USING MINDFULNESS TO DECREASE BURNOUT AND STRESS AMONG NURSES WORKING IN HIGH INTENSITY AREAS

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ABSTRACT

Kimberly Bronson: Using Mindfulness to Decrease Burnout and Stress Among Nurses Working in High Intensity Areas
(Under the direction of Cheryl Giscombe)

**Background:** The practice of Mindfulness has demonstrated promise for increasing self-care among nurses experiencing work-related stress and burnout. Programs based in the art of mindfulness have been shown to improve feelings of burnout, perceived stress levels, and self-care among healthcare professionals. **Aim:** To introduce a 4-week mindfulness based program to nurses working in high intensity environments at a Fayetteville Veteran Affairs Medical Center (VAMC) in southeastern United States. The goal of the project was to determine how mindfulness practice influenced experiences of (1) burnout (2) self-care, and (3) perceived stress levels among nurses at the VAMC. **Methods:** A quality improvement project applying a 4-week Mindfulness Based Stress Management program was initiated among a cohort of 20 nurses working in identified high intensity areas of the hospital such as the inpatient psychiatric unit, the urgent care/emergency department, and the intensive care unit. **Results:** Upon completion of the 4-week project, nurses reported improvement in burnout and stress, as well as increased acts of self-care. These improvements were measured utilizing the Maslach Burnout Inventory, the Perceived Stress Scale-4, and the Mindfulness Self-Care Scale. **Conclusions:** Findings suggest that the implementation of a mindfulness based program can improve the health and well-being of nurses working in high intensity areas a Veterans Administration Medical Center setting.
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LIST OF ABBREVIATIONS

MBI-HSSMP  Maslach Burnout Inventory Human Services Scale-Medical Personnel

MBSR  Mindfulness Based Stress Reduction

PRISMA  Preferred Reporting Items for Systematic Reviews and Meta-Analysis

PSS-4  Perceived Stress Scale-4

VAMC  Veteran Affairs Medical Center
Chapter 1: The Case for Mindfulness

Introduction

Within the healthcare industry, healthcare workers and in particular nurses, experience increased levels of burnout and stress secondary to the nature of their work and their work environment (Foureur, Besley, Burton, Yu, & Crisp, 2013). Historically, as well as today, nurses endure the stress of caring for dying patients, witnessing human suffering, providing support for both the patient and the family; coupled with tightened budgets, staffing shortages, increasingly complex patient needs, and the perception of lack of control (Smith, 2014). These escalating work-related obstacles are placing nurses at risk for increased burnout, ineffective coping, decreased employee satisfaction, increased patient related errors, and increased turnover rates. The ability to manage work-related stress and burnout is vital to patient care and to the individual health of nursing staff (Brady, O'Connor, Burgermeister, & Hanson, 2012). Feelings of chronic stress and burnout have been demonstrated to contribute to decreased cognitive processing and problem solving, which in turn impact patient safety and patient satisfaction (Brady, O'Connor, Burgermeister, & Hanson, 2012). For nursing staff working in high intensity settings, the very nature of the environment exacts an increased emotional toll on these caregivers (Rushton, Batcheller, Shroeder, & Donohue, 2015). Burnout and stress levels of nurses working in high intensity settings such as psychiatry, critical care, and emergency departments have been found to be higher than that of their counterparts working in other areas of a hospital or in the community (Rushton, Batcheller, Shroeder, & Donohue, 2015; Brady,
Di Benedetto and Swadling (2014) describe burnout as a state of weariness or emotional exhaustion that is a result of an individual's allegiance to work situations that have failed to meet his or her expectations. Symptoms of burnout also encompasses depersonalization, reduced personal accomplishment, frustration, depressed mood, and an inability to work effectively (Craige, Slatyer, Hegacy, et al., 2016; Rushton, Batcheller, Shroeder & Donohue, 2015).

