment that promotes awareness of negative work stimuli that can create adverse reactions and practical ways in which to seek appropriate supporting resources and adopt effective coping strategies. According to Rivaz et al. (2021), DNP-prepared nurses are equipped to function in advanced practice roles, including management, leadership, and interdisciplinary collaboration, healthcare policies, clinical reasoning skills, and the transformation of scientific and theoretical knowledge into practice for improving health outcomes and problem-solving.

Essential IV- Technology to Improve and Transform Healthcare

I used statistical package for the social sciences (SPSS) software, computers, a projector, and online modality technology to collect and examine the data information provided by participants during the study. Technology with complimentary improvements to healthcare and the way it enhances the population's ways of handling interactions and information, it was necessary to utilize methods that were efficient and practical that individuals could relate to.

Essential VI with Interprofessional Collaboration for Improving Patient and Population Outcomes

The healthcare system's intricacy requires collaboration among patients, patient care providers, the organization, families, and their communities. Proper collaboration for the appropriate implementation of the research was enacted between me as the researcher, research participants, the healthcare organization, ACU IRB, and my project chairman to augment coping strategies, boost the experience, and advance patient health outcomes. The goal of the study was to increase awareness of the complex challenges faced by HCPs in the clinical setting. The project's goal was to create awareness of the challenges the HCPs were experiencing.

Recommendations for Future Projects and Researchers

I would recommend conducting of similar future studies through field studies and surveys that can capture data for contribution to existing literature that will promote more awareness of the extent of COVID-19 impacts on the mental health of HCPs within the ICU over time and can help to provide more comparable data about negative work environments, risk factors and desire for changes that will stimulate significant changes in the work environment. Future research may also promote good coping strategies in stressful situations and provide valuable insights for

employers to improve the clinical settings and facilitate a culture that promotes adequate support and resources.

Another recommendation would be to conduct an extension to the study that could provide information as to the ongoing cause of the rapid staff turnover. I recommend that this extension be done in the direct clinical setting through quasi-experimental designs and surveys where a larger sample size might yield a more significant result. The findings of the result might provide a better representation of the experiences of the population of interest and can be used to formulate policies to mitigate concerns. Healthcare organizations could benefit for any supportive recommendations to help maintain a robust workforce which will intern improve patient satisfaction and outcomes and the reorganization of the facility such as being presented a magnet award for quality care delivery and employee satisfaction.

A third recommendation is that more research can be conducted to identify the impact of heightened stress levels on HCPs families and their communities. Heightened stress levels are not only localized to the work environment but may also be transfer to other surroundings of the HCPs. Data can be collected through field settings or surveys to capture information that could give indications of how families have been impacted, stress influence on the life of the HCP outside of the work environment. Information obtained can be used to inform public health practices, reduce morbidity and mortality, and mitigate a national healthcare crisis.

A final recommendation would be for potential researchers to be more in tuned and objective in presenting information of the negative outcomes of heightened stress levels on the individual, community, and the health sector. This is to create more mental health awareness so that strategic plans can be implemented at all levels to improve and support good mental health

for the nation's populace. Data can be collected through field testing, in control environments or through surveys. Careful dissemination of information through the right channels can be the first step to stimulate a positive change process to help reduce morbidity and mortality.

Recommendations for Sustainability

For the DNP project to be sustained I would recommend that a policy should be draft with considerations towards all the stakeholders (e.g., HCPs, patient, organization, state, and national entities) to enforce provisions that support an environment that promote good mental health of the employees. This plan is needed as there is a grave concern for heightened stress level which has laid impaired coping of HCPs and may lead to decrease in quality of care, provided and subsequently medial errors and poor patient outcome and by large dysfunctional families and communities. By improving mental wellbeing, the unit work quality will be enhanced through improvement in job performance, retainment of staff, and enhancement in the quality of patient care delivery. This will have a ripple effect in meeting the organizational goals of delivering quality and safe healthcare services. Also leads to establishing healthy family relations and communities and a more robust health system at the state and national levels with less demands for budget allocation towards mitigation efforts. The stakeholder's role will be to give an input with the drafting and to give feedback after implementation to determine the success or feasibility of the intervention.

I would also recommend that the DNP project findings be used to enhance clinical practices. The information analyzed and shared is valuable and can be used to inform healthcare practices. The nursing profession has maintained its credibility in quality patient care through grounding nursing interventions in quality evidenced-based research findings. The research

results can serve as a catalyst to stimulate changes outside the status quo and transform practices to improve employee job satisfaction and commitment to delivery safe, quality patient care. Additionally, the organization will spend less money towards mitigation efforts if a strategic approach is employed using the findings to implement measures that will address staff concerns, reduce high staff turnover, and prevent a decline in quality of service delivered. The state and national levels will experience a more robust health infrastructure from having a healthy workforce to provide care and maintain the health of the nation's populace and less money will be required tom be divested from the state and national budgets to address mental health concerns.

Plan for Dissemination

The DNP project results will be disseminated to the facility, professional nursing organizations and other healthcare disciplines. Plans for dissemination includes, holding health educational events at schools and health fairs, distributing through flyers, pamphlets, professional guides, national journals, and statewide publications and at national nursing conferences or professional association meetings.

