Reducing Burnout in Bedside Nurses Through Guided Meditation

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She has no known conflict of interest to disclose.

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Abstract

Purpose & Background: Nurses regularly have encounters with traumatic and stressful events which can have deleterious effects on their physical and psychological well-being and lead to burnout. The Covid-19 pandemic has further exacerbated the stress on nurses. The purpose of this project is to evaluate if an evidence-based, guided mindfulness-based intervention would reduce burnout levels among registered nurses (RNs) working in in-patient settings.

Methods: Participants enrolled in nursing programs from a local university were recruited for the project with the following inclusion requirements: (1) RNs working in an in-patient setting, (2) aged 18 years old or older; (3) fluent in the English language. Participants completed a pre-survey and then enrolled in a free mindfulness application via their phone or computer. Participants listened to one ten-minute mindfulness session for a consecutive ten days and then completed a post-survey.

Results: Data collected from the pre and post surveys included the use of the following valid and reliable instrument tools: Copenhagen Burnout Inventory, Brief Resiliency Coping Scale, and Short Form Health Survey. Data was analyzed using descriptive statistics and the Wilcoxon Signed Ranks Test. The analyzed data showed that there was statistical significance in decreased burnout levels, increased resiliency, and increased health perceptions of the participants.

Conclusion: By finding ways to cope with the experience of burnout in nurses, nurses' mental health wellness can improve in order for nurses to continue to be an integral part of the healthcare system.

Keywords: nurses, burnout, guided meditation, mindfulness, stress

Nurse Burnout

Burnout has become increasingly prevalent among high-stress occupations including bedside nurses. Burnout is defined as a consequence of chronic stress in the workplace that has not been adequately addressed and can manifest in the forms of emotional exhaustion, depersonalization, and reduction in job satisfaction (World Health Organization [WHO], 2019). Symptoms of burnout can include frustration, fear, being overwhelmed, hopelessness, and lack of empathy (Moss et al., 2016). With the on-going uncertainty of the current Covid-19 pandemic, burnout has been much more prevalent among healthcare workers. In April 2020, Dr. Lorna Breen was tragically lost to suicide as a result of the emotional and physical exhaustion from working the frontlines in New York City during the height of the pandemic (Romine, 2020). As a result, the Dr. Lorna Breen Health Care Provider Protection Act (2019) was introduced to reduce and prevent burnout, behavioral disorders, and suicide among health care professionals. Without sufficient support, healthcare workers, including nurses, are likely to continue to experience high levels of stress and anxiety that can eventually lead to burnout and loss of nurses in the workforce (Fernandez et al., 2020).

Purpose and Rationale

According to the National Academies of Sciences, Engineering, and Medicine (2019), 35% of physicians and nurses in the United States have experienced symptoms of burnout. Burnout affects the individual healthcare professional by an increased risk of workplace injury, absenteeism, and professional dissatisfaction. Additionally, burnout can have an effect at the healthcare systems level with decreased quality of care, decreased patient satisfaction, and increased turnover rate for nurses (National Academies of Sciences, Engineering, and Medicine, 2019). The Covid-19 pandemic has only further exacerbated the issue of burnout. The pandemic

has become a contributing factor in the significantly higher levels of stress, fear of contagion, anxiety, and burnout in nurses working with Covid-19 patients (Trumello et al., 2020). The purpose of this paper is to provide an in-depth review of the current literature on burnout in nursing and discuss the methods and findings of a project that used a guided mindfulness-based intervention to address burnout in nurses.

Background and Significance

Burnout has become a common issue among those who work in high-stress occupations such as nursing. In nurses' line of work, regular encounters with traumatic and stressful events are all too common (Moss et al., 2016). The daily stress incurred at work and the emotional weight of confronting patient morbidity and mortality can have deleterious effects on their physical and psychological well-being (Moss et al., 2016). Incorporate a worldwide pandemic on top of a nurse's daily physical and emotional toll and it has led to an exacerbation of anxiety, stress, exhaustion, and burnout. Covid-19 has increased the propensity of burnout in nurses by the increased workload, limited resources, and insufficient amount of time to adequately care for acutely ill patients with the diagnosis of Covid-19 (Dincer & Inangil, 2021).

If pandemics can produce disastrous effects in the well-being and health of the world's population, they can especially affect the population's healthcare professionals and caregivers (Trumello et al., 2020). Events such as the 2002 Severe Acute Respiratory Syndrome (SARS) outbreak, Hurricane Katrina in 2004, Hurricane Rita in 2005, and the 2004 Southeast Asian tsunami have demonstrated how vital healthcare professionals are in caring for and protecting citizens in the aftermath of a disease or disaster (Benedek et al., 2007). After these events, the potential for negative emotional impact is significant for healthcare professionals due to the high level of exposure to trauma, the increased work demand, and the sacrifice of being separated

from home and loved ones. Healthcare professionals are an essential component of recovery from disastrous events and disease outbreaks (Benedek et al., 2007).

Nurses are known for their strong sense of duty to their patients and their desire to provide quality care for all of their patients. Nurses' commitment to quality care can lead them to be particularly susceptible to high levels of psychological distress and burnout due to the nature of their work (Fernandez et al., 2020). Nurses are in continued contact with the most vulnerable patients in their work at the bedside. During the SARS epidemic in Hong Kong, nurses statistically had higher stress levels and more psychological morbidity during the outbreak than other professionals (Tam et al., 2004). Nurses were highly susceptible to negative emotional responses and mental distress due to the increased risk of becoming victims to disease while working as caregivers amid the epidemic (Tam et al., 2004). The increased frequency of exposure to Covid-19 for nurses is a propellent for more exposure to chronic stressors in nurses. These chronic stressors that nurses encounter lead to higher prevalence of anxiety, depression, insomnia, and low levels of professional fulfillment (Tiete et al., 2021).

Mindfulness and Resilience

Research has shown that there is a strong correlation between burnout and resilience. Nurses who had high levels of resilience were associated with low levels of emotional exhaustion and depersonalization. Increased resilience is associated with less stress and more positive psychological effects (Rushton et al., 2015). Stress lowering interventions for nurses have been effective for nurses physiologically and psychologically. Cognitive-behavioral and relaxation interventions have been the most effective at helping nurses cope with their work demands (Richardson & Rothstein, 2008). Nurses who participated in a stress management program showed significant improvement in perceived stress after completing the program

(Hersch et al., 2016). Mindfulness-Based Stress Reduction (MBSR) focuses on stress reduction through interventions that cultivate mindfulness, such as meditation, deep breathing exercises, and mindful yoga. Evidence supports MBSR as a tool to improve the psychological health of those working in high-stress environments (Fjorback et al., 2011).