Nurses in high intensity environments often deal with death and dying, inadequate preparation to address the emotional and spiritual needs of both the patient and the family, uncertainty surrounding treatment, as well insufficient staff support (Rushton, Batcheller, Schroeder, & Donohue, 2015). Interpersonal conflict, lack of social support from colleagues and excessive workload have been perceived to be fundamental in the causation of emotional exhaustion and stress among nurses (Westphal, Bingisser, Feng, Wall, Blakley, Bingisser, & Kleim, 2015).

When considering the burnout and stress level of the nurses working within high intensity settings at a Veterans Medical Center in southeastern United States, many interventions have been implemented to decrease the external stressors of working in such environments. However, there have been no interventions implemented that will effectively prepare them to manage their internal climate or cognitive oppression.

**Background and Significance**

Mindfulness has foundations in many indigenous cultures and spiritual practices in addition to Buddhism and is an emerging concept in healthcare that has been touted as a means of resiliency against stress, burnout, and emotional exhaustion (White, 2013; Raab, Sogge, Parker, & Flament, 2015). This form of meditation is growing in popularity as a means of
reducing stress and burnout, as well as a means of increasing self-compassion and self-care in healthcare professionals (Raab, Sogge, Parker, & Flament, 2015).

Mindfulness is thought to exemplify the concept of intentional present-moment awareness devoid of judgment, while suspending rumination and interest about what may have happened in the past or will happen in the future (Goodman and Schorling, 2012; Hunter, 2016). The intent of practicing mindfulness is to cultivate clear-thinking and nonjudgmental openheartedness; in an effort to take control of one's actions, become more resilient, improve emotional balance/wellbeing, and to demonstrate compassion towards others (Hunter, 2016). This focus on nonjudgmental openness makes mindfulness an enticing mechanism that can be used when pursuing evidence-based approaches aimed to reduce stress and burnout among nurses (Hunter, 2016).

Empirical evidence continues to emerge supporting the use of mindfulness based stress reduction exercises as a means to improve both physical and psychological health (White, 2013). Systematic reviews of the immersion of mindfulness among healthcare providers affirm that practitioners who assimilate the practice of mindfulness into their everyday lives demonstrate a sense of well-being and employment of self-care that reflects improvement as well as an increased awareness of thoughts and feelings (White, 2013; Benedetto and Swadling, 2014).

Purpose

The purpose of this project is to introduce the use of mindfulness based exercises as a method of reducing the stress and burnout of nurses working in high intensity areas at a Veteran Administration Medical Center in southeastern United States (VAMC). The second purpose of the project is to increase self-care among these nurses using mindfulness to manage the effects of work-related stress and burnout. It will introduce the practice of mindfulness activities to a
cohort of nurses identified through the psychiatric setting, the urgent care/emergency
department, and the intensive care unit setting. The desired outcomes of this project will be a
reduction of burnout and stress among nurses working in the identified high intensity settings
and a reported increase in selfcare.

Research studies have been conducted to assess both the interpersonal, as well as the
intrapersonal effects the practice of mindfulness has on an individual (Leroy, Anseel, Dimitrova,
& Sels, 2013). Mindfulness has been demonstrated to enhance the development of self-
compassion and has been shown to have a direct benefit in the reduction of maladaptive
cognitive coping tendencies (Raab, et al., 2015). The salubrious effects of mindfulness have been
demonstrated through studies using interventions such as meditation, body scans, mindful eating,
and other mindfulness-enhancing practices (Westphal, et al., 2015). Present research findings
have established robust partnerships between the practice of mindfulness and numerous
indicators of psychological well-being among nurses working in high intensity areas (Westphal,
et al., 2015). Moreover, increased self-compassion among health care providers using
mindfulness activities, is extremely relevant in the provision of quality health care; since
compassion for both self and patient is an essential component of effective patient care (Raab, et
al., 2015). Clinical questions relevant to the implementation of this project are (1). When
contemplating the implementation of a mindfulness based program within a VAMC, what will
be the benefits and challenges of introducing such a program to the nurses working in high
intensity areas within the medical center? (2). In nurses working in high intensity areas, what
effect does the practice of mindfulness have on reported feelings of burnout as measured by the
Maslach Burnout Inventory, from the initial assessment to the final assessment? (3). In nurses
working in high intensity areas, what effect does the practice of mindfulness have on self-care as
measured by the Mindfulness Self Care Tool, from the initial assessment to the final assessment? (4). In nurses working in high intensity areas, what effect does the practice of mindfulness have on reported perceived stress levels as measured by the Perceived Stress Scale 4, from the initial assessment to the final assessment?
Chapter 2: Review of Literature