The appropriate audience for the DNP project dissemination would include nurses, nursing students, other professional associations, healthcare leaders, politicians, and members of the public. Electronic information will be shared through reputable social media sites or on the organization's internet or website platforms. The DNP project findings could also be published through an appropriate peer-reviewed journal such as the National Institute of Health for ease of accessibility. Oral dissemination prospects would include podium presentations or showcasing at a symposium at the state, regional or national levels.

Conclusion and Contributions to the Profession of Nursing Practice

The HCPs within the ICU have faced increased demands during the peak of the COVID-19 pandemic. This has given rise to feelings of anxiety, apprehension, and fear of the unknown and experiences of burnout. Even though it can be used in any setting and repeatedly, the TECHS toolkit for coping strategies was developed explicitly during the COVID-19 pandemic to help healthcare professionals increase their coping strategies to overcome stressful situations within and outside the work environment. The theory of human-caring was used to guide the selection of an appropriate toolkit, as it seeks to facilitate job satisfaction, improve staff and patients' mental wellbeing, and cultivate a culture of awareness towards good mental health (Wei & Watson, 2019). The toolkit was selected with the aim of introducing and promoting the adaptation of effective coping strategies among ICU HCPs, and the pre- and postsurveys were the instruments used to measure the effectiveness of the toolkit. Based on the analysis of the results obtained, I concluded that there were no significant increases or decreases. However, the participants who had received the TECHS educational tool kit tailored contents had expressed learning a more effective way of managing and coping with stress within and outside the work environment than those who did not.

This impact can improve nursing practice at all levels and enhance the quality-of-care delivery and patient outcomes. Ongoing evidence-based research is an integral aspect of improving the nursing profession by informing practice, culture of the clinical settings and, by extension, the health of the community. A lot of research has not yet been developed in this topic area. This project will help to add to the database. However, ongoing research will be needed to identify the extent of the impact of COVID-19 pandemic on the mental health of HCPs, which

could manifest postpandemic and have possible negative implications in the future. Poor coping or impaired mental health is not only limited to the individual but can also affect the family, the community, the population's health, and the healthcare infrastructure, directly or indirectly, due to its ripple effects. All efforts must be made to address any possible impairment to health and wellbeing to maintain a healthy nation.

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Appendix A: SWOT Analysis

The intended project site SWOT analysis

STRENGTHS	WEAKNESSES
Recognition for its cost effectiveness	Puny approaches to address the ongoing increase in staff turnover
High-quality care	Heavy patient nurse ratio
Specialized expertise in skills, technology, and operations that can enhance experiences with complex brain injuries	Dominant autocratic leadership style
	Limited access to mental health supporting resources
OPPORTUNITIES	**THREATS**
Incorporating evidenced-based research to inform practice	Poor management styles
Potential for adoption of best practice policy	Intense work environment
Prospect for staff retention	Increase work demands
Possible for improvement in job satisfaction	Better paying competitors
	Better patient nurse ratio
	Opportunities for professional growth

Appendix B: Literature Review Table

Authors- Date and link	Theoretical Framework/ Conceptual Model	Research Question/ Purpose Statement	Methodology and Design	Summary of Intervention	Analysis of Results	Conclusions	Levels of Evidence
Boateng et al. (2021). "Causes of Burnout Syndrome and Coping Strategies among High Dependency Unit Nurses of an Institution in the Greater Accra Region of Ghana." *Nursing Open*, Sept. 2021, https://doi.org/10.1002/nop2.1052.	Phenomenon of 'burnout (Emotional Exhaustion, Depersonalisation and Reduce Personal Accomplishment) theoretical framework (Freudenberger, 1974)	The aim of this study was to determine the causes of burnout syndrome and identify strategies to cope with them among nurses at high dependency unit if a regional Hospital in Ghana.	Descriptive cross-sectional study	• Staff motivation • Provide and facilitate counselling • Provie adequate resources for nurses to work with • Create good working environment and good relationship with both staff and patients • Increase staff strength	62.5% of the respondents were in the high emotional exhaustion, 55% scored high in the depersonalization section and 52.5% scored high in the personal achievement (competence) on the Maslach Burnout Inventory (MBI).	Common causes of burnout among nurses include poor work conditions, work overload, low wages, emotionally upsetting situations, handling a large number of patients alone, lack of break during shift, inadequate nursing staff, and not being appreciated by in-charge nurses or nurse managers. Also, inadequate resources to work with, bad attitude of other colleagues and nurse and	Level 1V

						manager conflict all contribute to psychological distress and burnout	
da Silva, F. C. T., & Barbosa, C. P. (2021). The impact of the COVID-19 pandemic in an Intensive Care Unit (ICU): Psychiatric symptoms in healthcare professionals. *Progress in neuro-psychopharmacology & biological psychiatry*, *110*, 110299. https://doi.org/10.1016/j.pnpbp.2021.110299	Stress and coping developed (Lazarus & Folkman, 1987)	The aim of the study is to understand the impact that COVID-19 is having on the front-line clinical team in the ICU environment, as well as reveal what proposals are being made to mitigate the clinical and psychologic	A systematic review cross-sectional studies using the JBI	• implement interventions to prevent or reduce mental health problems caused • There is a need for organizational adjustments	Twenty-one studies reported on the urgent need for interventions to prevent or reduce mental health problems caused by COVID-19 among health professionals in ICU. Eleven studies demonstrated possibilities for interventions involving organizational adjustments in the ICU, particularly	The disproportion between the need for technological supplies of intensive care medicine and their scarcity promotes, among many factors, high rates of psychological distress. Anxiety, irritability, insomnia, fear, and anguish were observed during the	Level 1V