Current and Desired State

In 2018, to combat burnout, the Institute for Healthcare Improvement launched the National Steering Committee for Patient Safety to focus on workforce safety, including issues related to burnout (Institute for Healthcare Improvement [IHI], 2020). Despite efforts, only 5% of healthcare professionals indicated that their work organization was highly effective at addressing burnout in staff (The Joint Commission, 2019).

Lack of social support was indicated as the most prevalent risk factors for developing negative psychological outcomes in disasters (Hu et al., 2020). The Dr. Lorna Breen Health Care Provider Protection Act (2019) was formed after the death of Dr. Lorna Breen. Her death was thought to be facilitated by the overwhelming exhaustion and burnout she incurred during her time working in the pandemic (Romine, 2020). The act is indicative of the desired state of healthcare. The purpose of the bill is to establish grant programs that the Department of Health and Human Services (HHS) can award to healthcare professional programs to provide education on improving mental health and well-being. The bill also determines that the HHS must study and develop recommendations to preventing burnout among healthcare professionals. It also requires the Center for Disease Control and Prevention (CDC) to coordinate a campaign to encourage those suffering from mental and behavioral concerns to seek support and treatment (Dr. Lorna Breen Health Care Provider Protection Act, 2019).

PICOT Question

Preliminary interest in this problem led to an inquiry of current evidence to determine the best interventions to address the burnout issues in nurses. This literature review has led to the clinically relevant PICOT question, "In nurses working in the in-patient settings during the Covid-19 pandemic, what impact does a guided mindfulness-based intervention have on their burnout levels?"

Evidence Synthesis

This literature review included an exhaustive search of the following databases: PubMed, Academic Search Premiere, and PsycINFO. Keywords included: *burnout, moral distress, psychological distress, high stress, compassion fatigue, disaster, war, pandemic, crisis, covid, epidemic, nurses, first responders, frontline workers, healthcare workers, stress reduction, mindfulness, relaxation, stress reduction,* and *meditation*. The initial search of *burnout* and *nursing* and *disaster* yielded 30 results in PubMed and 37 results in Academic Search Premier. The initial search of *nurse burnout* and *psychological distress* and *pandemic* yielded 376 results in PsycINFO. Due to the small volume of results yielded, the combination of the keywords was changed to include *nursing* and *burnout* or *psychological distress*. This resulted in 113 results in PubMed, 213 results in Academic Search Premier, and 376 results in PsycINFO. Search limits were set to include journal articles between 2013 – 2021, randomized controlled trials or clinical trials, and English language. This resulted in a final yield of 179 results in PubMed, 42 results in Academic Search Premier, and 46 results in PsycINFO. Grey literature of news articles regarding Covid-19 and nurse burnout were also searched.

After reviewing the abstract and titles of the final yield, inclusion criteria included articles that addressed nurse burnout, stress, and mindfulness strategies. Exclusion criteria

included articles dated prior to 2013, articles that did not address nurse burnout, and articles that did not address strategies for mindfulness. Rapid critical appraisals were then completed for 15 articles and the final 10 articles were chosen for this literature review. This included seven randomized controlled trial studies, two mixed-methods studies, and one cross-sectional study.

Critical Appraisal & Synthesis of Evidence

In the literature review, 50% of studies that were conducted in the United States with the other half of studies conducted in other countries. The foundational theories varied among the studies; the Stress and Coping Theory was used in two studies. The overall quality and strength of the evidence was very high as all studies were level II studies (Burns et al., 2011). All of the selected articles were randomized controlled trials involved with investigating interventions that can reduce the levels of stress, depression, anxiety or other similar concepts related to burnout in healthcare workers. Significant homogeneity was apparent in the chosen sample population of the studies as all studies chose healthcare workers with a majority focused on nurses in particular. All of the studies chose an intervention that involved some form of education on methods to reduce stress levels such as mindfulness-based training, conflict management classes, or peer support groups.

The most common outcome measure to assess burnout among the studies included the Maslach Burnout Inventory and the Perceived Stress Scale. Overall, the strengths of these studies included the use of random sampling and the use of randomized control trials. The weakness in the majority of the studies was the small sample size. Homogeneity was apparent within all the outcomes of the studies as each study resulted in a reduction of stress or an increase in resiliency among the intervention group (see Appendix G, Table 2).

Current literature confirmed the prevalence of burnout and high stress levels in healthcare workers and most specifically, nurses. Burnout can be combated in a multitude of ways including mindfulness-based training, peer support groups, and education on techniques to enhance resiliency. Establishing specific time set aside to reflect and learn about coping mechanisms to combat stress is necessary to mitigate against burnout. The evidence extracted suggested the significance effect of a mindfulness-based intervention on reducing burnout and stress in healthcare professionals. By harnessing healthcare workers with the tools necessary to fight high levels of burnout and stress, it can result in lower turnover rates of staff, less fatigued nurses, and promote greater overall health in nurses.

Theoretical Framework

Theory is the driving force behind evidence-based practice and is a facilitator for practice change. The Neuman System Theory (NST) was chosen for the theoretical framework that is applicable to the concept of nurse burnout and resiliency. The NST is based on the philosophy of "helping each other live" (Neuman, 1996, p. 675). The NST assumes that energy is necessary for optimal function of systems and if one system is not functioning properly, other systems will be affected. Stressors are the main source of client instability (see Appendix D, Figure 1). In applying the NST to the evidence, the client is assumed to be the nurse. Wellness retention is the goal of NST, and it is influenced by lines of defense that protect the core of the client. Variables can influence the client system and these variables can be psychological, physiological, sociocultural, developmental, or spiritual. The lines of defense serve as protective barriers to the core (see Appendix D, Figure 2).

There are three dimensions of stressors that can alter the core and include intrapersonal, interpersonal, and extra-personal (Butts & Rich, 2018). In reviewing the current literature and

evidence pertaining to nurse burnout, it is evident that burnout is a psychological variable that has influenced the core of the nurse. The nurse can also be affected by each dimension of stressor. The emotional toll of the nurse role can be seen as intrapersonal stress, the expectations of the nurse role can be seen as interpersonal stress, and the lack of policy and procedure to combat burnout can be seen as extra-personal stress. By addressing the three dimensions of stress that are affecting the nurse, it will enable the nurse to reach optimal function, decrease burnout, and increase resiliency.