A systematic review of the literature was conducted to identify existing literature supporting the speculation that the use of mindfulness interventions among nurses working in high intensity areas would decrease stress and burnout. Inclusive of literature that is qualitative, quantitative, and theoretical, the review was organized by themes and relevance to the identified problem. An additional focus of the review was to seek a theoretical foundation for the use of mindfulness as a means to reduce burnout and stress among the identified cohort of nurses. Information pertinent to gaps in current knowledge and current practice supporting the use of Mindfulness to decrease burnout and stress in nurses working in high intensity settings was also reviewed.

Methodology for Review of Literature

The literature review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, et al., 2009). The searches were executed utilizing the resources found online through the Health Sciences Library within the University of North Carolina at Chapel Hill Library system. Databases searched for relevant information were PubMed, ProQuest, PsycInfo, and CINAHL. Keywords used for this search were mindfulness, burnout, stress, nurses, self-care, resiliency, and theoretical frameworks. These keywords were searched individually, as well as in combinations. Inclusion and exclusion criteria were determined prior to the search. Inclusion criteria for this literature review was mindfulness interventions used for healthcare workers, mindfulness interventions used for reduction of burnout and stress, correlation of mindfulness interventions and
burnout/stress reduction, increasing resiliency in nursing staff and healthcare workers, and mindfulness interventions used for self-care. Exclusion criteria for the review was mindfulness used to treat patient populations, interventions with no clear outcomes, book reviews, and dissertations.

After searching the identified databases, 102 articles were found to be possible candidates for use. With the elimination of duplicates and sorting of the titles and abstracts for appropriateness, fifty articles were selected for an abstract review. Upon abstract review, using inclusion and exclusion criteria, twenty-five articles were eliminated and twenty-five were selected for full text review. Twenty full text articles were chosen to be included in the literature review. The other five were eliminated for various reasons, such as no reported outcomes, poor participation from subjects, and articles that addressed mood and anxiety disorders.

Results of Review of Literature

Twenty papers were reviewed for emerging themes, as well as evidence to support the use of mindfulness interventions as a method to decrease stress and burnout among nurses working in high intensity areas. Emerging themes detected in the literature were (1). Burnout and Compassion Fatigue, (2). Mindfulness Stress Reduction, (3). Self-Care and (4). Resilience.

Theme 1: Burnout and Compassion Fatigue. Given the nature of working in a high intensity environment, burnout is often an inherent risk among healthcare professionals (Di Benedello & Swadling, 2014; Dobie, Tucker, Ferrari, & Rogers, 2016; and Brady, O'Connor, Burgermeister, & Hanson, 2012). Nurses working in areas of high stress such as critical care, oncology, and psychiatry report extremely high levels of burnout, often more so than other healthcare professionals (Rushton, Batcheller, Schroeder, & Donohue, 2015 and White, 2013). Burnout among nurses and other health care professionals has been associated with compassion
fatigue, decreased patient satisfaction, reduced empathy, emotional exhaustion, increased staff turnover rates, and insufficient delivery of patient care (Di Benedello & Swadling, 2014; Rushton, Batcheller, Schroeder, & Donohue, 2015; and Dobie, Tucker, Ferrari, & Rogers, 2016).