		al impacts that this group experience.			linked to emotional conflicts in the fight against COVID-19.	pandemic, probably related to extremely high workloads and the lack of personal protective equipment.	
Biber, J., Ranes, B., Lawrence, S., Malpani, V., Trinh, T. T., Cyders, A., ... & Pop, R. (2022). Mental health impact on healthcare workers due to the COVID-19 pandemic: A US cross-sectional survey study. *Journal of Patient-Reported Outcomes*, *6*(1), 1-14. https://doi.org/10.1186/s41687-022-00467-6	SF-36v2 conceptual framework (Ware & Shelbourne, 1990)	This study aims to examine mental health outcomes and COVID-related stress impacts among a diverse sample of ambulatory HCWs, including clinicians and support staff, as well as the	Cross-sectional study	● Protect and promote the wellbeing of HCWs ● Provide coping resources	Differences in COVID-19 stress impacts were observed by age, gender, and occupational risk factors. Approximately 50% of participants reported more than a minimal level of anxiety, including 22.5% who indicated moderate to severe levels of anxiety. Higher levels of anxiety were observed with younger	These results have proven the depth and extent of mental health outcomes in HCWs and raise important questions on new interventions to relieve that burden. Further research is needed to study specific interventions to support the mental health and wellbeing of HCWs.	Level 1V

		associations between mental health outcomes and work impairments in this population			ages and female gender, while occupational roles with increased exposure risk did not report higher levels of anxiety. Roughly two-thirds of the sample reported less than good sleep quality and one-third to one-half of the sample reported other sleep related problems that differed by age and gender.		
Prasad, K., McLoughlin, C., Stillman, M., Poplau, S., Goelz, E., Taylor, S., Nankivil, N., Brown, R., Linzer, M., Cappelucci, K., Barbouche, M., & Sinsky, C. A. (2021). Prevalence and correlates of stress and burnout among U.S. healthcare workers during the COVID-19	Multilevel conceptual model (De Leeuw & Kreft, 1986)	The study aims to provide a comprehensive view of how stress and burnout during the pandemic have impacted healthcare team members.	Descriptive analysis	• Recommend interventions related to peer support programs • Apply changes in care infrastructure to facilitate support	Sixty-one percent reported fear of exposure or transmission, 38% reported anxiety/depression, 43% suffered work overload, and 49% had burnout. Stress scores were highest among nursing assistants,	Stress is higher among nursing assistants, medical assistants, social workers, inpatient workers, women, and persons of color. Heightened stress is related to heavy workload and	Level 1V

pandemic: A national cross-sectional survey study. *EClinicalMedicine*, *35*. https://doi.org/10.1016/j.eclinm.2021.100879				• Improve in electronic health record related to increasing telehealth options after the pandemic	medical assistants, and social workers (small to moderate ESs, $p < 0.001$), inpatient vs outpatient workers (small ES, $p < 0.001$), women vs men (small ES, $p < 0.001$), and in Black and Latinx workers vs Whites (small ESs, $p < 0.001$). Fear of exposure was prevalent among nursing assistants and Black and Latinx workers. In multilevel models, odds of burnout were 40% lower in those feeling valued by their organizations (odds ratio 0.60, 95% CIs [0.58, 0.63], $p< 0.001$).	poor mental health and is lower when feeling valued.	

Lukan, J., Bolliger, L., Pauwels, N. S., Luštrek, M., Bacquer, D. D., & Clays, E. (2022). Work environment risk factors causing day-to-day stress in occupational settings: A systematic review. *BMC Public Health*, *22*(1), 240. https://doi.org/10.1186/s12889-021-12354-8. Accessed 6 Mar. 2022.	Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach conceptual model (McMaster et al., 2000)	The aim of this systematic review was to explore the onset of day-to-day stress by summarizing evidence on potential day-to-day work environment risk factors (stressors), which have an immediate effect on self-perceived stress levels or physiological stress responses, and which may or may not cause chronic stress	Systematic review and qualitative synthesis	• Modification of health-related behaviors and lifestyles • More research is needed on how to lower risk factors.	The most measured work environment risk factor was work intensity, while stress was most often framed as an effective response. Measures from these two dimensions were also most frequently correlated with each other and most of their correlation coefficients were statistically significant, making work intensity a major risk factor for day-to-day workplace stress.	This review reveals a diversity in methodological approaches in data collection and data analysis. More studies combining self-perceived stress exposures and outcomes with physiological measures are warranted.	Level 1V