Implementation Framework

Ensuring the wellness and resiliency of nurses is paramount to the health and wellness of patients and has become even more apparent during the Covid-19 pandemic. When nursing staff is overworked, under high amounts of stress, and have high level of burnout, it can lead to more potential for errors and unsafe care of patients. Creating resiliency techniques and education for nurses in order to uphold their wellness in order to provide care for the vulnerable is of upmost importance. Change is necessary in order to promote the health of the nurse and reduce burnout. For this reason, the Rosswurm and Larrabee Model is fitting for its applicable stepwise process to change (see Appendix E, Figure 1). This model is comprised of six steps: (1) assess the need for change in practice; (2) problem interventions and outcomes; (3) synthesize best evidence; (4) design practice change; (5) implement and evaluate change in practice; and (6) integrate and maintain change in practice (Rosswurm & Larrabee, 1999).

A need for change was identified through the evidence of increased burnout and stress levels among nurses. The first three steps of the model have been complete thus far and therefore, a design of a potential project would include mindfulness-based sessions conducted through the use of an electronic online application. The practice change is to routinely include

these mindfulness sessions on a daily basis for a goal of ten days total. The goal for the mindfulness-based sessions is to provide a time of relaxation and meditation for the nurses in order to alleviate stress.

Methods

This project was submitted to the Arizona State University Institutional Review Board as a quality improvement project and received expedited approval. This quasi-experimental, pre- and posttest design project provided participants with a consent form describing the purpose, procedures, potential benefits and risks and confidentiality issues of their participation. Participants were recruited from a Southwestern University through the use of electronic announcements via Canvas. Inclusion criteria of participants included (1) those who were currently working in an in-patient setting at the bedside; (2) aged 18 years or older; and (3) were fluent in the English language.

Those who agreed to participate in the study were sent an electronic pre-survey via e-mail which included demographical questions, the Copenhagen Burnout Inventory (Kristensen et al., 2005), the Brief Resiliency Coping Scale (Sinclair & Wallston, 2004) and the Short Form Health Survey-20 (Stewart et al., 1988). Those who completed the initial pre-survey were given instructions on how to complete the intervention. Participants downloaded the HeadSpace application from either their computer or phones and were instructed to listen to a different ten-minute guided mindfulness track for a consecutive ten days. After completion, participants then completed a post-survey that included the Copenhagen Burnout Inventory, the Brief Resiliency Coping Scale, and the Short Form Health Survey-20. Participants were compensated with a nominal $10 electronic gift card for their full participation.

The Copenhagen Burnout Inventory measured the pre- and post-survey burnout scores of the participants. The Brief Resiliency Scoping Scale measured the pre-and post-survey scores of resiliency in the participants. The Short Form Health Survey-20 measured the pre- and post-survey burnout scores of participants in various domain of health including physical functioning, mental health, general well-being, pain, and social functioning.

The surveys were input into the statistical data application, REDCap (Project REDCap, n.d.). Raw data collection was downloaded from REDCap and input into the statistical analysis application, Intellectus (Intellectus Statistics, 2021). Descriptive statistics was used to describe the sample characteristics and distribution of key measures. A two-tailed Wilcoxon signed rank test was conducted to examine whether there was a significant difference between burnout scores before and after the guided meditation intervention.

Results

Descriptive statistical data analyzed included gender identified, race/ethnicity, level of education, number of years of experience as a registered nurse, and number of years employed at current unit. Overall, 100% of the participants (N = 9) were female; Asian (44%) was the most common race identified. The majority of participants had completed at least a Bachelor's degree and the majority of participants had 11-15 years of nursing experience (see Table 1).

Table 1

Demographic and Nursing-Related Variables

Variable	*n*	*%*
Gender Identified		
Female	9	100
Missing	0	0
Race Identified		
Asian	4	44
Non-Hispanic White	3	33
Latino/Hispanic	1	11
Black	1	11
Missing	0	0
Highest Level of Education Completed		
Bachelor's degree	4	44
Master's degree	3	33
Associate's degree	2	22
Missing	0	0
Number of Years of Experience as a Registered Nurse		
0-5	3	33
6-10	2	22
11-15	4	44
Missing	0	0
Number of Years Employed on Current Unit		
<1 year	2	22
1-2 years	3	33
3-5 years	3	33
6-10 years	1	11
Missing	0	0

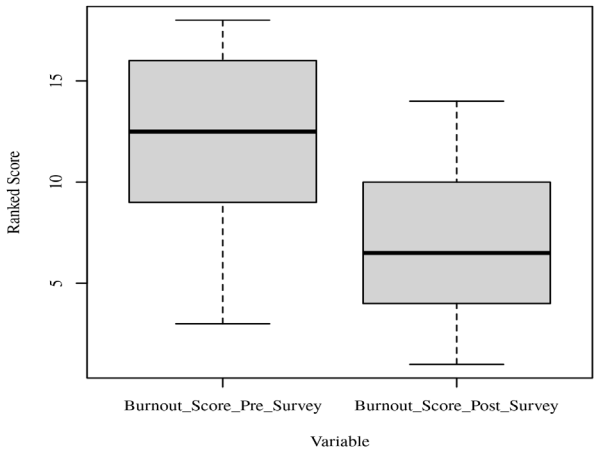
Note. Due to rounding errors, percentages may not equal 100%.

Outcome variables for this project included level of burnout, level of resiliency, and Quality of Life measured by the SF-20.

Burnout. The average score of pre-intervention burnout level was 62.5 and the average score of post-intervention burnout level was 41.6. The results suggested a significant decrease in

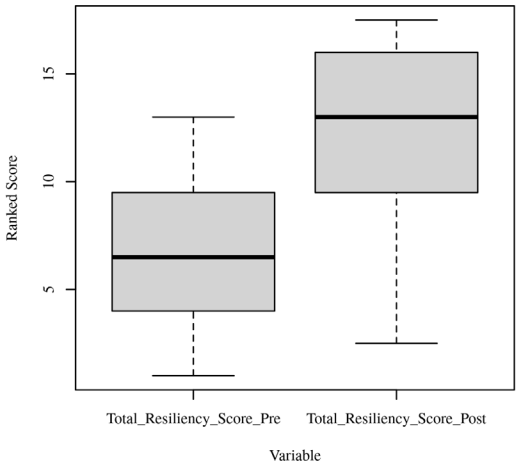
the mean score after the intervention, indicating a lower level of burnout (z = -2.55; p = 0.11). Figure 2 presents the score changes after the intervention.