Faced with snowballing demands and responsibilities, nurses struggle to cope with an increasingly complicated role of caring for sicker patients. In an effort to reduce the effects of compassion fatigue and burnout, it is imperative that techniques of coping be implemented within the nursing community to ensure that meaningful and empathetic care continues to be delivered. Mindfulness, an intervention promoting intentional present-moment awareness without judgement, has received increased recognition as a method to decrease burnout and compassion, increase satisfaction among nurses, and improve the delivery of patient care (Craige, Slayter, Hegacy, et al., 2016; Goodman & Schorling, 2012; Dobie, Tucker, Ferrari, & Rogers, 2016). The review of literature supports the use of a mindfulness based intervention series as a means to counteract the effects of stress, burnout, and compassion fatigue among nurses. Throughout the literature, modifications of John Kabat-Zinn’s well known 8-week Mindfulness Based Stress Reduction (MBSR) program was incorporated into various settings as an intervention to increase self-care among nurses, well decreasing the negative effects associated with burnout (Antanaitis, 2015; Rushton, Batcheller, Schroeder, & Donohue, 2015; Zeller & Levin, 2013; and Blum, 2014).

**Theme 2: Stress Among Health Professionals: Implications for Mindfulness.**

Recognized as the largest group of healthcare professionals, nurses have been endorsed to experience one of the most stressful career choices available (Zeller & Levin, 2013; Luken & Sammons, 2016). Under intense conditions and considerable pressure, nurses are tasked with the
delivery of patient care utilizing sophisticated technical skill, vigilance, and judgement (Zeller & Levin, 2013 and Reid-Point & Koppel, 2015).

The management of work related stress for nurses is critical to the delivery of safe and effective patient care, as well as to the overall health of the staff in a high intensity environment (Brady, O'Connor, Burgermeister, & Hanson, 2012; Dobie. Tucker, Ferrari, & Rogers, 2016). Numerous stressors such as interruptions and distractions often have a negative impact on the healthcare professionals' ability to effectively meet the needs of their patients (Craige, Slayter, Hegacy, et al., 2016; Goodman & Schorling, 2012; and Reid-Pointe & Koppel, 2015).

Furthermore, studies have demonstrated that the stress levels of healthcare professionals, including nurses, are higher than that of other areas in a hospital or the community (Brady, O'Connor, Burgermeister, & Hanson, 2012; Huang, Li, Huang, & Tang, 2015). Prolonged fatigue and perceived stress are often the most reported causes of psychological distress among professionals (Huang, Li, Huang, & Tang, 2015; Penprase, et al., 2015).

Mindfulness interventions have demonstrated positive effects on stress reduction (CohenKatez, Wiley, Capuano, et al., 2004 and Heard, 2013). Nurses and other healthcare professionals reported a decrease in stress, anxiety, and the accomplishment of a sense of calm (Goodman & Schorling, 2012; Craige, Slayter, Hegacy, et al., 2016; and Reid-Pointe & Koppel, 2015). Mindfulness is thought to close the gap in nursing between stress and wellbeing, diminish feelings of prolonged fatigue, and abate perceived stress (Brady, O'Connor, Burgermeister, & Hanson, 2012; Huang, Li, Huang, & Tang, 2015; and Penprase, et al., 2015).

**Theme 3: Self-Care.** It is well documented throughout the literature that inordinate amounts of stress contribute to disease (Blum, 2014; Huang, Li, Huang, & Tang, 2015; and Hevezi, 2015). Diseases such as hyperglycemia, hypertension, and a decrease in the functionality
of the immune system have all been linked to excessive stress levels (Blum, 2014; Huang, Li, Huang, & Tang, 2015). Practicing nurses find themselves frequently handling multiple work stressors (Hevezi 2015 and Blum, 2014). This job strain has developed into a notable issue in today's workforce (Huang, Li, Huang, & Tang, 2015 and Dobie, Tucker, Ferrari, & Rogers, 2016). Mindfulness Based Stress Reduction (MBSR) activities were found to add benefit to participants' lives by improving self-care behaviors, increasing self-improvement aspects, and enhancing thoughts of self-acceptance and self-kindness (Smith, 2014; White, 2013 and Reid-Pointe & Koppel, 2015).