Wozniak, H., Benzakour, L., Moullec, G., Buetti, N., Nguyen, A., Corbaz, S., ... & Cereghetti, S. (2021). Mental health outcomes of ICU and non-ICU healthcare workers during the COVID-19 outbreak: A cross-sectional study. *Annals of Intensive Care*, *11*, 1-10. https://doi.org/10.1186/s13613-021-00900-x	Multivariable conceptual model (Hotelling, 1936)	The aim of this study is to evaluate the mental health, wellbeing and changes in lifestyle among intensive care unit (ICU) healthcare workers (HCW) during the first wave of the COVID-19 pandemic and to compare these results with those of HCW in other hospital units.	Cross-sectional survey	• Implement preventative measures to include good coping strategies in stressful situations • Provide training before a traumatic event • Provide positive social support following a traumatic event • Long-term psychological follow-up should be considered for HCW.	A total of 3461 HCW were included in the study, with 352 ICU HCW. Among ICU HCW, 145 (41%) showed low wellbeing, 162 (46%) symptoms of anxiety, 163 (46%) symptoms of depression and 76 (22%) had peritraumatic distress. The mean scores of GAD-7, PHQ-9 and WHO-5 were worse in ICU HCW than in non-ICU HCW ($p < 0.01$). Working in the ICU rather than in other departments resulted in a change of eating habits, sleeping patterns and alcohol consumption ($p < 0.01$).	This study confirms the suspicion of a high prevalence of anxiety, depression, peritraumatic distress and low wellbeing during the first COVID-19 wave among HCW, especially among ICU HCW. Being a woman, the fear of catching and transmitting COVID-19, anxiety of working with COVID-19 patients, work overload, eating and sleeping disorders as well as increased alcohol consumption were associated with worse	Level 1V

						mental health outcomes. This allows for the identification of associated risk factors. Long-term psychological follow-up should be considered for HCW.	
Vinkers, C. H., van Amelsvoort, T., Bisson, J. I., Branchi, I., Cryan, J. F., Domschke, K., Howes, O. D., Manchia, M., Pinto, L., de Quervain, D., Schmidt, M. V., & van der Wee, N. J. (2020). Stress resilience during the coronavirus pandemic. *European Neuropsychopharmacology*, *35*, 12–16. https://doi.org/10.1016/j.euroneuro.2020.05.003	Resilience theory model (Garmezy, 1974)	The study aims to summarize whether there are specific effects of the COVID-19 pandemic on stress resilience across groups that may be more vulnerable (such as health care workers and adolescents)	Heterogeneous methodology	• Higher social/family support • Physical activity • Share positive coping strategies	Psychiatric patients, particularly those affected by depression and anxiety tended to have higher levels of psychopathological distress, and the presence of depressive symptoms was a predictor of poorer outcome	Healthcare workers appear to be at an increased risk of stress-related psychological symptoms during the pandemic, compared to the general population. It is imperative for scientists and clinicians to work together to help understanding and address the potential issues	Level 1V

		, and what we can learn for possible future pandemics.					
Maresca, G., Corallo, F., Catanese, G., Formica, C., & Lo Buono, V. (2022). Coping strategies of healthcare professionals with burnout syndrome: A systematic review. *Medicina*, *58*(2), 327. https://doi.org/10.3390/medicina58020327	Cognitive Behavioral Theory (Beck, 1960)	The study aims to investigate the personal coping strategies of healthcare workers that may have consequent mental health conditions such as burnout syndrome.	Systematic Reviews and Meta-Analysis	• Studies about coping strategies to face burnout syndrome in healthcare workers should be increased. • listen to the team's needs and preferences about some types of training. • support groups	Results indicated that the relationship between occupational attribution style and satisfaction was mediated using problem-solving/cognitive restructuring and avoidance strategies to cope with workplace stress.	The study concluded that coping mechanisms have a great influence on the occurrence of burnout, and burnout is highly associated as a significant problem in healthcare institutions	Level V

				• stress education • creating personal spaces for physical self-care, • promote collective wellness.			
Chen, B., Li, B., Liu, W., Wang, L. (2022). "Work Stress, Mental Health, and Employee Performance." *Frontiers in Psychology*, vol. 13, 8 Nov. 2022, https://doi.org/10.3389/fpsyg.2022.1006580	Servant Leadership Theory (Greenleaf, 1970)	The study aims to identify how work stress influences employee performance and the mediating impact of mental health and the moderating impact of servant leadership in this relationship.	Descriptive statistics, hierarchical linear regression method.	Foster servant leadership. • Maintain a positive organizational culture. • Enhance time management • Teach emotional regulation skills • Timely communication. • Formulate support policies	found that work stress negatively affects mental health ($\beta = -0.517$, $p < 0.001$). mental health plays a mediating role in the relationship between work stress and employee performance; this suggests that employees' mental status is influenced by work stress, which, in turn,	The study found that as a typical result of emergency events, work stress negatively affects employees' performance, particularly by affecting employees' mental health. Furthermore, it was proven that servant leadership provides a friendly internal environment to mitigate	Level 1V