Figure 2



Resiliency. The average score of resiliency pre-intervention was 3.5 and the average score of resiliency post-intervention was 4. The results suggested a significant increase in the mean score after the intervention, indicating an increased resiliency level (z = -2.53; p = 0.11). Figure 3 presents the score changes after the intervention.

Figure 3



The SF20 Quality of Life was used to measure physical functioning, mental health, general well-being, pain, and social functioning. The overall total SF20 scores pre-intervention and post-intervention were not statistically significant as indicated by an alpha value of 0.05, $z = -1.48$, $p = .139$. However, the score of "health perceptions" domain was statistically higher post intervention ($z = -2.66$; $p = .008$), suggesting that nurses perceived better health after the intervention.

Impact of Project

The results indicate that a guided meditation intervention has statistically significant impact on the burnout, resiliency, and health perception levels of nurses working in in-patient settings. The use of a guided meditation intervention can provide a means for decreasing burnout and increasing resiliency and health perceptions of nurses in order to maintain the nurses' mental health wellness. The feasibility of creating a scalable application to promote nurses' well-being is somewhat difficulty in terms of production, but can be cost-effective and effective means of promoting nurses' well-being. Curbing levels of burnout for nurses can make an impact by ensuring that nurses' health is addressed and can facilitate longevity of the nurse working at the bedside.

Conclusion

Mindfulness intervention can reduce burnout levels and increase resiliency among bedside nurses. By finding solutions to burnout experienced by nurses, it can ensure the mental health wellness of the nurse. Ensuring that nurses have decreased burnout levels and increased resiliency levels can make an impact on the quality of care provided to their patients (Fernandez et al., 2020). The results of this project coincide with the findings of the literature review by Green & Kinchen (2021) in which their findings indicated that mindfulness-based interventions

have been shown to significantly decrease stress and improve burnout levels. The barriers encountered for this project include a small sample size and short time frame for completion. Recommendations for further study include obtaining a larger sample population and an increased period of time for the intervention.

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Appendix A

PubMed Advanced Search

History and Search Details Download Delete

Search	Actions	Details	Query	Results	Time
#30	···	! >	Search: **burnout and nursing and disaster**	30	16:13:29
#29	···	! >	Search: **disaster nursing and burnout**	30	16:13:16
#28	···	! >	Search: **nurses and moral distress**	768	16:13:03
#27	···	>	Search: **frontline workers AND moral distress**	20	16:12:54
#26	···	>	Search: **psychological distress AND nursing AND pandemic**	113	16:11:50
#25	···	>	Search: **psychological distress AND nursing AND mindfulness**	115	16:11:28
#24	···	>	Search: **psychological distress AND nursing AND relaxation**	82	16:11:17
#23	···	>	Search: **psychological distress AND nursing**	5,425	16:11:09
#22	···	>	Search: **high stress nursing AND burnout**	735	16:10:44
#21	···	>	Search: **mindfulness AND nurse AND stress**	284	16:10:33
#20	···	! >	Search: **compassion fatigue and nursing AND burnout**	366	16:10:02
#19	···	! >	Search: **compassion fatigue and nursing**	533	16:09:53
#18	···	>	Search: **burnout AND frontline workers**	128	16:09:40
#17	···	>	Search: **crisis AND nursing AND burnout**	126	16:08:55
#16	···	>	Search: **crisis AND nursing**	5,184	16:08:46
#15	···	>	Search: **crisis AND nursing** Filters: **Randomized Controlled Trial**	55	16:08:24
#14	···	>	Search: **crisis AND burnout AND nurses** Filters: **Randomized Controlled Trial**	1	16:08:16
#13	···	! >	Search: **covid and health care workers** Filters: **Randomized Controlled Trial**	18	16:05:20
#12	···	! >	Search: **covid and healthcare workers** Filters: **Randomized Controlled Trial**	23	16:05:14
#11	···	! >	Search: **covid and healthcare workers**	7,528	16:05:02
#10	···	! >	Search: **covid and healthcare workers** Filters: **Clinical Trial**	34	16:04:45
#9	···	! >	Search: **healthcare workers and burnout** Filters: **Clinical Trial**	179	15:55:04
#8	···	! >	Search: **pandemic nursing and burnout** Filters: **Clinical Trial**	1	15:54:53
#7	···	! >	Search: **crisis nursing and burnout** Filters: **Clinical Trial**	2	15:54:42
#6	···	! >	Search: **covid nursing and burnout** Filters: **Clinical Trial**	1	15:54:29
#5	···	! >	Search: **burnout and nursing** Filters: **Clinical Trial**	106	15:54:21
#3	···	! >	Search: **burnout and nursing**	5,879	15:54:17
#4	···	! >	Search: **burnout and nursing** Filters: **Randomized Controlled Trial**	79	15:52:34
#2	···	! >	Search: **burnout and nursing student**	439	15:50:44
#1	···	>	Search: **burnout AND moral distress AND nursing**	183	15:49:46

Appendix B

Academic Search Premier Advanced Search

Search History/Alerts

Print Search History | Retrieve Searches | Retrieve Alerts | Save Searches / Alerts

Select / deselect all | Search with AND | Search with OR | Delete Searches | Refresh Search Results

Search ID#	Search Terms	Search Options	Actions
S24	disaster AND burnout AND nurses	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (37) | View Details | Edit
S23	war AND burnout AND nurses	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (25) | View Details | Edit
S22	first responders AND burnout	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (34) | View Details | Edit
S21	first responders AND burnout AND stress reduction	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (3) | View Details | Edit
S20	nurses AND burnout AND stress reduction	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (207) | View Details | Edit
S19	nurses AND moral distress AND mindfulness	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (5) | View Details | Edit
S18	nurses AND moral distress AND meditation	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (2) | View Details | Edit
S17	frontline workers AND moral distress AND meditation	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (0) | View Details | Edit
S16	frontline workers AND moral distress AND meditation	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (0) | View Details | Edit
S15	nurses AND burnout AND epidemic	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (39) | View Details | Edit
S14	nurses AND high stress AND pandemic	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (8) | View Details | Edit
S13	nurses AND high stress AND burnout	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (213) | View Details | Edit
S12	nurses AND psychological distress AND pandemic	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (42) | View Details | Edit
S11	nurses AND psychological distress	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (1,052) | View Details | Edit
S10	healthcare workers AND psychological distress	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (118) | View Details | Edit
S9	frontline workers AND burnout	**Expanders** - Apply equivalent subjects **Search modes** - Boolean/Phrase	View Results (31) | View Details | Edit
S8	healthcare worker AND burnout	**Expanders** - Apply equivalent subjects	View Results (451) | View Details | Edit