By adopting the practice of mindfulness, nurses were noted to describe a positive correlation of practicing the techniques and changes in their level of empathy and compassion for self and others (Smith, 2014; Reid-Pointe & Koppel, 2015 and White, 2013). Mindfulness based exercises were also thought to have a tremendous impact on the improvement of self-care actions and thoughts of wellbeing in nurses (Hevezi, 2015; White, 2013; and Smith, 2014).

**Theme 4: Resilience.** Resilience, defined as the ability to adapt coping strategies to minimize distress, is thought to assist individuals alleviate moral distress and burnout (Rushton, Batcheller, Schroeder, & Hanson, 2012; Heard, 2013; and Antanaitis, 2015). Through the incorporation of mindfulness-based practices, nurses were found to express the ability to develop resilience, contributing to decreased levels of burnout and turnover among nursing staff (Brady, O'Connor, Burgermeister, & Hanson, 2012; Kemper, Mo, & Khayat, 2015 and Rushton, Batcheller, Schroeder, & Hanson, 2012). Development of strategies and coping interventions are thought to prepare nurses for the realities of their roles and protect them against burnout and moral distress (Kemper, Mo, & Khayat, 2015 and Brady, O'Connor, Burgermeister, & Hanson, 2011).
Mindfulness-based stress management practices ultimately affords those who incorporate it into their lives the ability to better cope with negative feelings and thoughts (Zeller & Levin, 2013; Heard, 2013 and Rushton, Batcheller, Schroeder, & Hanson, 2012). The literature suggests that mindfulness-based activities allow those who engage in them to become more aware of emotions during times of stress and improves the ability to recognize their own needs, as well as those of the patients they have been tasked to care for (Kemper, Mo, & Khayat, 2015; Zeller & Levin, 2013 and Heard, 2013).

Summary and Conclusions from Literature Review

Findings from this review suggest that Mindfulness Based Stress Reduction interventions are used in a variety of ways to decrease burnout and stress in nurses. Despite variations in practice, the literature supports the initiation of mindfulness-based programs within the workplace setting to combat feelings of burnout among the nursing staff. The literature also supports the proposition that incorporating Mindfulness activities into daily practice improves patient outcomes, decreases nurse turnover rates, and improves patient satisfaction.

The implications for nursing practice surmised from this literature review are significant. The future use of mindfulness-based interventions to decrease burnout and stress among nurses is promising. With the ever-increasing psychological stress of working in a high intensity setting, the use of mindfulness-based stress management education would prove to be beneficial in reducing and/or eliminating symptoms of burnout. As an added benefit, literature implies that implementing a robust mindfulness-based program would also help to increase the retention rates of qualified, skilled behavior health professionals.

The promising possibility that the use of mindfulness can bolster safer work environments and augment staff/patient satisfaction is essential to improving nursing practice
and providing the highest quality of care possible. As nurse leaders continue to seek methods to improve the delivery of safe patient care and demonstrate servant leadership, strengthening the infrastructure of the organization must be considered. Developing and implementing programs within the organization that promotes self-care, resilience, and a culture of caring is critical to staff and patients.

Through organizational health programs, employers have avenues to introduce mindfulness as an approach to support nurses as they work in highly stressful situations. The implementation of mindfulness programs has been demonstrated to improve relationships between staff and leadership, make workloads more manageable, and assist the staff with regulation of emotions.

While the literature provides multiple examples of success when mindfulness is used as a tool to assist nurses with the reduction of burnout and stress, several limitations and/or gaps in the literature can also be identified. Additional research is warranted that specifically addresses the utilization of mindfulness in medical surgical and primary care environments where nurses are employed. Additional research is needed when considering the possible effects that variations of exercises and lengths of time of the interventions may have on the outcomes of the use of mindfulness. Throughout the literature, varying lengths of mindfulness interventions (four to eight weeks) have been described, with no true guidance on a gold standard. Another limitation identified is the true effectiveness of the mindfulness interventions in relation to the ability of the nursing staff to fully engage in the exercises because of the demands of patient care. Multiple studies described inconsistent availability of the nursing staff due to patient care obligations which lead to some data reporting gaps in participation.
Chapter 3: Theoretical Framework and Methodology

Findings from the review of literature provide support for the implementation of mindfulness based interventions through the theoretical guidance of Nola Pender's Health Promotion Model. Pender's model pulls from both nursing and behavioral sciences to identify the major factors that contribute to the adaptation of health promotion behaviors (Syx, 2008). The model explores the explanation and prediction of how "complex interactions among perceptual and environmental factors influence the health-related choices people make" (Sheehan, 2006). As an alternative to focusing on disease prevention, Pender's intent was to focus on high-level wellness and health promotion (Sheehan, 2006).