					lowers job performance.	negative effects of work stress	
De Hert, S. (2020). *Burnout in healthcare workers: Prevalence, impact, and preventative strategies*. Local and regional anesthesia. https://pubmed.ncbi.nlm.nih.gov/33149664/	5-stage model for the development of burnout (Freudenberger 1970) Job Demand-Control Model (Karasek, 1979) Effort-Reward Imbalance Model (1996)	The study examined burnout syndrome: prevalence, symptoms, etiopathogenesis, diagnosis, impact, and strategies and how to deal with the problem.	Systematic review	• Changing life habits • Optimizing work–life balance • Wellness strategies • Self-care practices • Psychotherapeutic interventions	Consequences of burnout are decreased job satisfaction, absenteeism, turnover in personnel, and cynicism. These effects at work frequently have repercussions on personal life such as feeling unhappy, anxiety, depression, isolation, substance abuse, frictional and broken relationships and divorce.	Burnout has become an important problem and a challenge for public health. Burnout in medicine is harmful to the professional, the institution, and the patient. Risk situations should be identified, and preventive measures should be implemented early to avoid future harm.	Level 1V

Edú-Valsania, S., Laguía, A., Moriano, J. A. (2022). "Burnout: A Review of Theory and Measurement." *International Journal of Environmental Research and Public Health*, vol. 19, no. 3, 4 Feb. 2022, p. 1780, www.ncbi.nlm.nih.gov/pmc/articles/PMC8834764/, https://doi.org/10.3390/ijerph19031780	Conceptualization of burnout (Maslach and Jackson's, 1981)	Study aimed to understand what burnout is and its different components, how it occurs, to identify the factors that trigger burnout	Qualitative design Systemic review	• providing workers with adequate support • information, and adequate training to • Improvement of contents and workstations • Humanization of work schedules • Implementation of work–life balance plans • Managers' leadership development • Use of non-financial rewards and incentives	Results revealed adverse consequences both for the individuals who suffer from it and for the organizations in which these professionals work. These consequences are initially of a psychological nature, but maintained over time, they translate into adverse effects on the physical/biological health and behaviors of workers, which in turn will have undesirable organizational consequences	Work environments with excessive work schedules and high levels of demands, as well as the need to prove that one is worthy of a certain position leave workers emotionally drained, cynical about work, and with a low sense of personal accomplishment. Moreover, the pressure does not end with the end of the workday; new technologies, mobile devices and the lack of boundaries prevent disconnection and the necessary recovery from work.	Level 1V

				• Burnout monitoring and design of tailor-made plans • Occupational Health and Safety Service		However, burnout is not an inevitable syndrome; it can be prevented before it appears and treated during its development	
Maglalang, D. D., Sorensen, G., Hopcia, K., Hashimoto, D. M., Katigbak, C., Pandey, S., ... & Sabbath, E. L. (2021). Job and family demands and burnout among healthcare workers: the moderating role of workplace flexibility. *SSM-Population Health*, *14*, 100802. https://doi.org/10.1016/j.ssmph.2021.100802	Job-Demands Resources (JD-R) model (Bakker & Demerouti, 2006)	The purpose of this study is to examine the associations of job and family demands and workplace flexibility on burnout and evaluate the moderating effect of workplace flexibility and job and family	Quantitative longitudinal study	• improve the efficacy and accessibility of workplace flexibility. • Implement equitable workplace flexibility policies that regulates workplace flexibility in accordance with the worker's demands in	Results of the study demonstrated that active and high strained healthcare workers are associated with higher odds of experiencing burnout as well as workers who reported perceived low workplace flexibility. In addition, workplace flexibility is associated with reduced odds of	The study shows that workplace flexibility plays a critical role in potentially reducing odds of burnout in the healthcare worker population.	Level 1V

		demands on burnout		their job and familial spheres	experiencing burnout. Among those who are burned-out the mean of their perceived workplace flexibility is 1.48 (SD = ± 0.23). In examining the distribution of burnout within our covariates 33% of individuals less than 30 years old, 94% of womxn, 79% of white, 86% of U.S. born, and 83% of nurses reported burnout		

Huang, L., Huang, X., Jiang, L., Liu, F., Liu, X., Peng, W., Tong, F., Wen, M., Yang, H., Yang, D., Yang, H., Yi, L., Zhang, L., Zou, R. (2022). "The Psychological Impact of COVID-19 Pandemic on Healthcare Workers." *Frontiers in Public Health*, vol. 10, 17 Aug. 2022, https://doi.org/10.3389/fpubh.2022.963673	Multivariate analysis conceptual model (Hotelling, 1936)	The aim of the study is to investigate the psychological impact of COVID-19 pandemic on HCWs	Qualitative cross-sectional study systematic reviews and meta-analyses	• recruit new staff, • reduce workloads, • offer financial support • promote resilience • Selfcare • psychological counseling	The prevalence of anxiety, depression, and PTSD in HCWs was 15.7, 9.6, and 12.8%, respectively. Females and nurses were with higher fear level ($P < 0.05$) and higher PTSD levels ($P < 0.05$). PTSD levels in female HCWs the 35–59 years-old age group were higher than that in other groups; while married female HCWs were with increased fear than single HCWs. The internal consistency was good, with Cronbach's α = 0.88, 0.80 and 0.84 for HADS, fear scale, and PCL, respectively.	Gender, marital status, and age are related to different levels of psychological disorders in HCWs. Clinical supportive care should be implemented for specific group.	Level V

Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T. P., & Sahebkar, A. (2017). The impact of stress on body function: A review. *EXCLI Journal*, *16*, 1057–1072. https://doi.org/10.17179/excli2017-480	Psychoneuroimmunology theory (Ader, 1975)	The aim of the study is to evaluate some of the major effects of stress on the primary physiological systems of humans.	Qualitative systemic review Cross sectional study	• training programs for stress management • Improve nutrition • Selfcare	The study showed that Stress had serious effects on the Nervous system, immune system, cardiovascular, endocrine, GI system and can lead to disorders, Stress can be either a triggering or aggravating factor for many diseases and pathological conditions.	stress may induce both beneficial and harmful effects. the harmful effects of stress may receive more attention or recognition by an individual due to their role in various pathological conditions and diseases. individuals vary in their response to stress, so a particular treatment strategy or intervention appropriate for one patient may not be suitable or optimal for a different patient.	Level 1V

Kabito, G. G., & Mekonnen, T. H. (2020). *Psychological distress symptoms among healthcare professionals are significantly influenced by psychosocial work context, Ethiopia: A cross-sectional analysis*. PloS one. https://pubmed.ncbi.nlm.nih.gov/32946488/	Bivariate conceptual model (Halley, 1686) Multivariate analysis (Hotelling, 1936)	The study aim is to identify the level and shaping factors of psychological distress among healthcare providers in Gondar city, Ethiopia.	Cross sectional study	• Preventative efforts should address personal characteristics and job demands • Lifestyle adjustments • Incorporation of workplace diversity	psychological distress symptoms associated with work reflects 44.4% (N = 185) [95%CI (39.8, 49.4)]. Female worker represents [AOR: 2.07; 95% CI (1.29, 3.32, decrease job control [AOR: 2.54; 95% CI (1.60, 4.04)] and, increase job demand [(AOR: 1.53; 95% CI (1.10, 2.57)] were associated with psychological distress.	psychosocial hazards related to work can lead to numerous harmful effects on psychological and physical health, decrease in life quality and a reduction in workers performance abilities.	Level 1V

Appendix C: ProQol Questionnaire

Professional Quality of Life Scale (ProQOL)

Compassion Satisfaction and Compassion Fatigue
(ProQOL) Version 5 (2009)

When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some-questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*.

1=Never	2=Rarely	3=Sometimes	4=Often	5=Very Often

_____ 1. I am happy.
_____ 2. I am preoccupied with more than one person I *[help]*.
_____ 3. I get satisfaction from being able to *[help]* people.
_____ 4. I feel connected to others.
_____ 5. I jump or am startled by unexpected sounds.
_____ 6. I feel invigorated after working with those I *[help]*.
_____ 7. I find it difficult to separate my personal life from my life as a *[helper]*.
_____ 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
_____ 9. I think that I might have been affected by the traumatic stress of those I *[help]*.
_____ 10. I feel trapped by my job as a *[helper]*.
_____ 11. Because of my *[helping]*, I have felt "on edge" about various things.
_____ 12. I like my work as a *[helper]*.
_____ 13. I feel depressed because of the traumatic experiences of the people I *[help]*.
_____ 14. I feel as though I am experiencing the trauma of someone I have *[helped]*.
_____ 15. I have beliefs that sustain me.
_____ 16. I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
_____ 17. I am the person I always wanted to be.
_____ 18. My work makes me feel satisfied.
_____ 19. I feel worn out because of my work as a *[helper]*.
_____ 20. I have happy thoughts and feelings about those I *[help]* and how I could help them.
_____ 21. I feel overwhelmed because my case [work] load seems endless.
_____ 22. I believe I can make a difference through my work.
_____ 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
_____ 24. I am proud of what I can do to *[help]*.
_____ 25. As a result of my *[helping]*, I have intrusive, frightening thoughts.
_____ 26. I feel "bogged down" by the system.
_____ 27. I have thoughts that I am a "success" as a *[helper]*.
_____ 28. I can't recall important parts of my work with trauma victims.
_____ 29. I am a very caring person.
_____ 30. I am happy that I chose to do this work.

Appendix D: Permission to use the ProQOL 5.0

ProQOL Office

Tue, Sep 27, 2022, 12:24 PM

Thank you for your interest in the ProQOL.