Appendix C

PsycInfo Advanced Search

Recent Searches

To save a search, select Save search from the Actions menu. Learn more

Combine searches: Search Search tips

Examples: 1 AND 3 or "6"
(1 AND 3) OR (1 AND 2)
3 NOT treatment

Items selected: 0 Delete Save Show all details Export all searches Saved searches (1)

Set	Search	Databases	Results	Actions
S21	(nurse burnout) AND psychological distress AND pandemic ✓ Limits applied	58 databases	376	Actions
S20	(nurse burnout) AND psychological distress ✓ Limits applied	58 databases	4,715	Actions
S19	(nurse burnout) AND mindfulness ✓ Limits applied	58 databases	1,235	Actions
S18	(nurse burnout) AND mindfulness ✓ Limits applied	58 databases	1,237	Actions
S17	(nurse burnout) AND mindfulness	58 databases	8,296	Actions
S16	nurses and high stress OR burnout AND pandemic	58 databases	639,751	Actions
S15	nurses and high stress OR burnout	58 databases	949,887	Actions
S14	nurses and high stress OR burnout ✓ Limits applied	58 databases	156,420	Actions
S13	nurses and high stress OR burnout	58 databases	949,887	Actions
S12	(first responders) and burnout AND stress	58 databases	9,346	Actions
S11	healthcare worker OR nurse AND moral distress AND burnout	58 databases	1,262,600	Actions
S10	healthcare worker AND moral distress AND burnout	58 databases	10,176	Actions
S9	healthcare worker AND moral distress	58 databases	48,652	Actions
S8	(nurse burnout) AND war	58 databases	21,704	Actions
S7	(nurse burnout) AND covid	58 databases	4,676	Actions
S6	(nurse burnout) AND crisis AND mindfulness	58 databases	5,431	Actions
S5	(nurse burnout) AND crisis	58 databases	34,235	Actions
S4	(nurse burnout) AND pandemic	58 databases	6,408	Actions
S3	(nurse burnout) AND disasters	58 databases	13,216	Actions
S2	burnout AND frontline workers	APA PsycInfo®	51	Actions
S1	nurse AND burnout	APA PsycInfo®	2,420	Actions

Appendix D

The Neuman Systems Theory

Figure 1

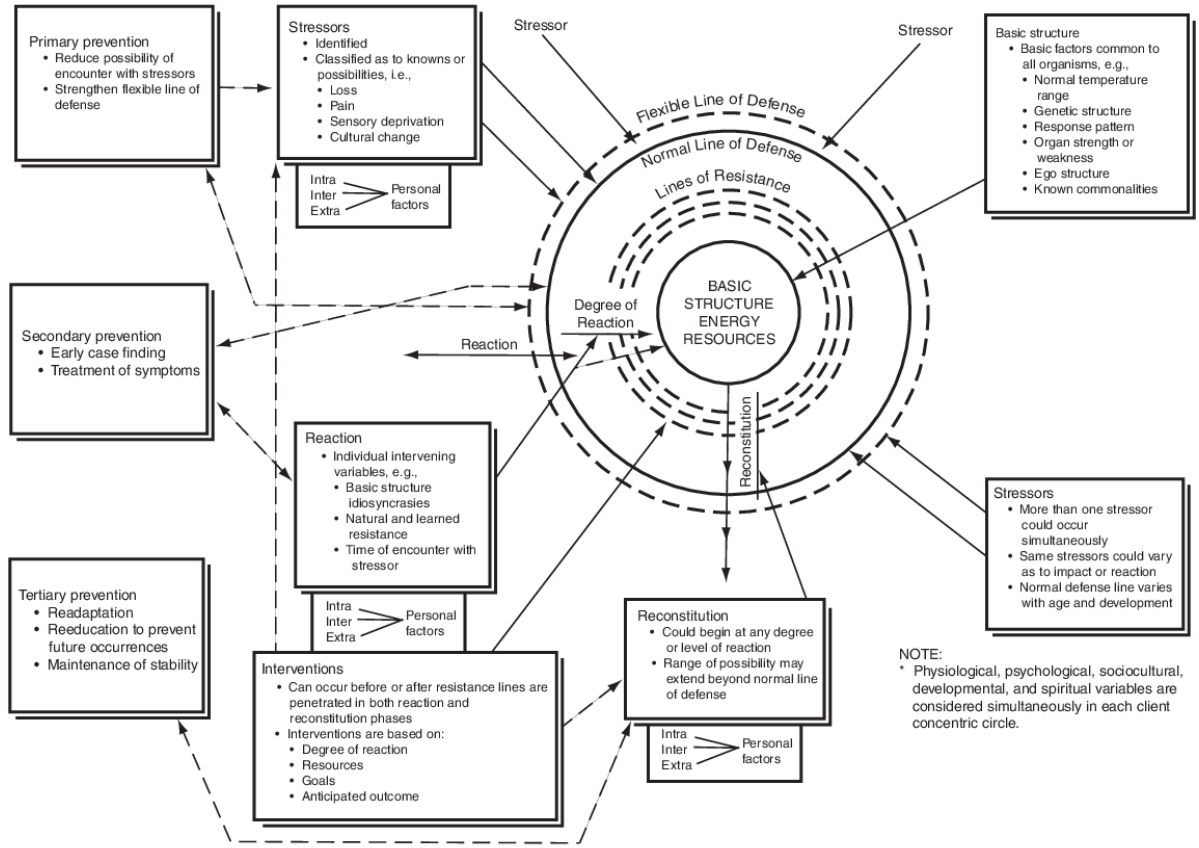


FIGURE 1-3 The Neuman Systems Model.