Based on Pender's theoretical framework, interventions implemented must afford the nursing staff the opportunity to practice health promotion and burnout reduction. The use of mindfulness activities as a method to encourage better health-related choices, will assist nurses in dealing with stressful work situations when they are occurring, improve present moment awareness, and prepare for improved emotion regulation (Zeller & Levin, 2013). Using Pender's Health Promotion Model as a backdrop, a mindfulness-based stress management program, aimed to reduce the burnout of nurses working in high intensity environments was implemented at a VA Medical Center. Pender (1987, 1996) proposed that health-promotion involves multidimensional patterns of self-initiated actions and perceptions that serve to maintain or enhance levels of wellness, self-actualization, and individual fulfillment.
Burnout among nurses is endemic with as much as 40% of nurses reporting occupational burnout (Irving, Dobkin & Park, 2009). Stress and burnout in nurses are associated with multiple physical health problems including: fatigue, insomnia, heart disease, depression, obesity, hypertension, diabetes, and carcinogenesis (Irving, Dobkin & Park, 2009). Decreased patient satisfaction, longer patient-reported recovery times, and decreased patient safety have also been linked to burnout among nursing staff (Irving, Dobkin & Park, 2009 and Brady, O'Connor, Burgermeister, & Hanson, 2012). With these statistics and facts in mind, initiatives aimed at the promotion of the well-being of nurses is obligatory to both nurses providing care and patients receiving care.

The mindfulness-based stress management program was aimed at nurses working in high intensity areas such as psychiatry, urgent care/emergency department and intensive care. These nurses were given promotional information regarding participating in the mindfulness-based stress management program. Information included an overview of what Mindfulness is, benefits of participating in Mindfulness activities, recognizing levels of readiness, and recognizing signs of burnout. Pender (1987) states that the inclination to participate in Health Promoting Behaviors is directly influenced by cues to action (one of the three concepts the Health Promotion Model is built upon). Examples of cues are personal awareness, advice from others, and other variables that help move an individual from a phase of decision-making to one of action (Pender, 1987). After presentations on Mindfulness were completed, staff wishing to participate in the program were enrolled for a four-week program. Participants are likely to enroll for the program based on cognitive-perceptual factors Pender (1987) attributes to the likelihood of participation. These factors are defined by Pender as influential and motivational determinants of health promotional behavior. Such factors include (a). the importance of health, (b). perceived self-efficacy, (c).

Practicing mindfulness has been documented as the portal to the actualization of high levels of self-awareness, increased connections to inner thoughts and emotions, and self-control (Penprase, Johnson, Pittiglio, & Pittiglio, 2015). By reducing burnout and stress, the level of self-awareness achieved through mindfulness-based stress management programs not only allows nurses to provide the highest level of quality care, contributes to greater job satisfaction, and lowers risk of burnout and better health (Penprase, et al., 2015). The framework of Pender's model, as well as research supporting it can be applied to the practice of mindfulness. The aim of the model is to assist with value clarification, assist with self-assessment of health status, and to plan behavioral change (Pender, 1987). Through collaboration of the program facilitator and the participants, participants will benefit from interventions based on a theoretical framework that aids in the fruition of the model's identified aims.