The ProQOL measure may be freely copied and used, without individualized permission from the ProQOL office, as long as:

(a) You credit The Center for Victims of Torture and provide a link to www.ProQOL.org;

(b) It is not sold; and

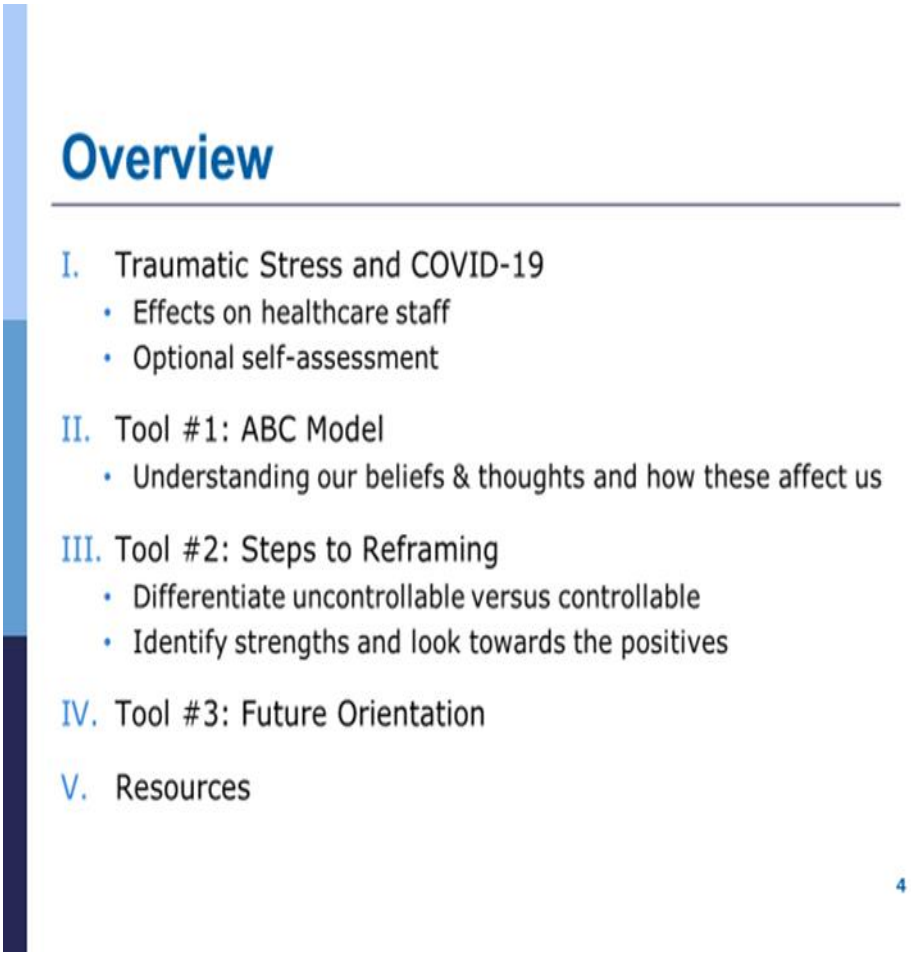
(c) No changes are made, other than creating or using a translation, and/or replacing "[helper]" with a more specific term such as "nurse."

Because you have agreed that your use of the ProQOL follows the above criteria, the ProQOL Office at the Center for Victims of Torture grants you permission to use the ProQOL. Your recorded request is attached here as a PDF.

Thank you!