Appendix D

The Neuman Systems Theory

Figure 2

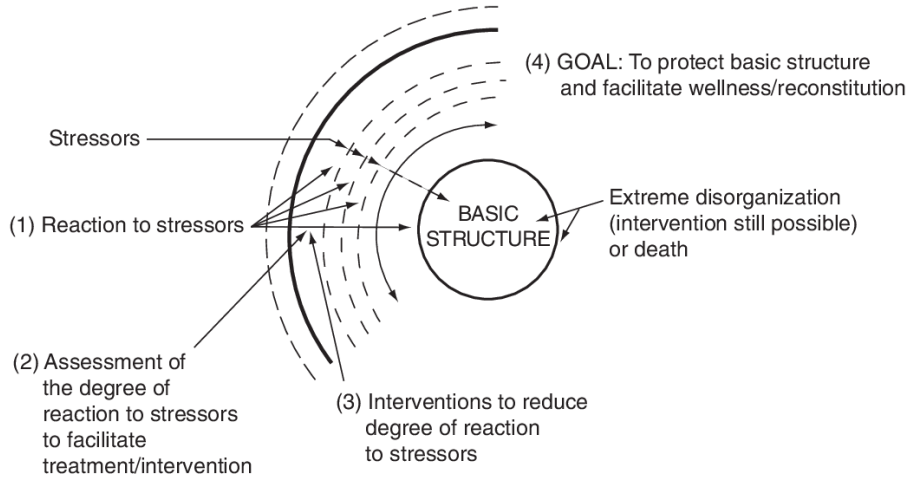
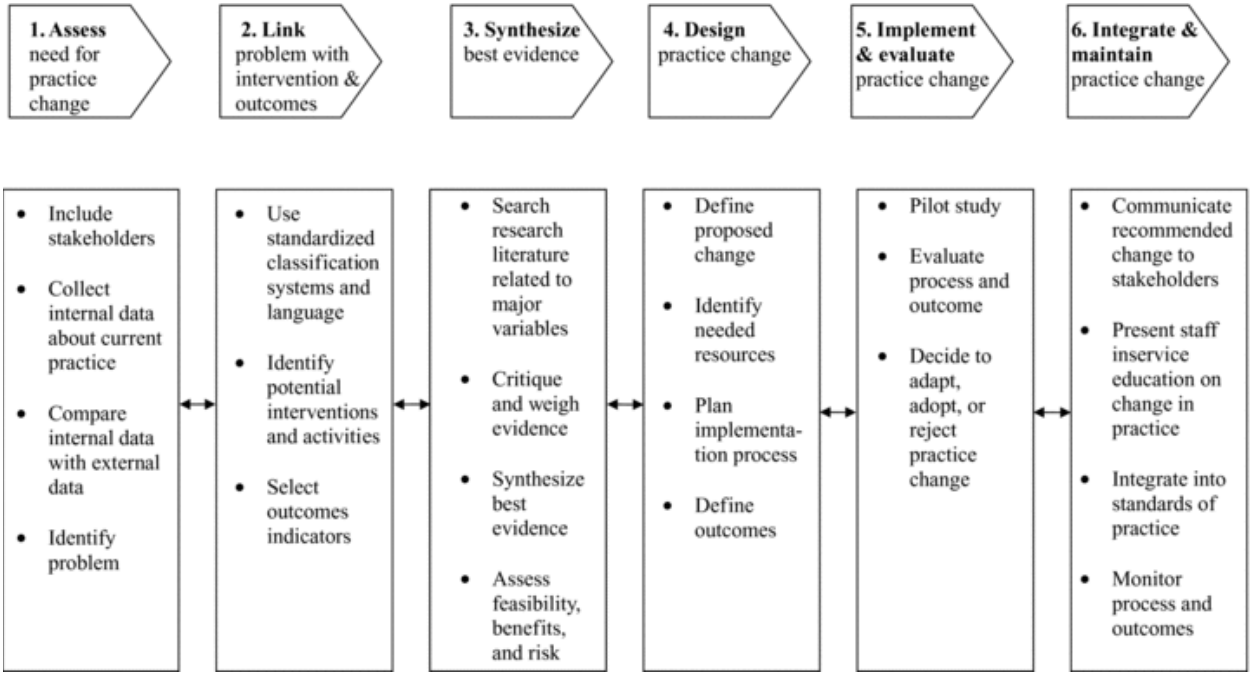


FIGURE 1-10 Format for secondary prevention as intervention mode.

Appendix E

Rosswurm and Larrabee Model



Appendix F

Evaluation Table

Table 1

Evaluation of Quantitative Studies

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Ameli et al. (2020) Effect of a brief mindfulness-based program on stress in health care professionals at a US biomedical research hospital: A randomized clinical trial **Country:** USA **Funding:** not stated	Theory of Stress and Coping (inferred)	**Design:** RCT **Purpose:** Assess the efficacy of a MBSC program during work hours to reduce stress among HCP	N=82 AR: 4.8% **IC:** NIH employees **EC:** those with medical and psychiatric conditions were advised to consult their HCP prior	**IV:** MBSC **DV1:** stress level **DV2:** anxiety **DV3:** depersonalization	PSS MBI	2-sample *t* tests	Stress level: CI -4.28 to -0.72 P=.009 Anxiety: CI -2.79 to -1.48 p<.001 Depersonalization: CI -0.85 to -0.12 p=.04 Stress level, anxiety, and depersonalization were all significantly reduced after intervention.	**LOE:** II **Strengths:** randomization of sample size; high validity and reliability of measurement tools used **Weakness:** small sample size; one institution used for sample **Feasibility:** High Ease of intervention and study replication **Conclusion:** MBSC program is feasible and effective in reducing stress among a mixed group of HCP

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Dincer & Inangil (2021) The effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the Covid-19 pandemic: A randomized controlled trial **Country:** Turkey **Funding:** None	Maslach Burnout Theory (inferred)	**Design:** RCT **Purpose:** Investigate the efficacy of EFT in the prevention of stress, anxiety, and burnout in nurses working during the Covid-19 pandemic	N=80 Attrition rate: 10% **IC:** nurses working with Covid-19 patients in a university hospital in Turkey Did not have any psychiatric diagnoses Not taking any courses about coping with anxiety and stress Volunteered to participate	**IV:** EFT **DV1:** stress level **DV2:** anxiety **DV3:** burnout	SUDS STAI BI	Wilcoxon Signed Rank test Mann-Whitney U test	Stress level: CI -3.89 p<0.001 Anxiety: CI -29.16 P<0.001 Burnout: CI -0.511 p<0.001 Stress level, anxiety level, and burnout levels were significantly reduced after the intervention.	**LOE:** II **Strengths:** high validity tools were used and randomized sample population **Weakness:** only one online group treatment was completed – needs further replication Utilize EFT therapists not part of the research team **Feasibility:** High Ease of replication for the intervention **Reason for Use:** One session of EFT was effective in significantly reducing stress, anxiety, and burnout amongst RNs
Grabbe et al. (2020) The Community Resiliency Model to promote well-being	Trauma Resiliency Model	**Design:** RCT **Purpose:** Investigate stress and well-being in RNs to determine if a short resiliency intervention	N=77 **IC:** nurses employed at two large, urban tertiary care hospitals that volunteered to participate in a	**IV:** Community Resiliency Model **DV1:** well-being **DV2:** resilience **DV3:** secondary traumatic stress	WHO-5 CD-RISC STSS	Pearson's correlation coefficient	Well-being: (F(3,211.220)=4.99 p=0.006 Resilience: (F(3, 193.8) = 2.68 p=0.004	**LOE:** II **Strengths:** randomization of sample; use of valid instrument tools **Weakness:** small sample size; dependent on self-reported measurements