The Health Promotion Model is appropriate to guide the implementation of the mindfulness-based stress management program, because it incorporates measures that serve to increase an individual's level of wellness, self-actualization, and fulfillment (Pender, 1987 & 1996). Personal definitions of health positively influence the individual's engagement in health promoting behaviors and/or influence the change in existing behaviors (Pender, Walker, Seckrist, & Frank-Stromberg, 1990). The model also supports activities that increase an individual's wellbeing, as well as enhances their wellness or health (Pender, Murdaugh, & Parsons, 2006). Pender's Health Promotion Model illustrates the World Health Organization's definition of health promotion being concerned with the development of strategies that foster
conditions that allow populations to be healthy and to make healthy choices (Bindler and Ball, 2007).

The practice of mindfulness based activities embodies the principles of the Health Promotion Model. Mindfulness-based practices result in heightened awareness of inner and outer experiences through open, non-judgmental, focused activities (Irving, Dobkin, & Park, 2009). Mindfulness has been found to be a suitable tool for managing mental and physical symptoms and to also bring a sense of peace and calm to individuals. (Simpson & Mapel, 2012). Multiple studies, collecting both qualitative and quantitative data support mindfulness activities (CohenKatz et al., 2004; Henry, 2014; and Praissman, 2008). Participants of mindfulness-based stress management programs report positive changes that are symbolic of the foundations of the Health Promotion Model.

Without Pender's Health Promotion Model as a basis, this intervention would not focus on the most basic framework of the program, self-efficacy, self-fulfillment, and self-care. The concepts of the model mirror the outcomes of mindfulness programs and the positive effects participants report. Applying Pender's model to this intervention allows practitioners to provide an evidence based approach to reducing burnout and stress found among the identified cohort of nurses. These health promotion behaviors are the infrastructure of mindfulness-based stress management interventions aimed at reducing burnout and stress among nurses practicing in high intensity environments. Performing health promoting behaviors through a combination of cognitive-perceptual factors, modifying factors, and cue to action variables, mindfulness techniques embody these same principles. The utilization of a mindfulness-based stress management program, grounded in the theoretical principles of Pender's Health Promotion Model, not only reduces burnout and stress; but also, promotes the adoption and continuation of
health lifestyles. Ultimately, the reduction of burnout and stress among the staff will lead to increased retention, positive patient outcomes, and improved employee satisfaction.

**Methodology for Mindfulness Program Implementation: Setting**

In this pilot quality improvement project, a cohort of nurses were asked to participate in a 4-week mindfulness-based stress management program. The project setting was a Veteran Affairs Hospital (VAMC) in the southeastern United States. Currently, overall within the VAMC strides are being made to initiate an organizational climate shift that focuses on employee wellness and health. Several initiatives are being implemented within the medical center that spotlights improving employee health such as 2K walks, fitness competitions with other VA medical centers, and employee health fairs. The goal of the organization is to offer programs that will encourage staff to take care of themselves, while taking care of the nation's Veterans. Programs such as those described above, as well as the practice of mindfulness will provide the employees of the VAMC the opportunity to increase their levels of self-care and improve the quality of their whole health. As the nation moves to more optimally meeting the healthcare needs of Veteran and military families, the well-being of nurses and other employees providing care to this population will continue to grow in importance.

The hospital currently has 50 inpatient beds comprised of psychiatry, medical/surgical, and intensive care. The hospital also has a 10-bay urgent care/emergency area that treats on average, 80 patients per day. In addition, VAMC provides outpatient psychiatric services, delivering care to roughly 19,000 Veterans in FY16. Approximately 80 registered nurses are employed to provide patient care on the psychiatric unit, the intensive care unit, the urgent care/emergency area, and the outpatient mental health area; representing a multigenerational and multicultural pool of employees. To participate in this project, the nurses were required to work in one of the identified
high intensity areas within the organization, be willing to participate in mindfulness activities
during a four-week period, be willing to attend an introductory and wrap up session, be willing to
complete the Maslach Burnout Inventory, the Perceived Stress Scale-4, and the Mindfulness
SelfCare Scale. Approval for this project was obtained from the University of North Carolina
Chapel Hill and Veteran Health Administration's institutional review boards.