The ProQOL Office at The Center for Victims of Torture

Appendix E: About the TECHS tool kit



Goals of This Slide Set

1. Provide concrete, usable tools for healthcare staff

2. Tools support emotional coping in the face of challenging, stressful situations in healthcare settings

Appendix F: Permission to Use the TECHS Tool Kit

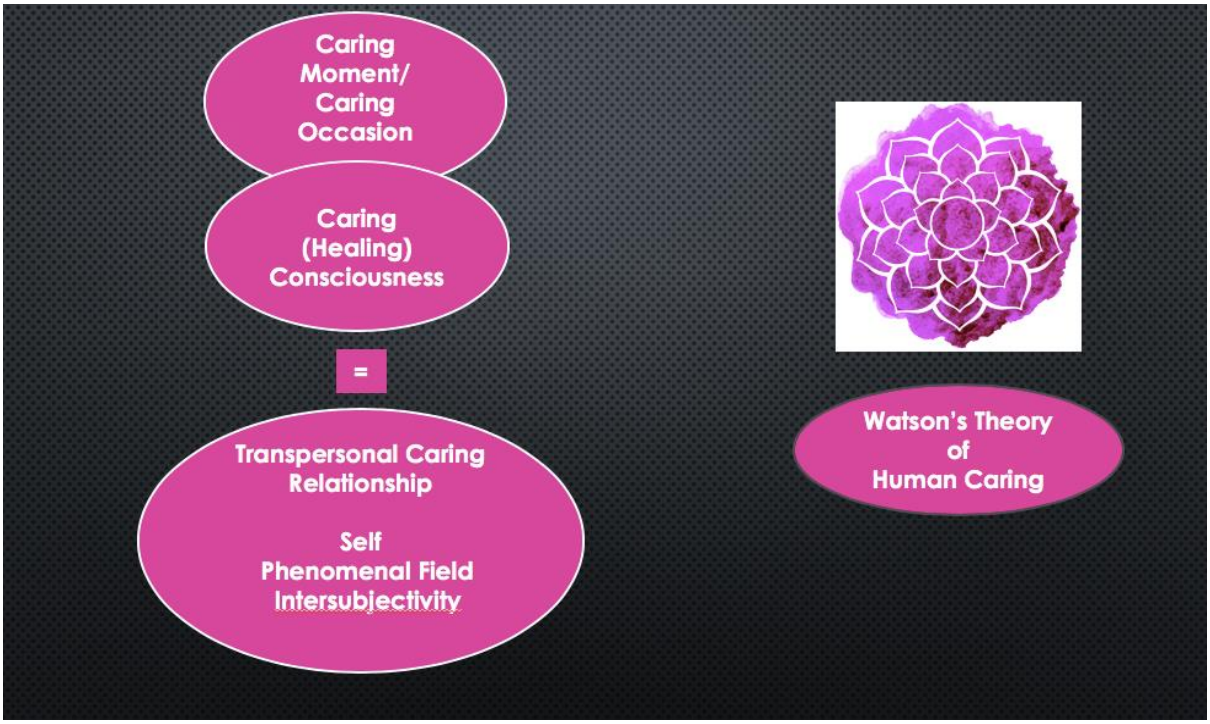
CPTS
Mon, May 23, 2022, 8:57 AM

Hello Chrissy,

Thank you very much for your email and your interest in using TECHS. Please see attached for the full slide set. Best of luck in your work, we hope this is helpful for your staff.

All the best,
The Center for Pediatric Traumatic Stress

Appendix G: Human Caring Theoretical Framework Model



Appendix H: Permission to Use Theoretical Framework

Fri, Nov 11, 2022, 11:13 AM

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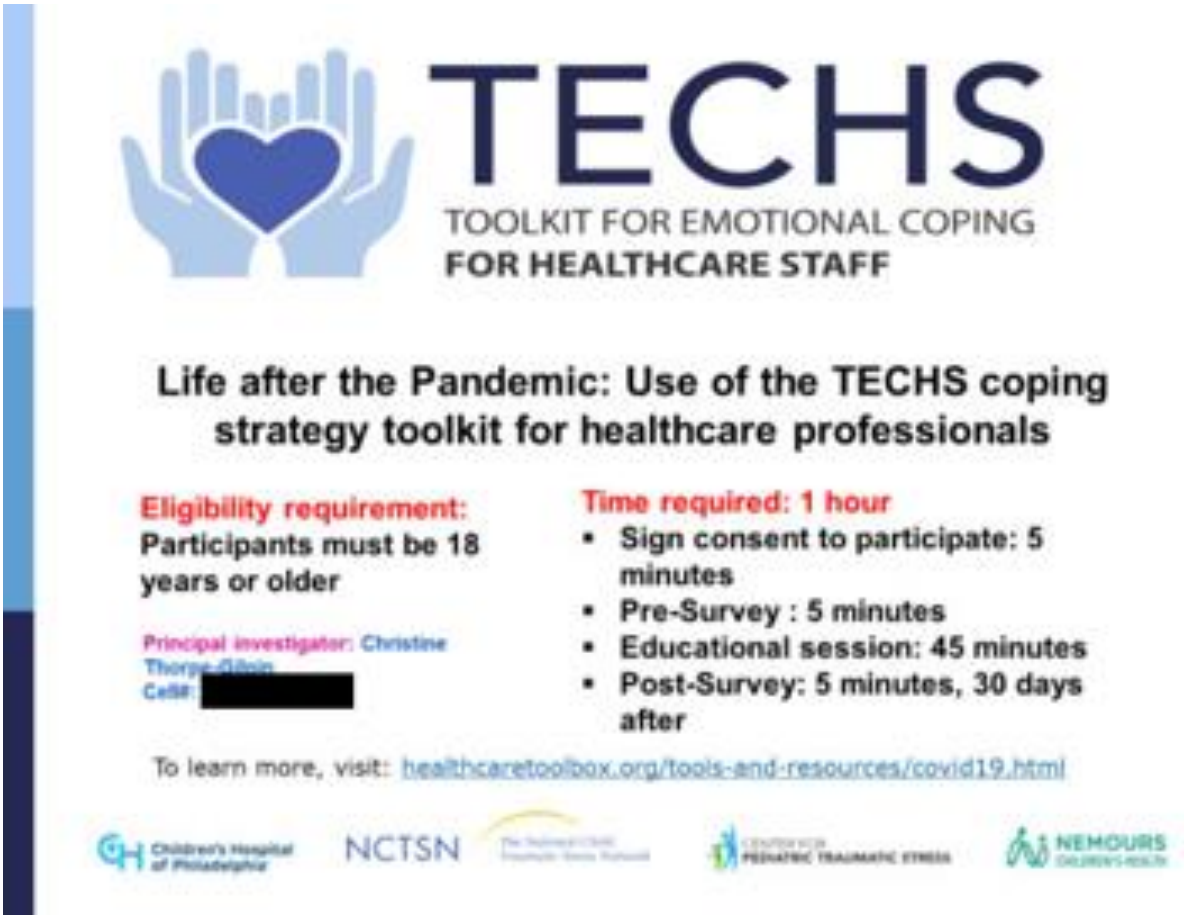
Appendix I: Project Flyer



Appendix J: Permission to Use Project Site

Nov 8, 2022, 1:44 PM

Good morning,

Christine Thorpe-Gilpin has permission to present her DNP spring project at [study site].

Thanks,
XXXXXX

xxxxxx
xxxxxx
xxxxxx SPECIALTY HOSPITAL
xxxxxxx Texas xxxxxxx
p xxxxxx | c xxxxxx