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Country: USA **Funding:** Sigma Theta Tau and the Mundito Foundation		focusing on sensory awareness would impact their capacity to tolerate stress	"Nurse Wellness" study				Secondary traumatic stress: (F(3, 204.0)=2.689 p=0.009 Well-being, resilience, and secondary traumatic stress all significantly improved over time with the use of the intervention.	**Feasibility:** High Ease of replicating the intervention and ease of measurement tools **Reason for Use:** A resilience training such as CRM appears to be a promising means to enhance nurses' ability to manage stress related to their work
Guo et al. (2019) A WeChat-based "three good things" positive psychotherapy for the improvement of job performance and self-efficacy in nurses with burnout symptoms: A randomized control trial **Country:** China	Psychological Stress System Theory	**Design:** RCT **Purpose:** Hypothesized that WeChat-based intervention, 3GT could promote self-efficacy and job performance of nurses with burnout by recording three good things that were impressive each day	N=102 AR: 28% RNs from Chinese tertiary general hospital Full-time Direct clinical care to patients MBI-GS score >1.5	**IV:** Record three good things that were impressive each day on 3GT app **DV1:** job contribution **DV2:** task performance **DV3:** burnout	GSS MBI	ANOVA	Job contribution F=6.425 p=0.13 Indicating improved job contribution Task performance F=29.252 p=0.28 Indicating improved task performance self-efficacy F=5.058 p=0.28	**LOE:** II **Strengths:** Randomization to eliminate selection bias; one treatment directly compared to another **Weakness:** sample recruited from only one hospital **Feasibility:** High Ease of study replication **Reason for Use:** population used in study relevant to chosen population; measurable outcomes significantly

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Funding: Science and Technology Research Project of HHEI							Indicating improved self-efficacy The intervention significantly improved the scores of all variables measured.	improved with intervention
Hersch et al. (2016) Reducing Nurses' Stress: A Randomized Controlled Trial of a Web-Based Stress Management Program for Nurses **Country:** USA **Funding:** NIH	Conservation of Resources Theory	**Design:** RCT **Purpose:** Test effectiveness of a web-based stress management program designed for RNs and the situations they experience	N=104 AR: 13.4% **IC:** employed at 1 of 5 hospitals in a VA hospital system or a metropolitan hospital in NY Age 21 or older **EC:** Age less than 21 years old	**IV1:** access to the *BREATHE* web-based program **DV1:** perceived stress	NSS	ANCOVA	Nursing related stress: t=-2.95 p=.00 The experimental group showed significantly greater improvement than the control group on perceived stress levels after the intervention.	**LOE:** II **Strengths:** randomization of sample; low attrition rate **Weaknesses:** small sample size taken from only two hospital systems **Feasibility:** High Ease of replication using pre and post-tests after intervention Intervention is easily accessible to study group **Reason for Use:** population group is relevant to chosen study group and stress levels were significantly reduced through intervention

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Mealer et al. (2014) Feasibility and Acceptability of a Resilience Training Program for Intensive Care Unit Nurses **Country:** USA **Funding:** NIH	Resiliency Theory	**Design:** RCT **Purpose:** Determine if multimodal resilience training program for ICU RNs was feasible to perform	N=27 IC: RNs working >20 hours at the ICU bedside No UMC contraindicated to exercise Score of <82 on CD-RISC EC: had medical condition that would limit exercise	**IV:** 2-day educational workshop on resilience training **DV1:** symptoms of depression **DV2:** resilience	HADS CD-RISC	Mann-Whitney U test	Symptoms of depression p=0.03 Resilience scores p=0.05 After the intervention, those that participated in the workshop had a significant reduction in depression symptoms and increased resiliency.	**LOE:** II **Strengths:** randomized sample; used high validity measurement tools; all participants completed study **Weakness:** pilot study; sample recruited from only one location and small sample size **Feasibility:** High Ease of replication of the intervention and use of high validity and high feasibility instrument tools **Reason for Use:** population used in study is relevant to potential study and resilience training has shown significant improvement in resiliency
Oman & Hedberg (2006) Passage meditation reduces perceived stress	Theory of Stress and Coping (inferred)	**Design:** RCT **Purpose:** Investigate the effects of EPP training in altering stress,	N=58 AR: 5% **IC:** health professionals with	**IV:** EPP **DV1:** perceived stress	PSS	2-tailed t-test	Stress: p<.05 d= -0.63 Stress in the treatment group was significantly	**LOE:** II **Strengths:** randomized sample; high validity measurement tool used with pre and post-test study design

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
in health professionals: A randomized controlled trial **Country:** USA **Funding:** Fetzer Institute of Kalamazoo, Michigan and USNHLI		mental health, and well-being outcomes among health professionals	current patient contact **EC:** none listed				reduced after EPP in comparison to the control group	**Weakness:** small sample size; reliance on self-reported measures **Feasibility:** High Ease of intervention implementation and ability replicate study **Reason for Use:** HCP effectively lowered stress levels using EPP and therefore, benefit from stress reduction intervention
Peterson et al. (2008) Reflecting peer-support groups in the prevention of stress and burnout: Randomized controlled trial. **Country:** Sweden **Funding:** not stated	Social Support Theory (inferred)	**Design:** RCT **Purpose:** Investigate the effect of participating in a reflecting PSG on self-reported health, burnout, and perceived change in work conditions	**N=** 151 **IC:** >75th percentile on the exhaustion dimension of OLBI **EC:** not stated **Sample: Demographics:** Healthcare workers including physicians; RNs; nursing assistants; social workers;	**IV:** PSG **DV1:** perceived quantitative demands at work **DV2:** perceived general health **DV3**: perceived exhaustion	OLBI	ANCOVA	Perceived quantitative demands: F=6.25 P=0.014 Perceived general health: F=6.91 P=0.010 Exhaustion: F=4.31 P=0.040 Those that participated in	**LOE:** II **Strengths:** randomization of sample and high validity analysis **Weakness:** low percentage of respondents who agreed to participate; self-reported data **Feasibility:** Moderate May be difficult to conduct PSG during work hours depending on employer and required

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
			occupational therapists, physiotherapists; psychologists; dental nurses and hygienists; dentists)				PSG, showed significantly improvement in perceived quantitative demands at work, perceived general health, and decreased exhaustion.	participation in the PSG from participants **Reason for Use:** PSGs can be a useful tool to combating stress exhaustion and perceived health in those working in healthcare
Pipe et al. (2009) Nurse leader mindfulness meditation program for stress management **Country:** USA **Funding:** The Mayo Clinic Division of Nursing Services	Theory of Human Caring	**Design:** RCT **Purpose:** Evaluate a condensed 4-week MBSR curriculum on outcome measures of stress, depression, anxiety, and caring efficacy over time	N=33 **IC:** RN leaders employed full time at a healthcare system in the southwest US that are able to speak and read English **EC:** Active infectious disease; active hematological malignancy; major psychiatric disorder; severe unassisted hearing loss; previous participation in an MBSR program	**IV:** MBSR program **DV1:** depression **DV2:** anxiety	SCL-90-R	ANCOVA	Depression: $p<.05$ Anxiety: $P<.05$ MBSR education was able to significantly improve scores related to depression and anxiety in the intervention group.	**LOE:** II **Strengths:** **Weakness:** limited ability to monitor meditation practices of participants; small sample; short time period of study **Feasibility:** High Ease of study replication with use of condensed curriculum **Reason for Use:** Short workplace courses on mindfulness strategies can be beneficial to anxiety and depression of RNs

AR: attrition rate; **BI:** Burnout Inventory; **CD-RISC:** Connor-Davidson Resilience Scale; **CRP:** Community Resiliency Model; **DP:** depersonalization; **DV:** dependent variable; **EC:** exclusion criteria; **EE:** emotional exhaustion; **EFT:** Emotional Freedom Techniques; **GSS:** General Self-Efficacy Scale; **HADS:** Hospital Anxiety and Depression Scale; **HCP:** healthcare professionals; **HHEI:** Hebei Higher Education Institutions; **IC:** Inclusion criteria; **IV:** independent variable; **LOE:** level of evidence; **MBI:** Maslach Burnout Inventory; **MBSCP:** mindfulness-based self-care program; **MBSR:** mindfulness-based stress reduction; **N:** number of participants; **NIH:** National Institute of Health; **NSS:** Nursing Stress Scale; **OLBI:** Oldenburg Burnout Inventory; **PA:** personal achievement; **PSG:** peer support group; **PSS:** perceived stress scale; **RCT:** randomized controlled trial; **RN:** registered nurse; **STAI:** State-Trait Anxiety Inventory; **SCL-90-R:** Symptom Checklist 90-Revised Somatization; **SUDS:** subjective units of distress scale; **UMC:** underlying medical condition; **US:** United States; **USA:** United States of America; **USNHLI:** United States National Heart and Lung Institute

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Analysis	Findings	Decision for Use
Wei et al. (2017) Active intervention can decrease burnout in ED nurses **Country:** China **Funding:** None stated	Maslach Burnout Theory	**Design:** RCT **Purpose:** Investigate whether an active intervention may play a role in reducing job burnout in ED nurses	N=102 **IC:** worked in comprehensive high-level hospitals in Jinan, China **EC:** ED RNs that have worked in the ED <1 year; head nurses and nurse managers	**IV:** regular management and active intervention that includes classes about communication skills, conflict management, efficacy elevation, and emotional control **DV1:** EE **DV2:** DP	MBI	Sample t-test	EE t=-6.928 p<.05 DP t=-6.442 p<.05 The scores of EE and DP were significantly reduced after the intervention.	**LOE:** II **Strengths:** randomization of sample size and ease of intervention application; high validity measurement tool used **Weakness:** Small sample size; short time period **Feasibility:** High Ease of intervention replication can be easily done in the working environment **Conclusion:** Active intervention can have significant impact on the reduction of EE and DP in RNs

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Appendix G

Synthesis Table

Table 2

	Ameli	Dincer	Grabbe	Guo	Hersch	Mealer	Oman	Peterson	Pipe	Wei
Study Characteristics										
Year	2020	2021	2020	2019	2016	2014	2006	2008	2009	2017
RCT/II	•	•	•	•	•	•	•	•	•	•
Country	USA	Turkey	USA	China	USA	USA	USA	Sweden	USA	China
Size	82	80	77	102	104	27	58	151	33	102
Participants	HCP	RN	RN	RN	RN	RN	HCP	HCP	RN	RN
Theory	Stress and Coping (Inferred)	Maslach Burnout (Inferred)	Trauma Resiliency	Psychological Stress System	Conservation of Resources	Resiliency	Stress and Coping (Inferred)	Social Support (Inferred)	Human Caring	Maslach Burnout
Measurement Tools										
MBI	•			•						•
PSS	•						•			
SUDS		•								
STAI		•								
BI		•								
WHO-5			•							
CD-RISC			•			•				
STSS			•							
GSS				•						
NSS					•					
HADS						•				
OLBI								•		
SCLR-90-R									•	

	Ameli	Dincer	Grabbe	Guo	Hersch	Mealer	Oman	Peterson	Pipe	Wei
Interventions										
MBSC	•									

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	Ameli	Dincer	Grabbe	Guo	Hersch	Mealer	Oman	Peterson	Pipe	Wei
Interventions										
EFT		•								
CRM			•							
WeChat App				•						
Web-based program					•					
Educational workshop						•				
EPP							•			
Peer-Support Group								•		
MBSR curriculum									•	
Active Education										•
Findings										
Stress Level	↓	↓			↓		↓			
Anxiety	↓	↓							↓	
Depersonalization	↓									↓
Burnout		↓								
Well-Being			↓							
Resiliency			↓			↑				
STS			↓							
Job Contribution				↑						
Task Performance				↑						
Self-Efficacy				↑						
Depression						↓			↓	
Work Demands								↓		
General Health								↑		
Exhaustion								↓		↓

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