Subjects

All nurses working in the identified high intensity settings at the VAMC were invited to
participate in the mindfulness-based stress management project. Twenty nurses were recruited
for participation through flyers distributed throughout the hospital, email invitations, and by
word of mouth. Participants were informed of the voluntary nature of the project, that the
findings will be shared with the University of North Carolina Chapel Hill and potentially
published, and that they have the freedom to withdraw from the project at any time. Exclusion
criteria consisted of reported treatment for a mental health condition or circumstances that would
likely interfere with the ability to participate in the project.

Measures

*Maslach Burnout Inventory Human Service Scale-Medical Personnel*

Burnout among the participants was assessed using the Maslach Burnout Inventory
Human Services Scale- Medical Personnel (MBI-HSSMP). The MBI-HSSMP is designed to
assess various aspects of burnout in health care workers, especially nurses and physicians (Raab,
Sogge, Parker, & Flament, 2015; Maslach, Jackson, & Leiter, 1996-2016). It is composed of 22
statements rated for frequency (from 0= never, to 6= every day) and consists of three subscales:
emotional exhaustion, depersonalization, and personal accomplishment (Raab, Sogge, Parker, &
Flament, 2015). Higher scores for emotional exhaustion, depersonalization and lower scores for
personal accomplishment is emblematic of burnout (Westphal, Bingisser, Feng, et al., 2015). The Maslach Burnout Inventory demonstrated acceptable to good internal consistency for all three subscales in previous research studies using Cronbach's alpha (Westphal, Bingisser, Feng, et al., 2015; Gauthier, Meyer, Grefe, & Gold, 2015; Raab, Sogge, Parker, & Flament, 2015). All statements in the MBI-HSSMP are the same as in the Maslach Burnout Inventory Human Services Scale (MBI-HSS), except the phrase patient is used to replace the phase recipient (Maslach, Jackson, & Leiter, 1996-2016). No special qualifications or procedures are required to administer the MBI-HSSMP, with the major responsibilities of the administrator being to provide clear instructions, to avoid sensitization to burnout, and to minimize response bias (Maslach, Jackson, & Leiter, 1996-2016).

The convergent validity of the MBI-HSSMP has been established by various methods. These methods include "correlating scale scores with the observations of others, with job conditions that were theorized to be associated with burnout, and by relating burnout to other personal attitudes and reactions, and various longer-term outcomes" (Maslach, Jackson, & Leiter, 1996-2016).

By relating the measures of the MBI-HSSMP to other psychological constructs, the discriminant validity of the MBI-HSS has been shown and has been found to demonstrate essentially the same phenomenon (Maslach, Jackson, & Leiter, 1996-2016). It has been theorized in the past that burnout could not be distinguished between either job stress or depression or that it was an intermixture of depression, anxiety, and anger (Maslach, Jackson, & Leiter, 1996-2016). However, burnout has been demonstrated, through research findings to indeed be a distinct construct (Maslach, Jackson, & Leiter, 1996-2016).
**Mindful Self-Care Scale**

Self-care is characterized as the ability to be aware of and attend to one's basic physiological and emotional needs daily (Cook-Cottone, 2014). These needs include healthy relationships, an environment that fosters and promotes self-care, as well as a daily routine that is shaped to enhance a hearty and robust lifestyle (Cook-Cottone, 2014). As the underlying work for physical and emotional well-being, self-care is seen as the protector against burnout, stress, mental health and physical symptoms (Cook-Cottone, 2014).

The Mindful Self-Care Scale measures the self-reported frequency of behaviors thought to contribute to an individual's practice of self-care (Cook-Cottone, 2014). The scale is comprised of 84 items and is intended to assist participants of the project identify areas of strength and weakness in self-care behavior (Cook-Cottone, 2014). The scale is also intended to assess interventions that assist with self-care improvement (Cook-Cottone, 2014). Ten domains of self-care are assessed in the scale, as well as three general items that assess the participant's global self-care practices (Cook-Cottone, 2014). Previous research demonstrates that the Mindful Self-Care Scale has strong psychometric properties (Cook-Cottone & Guyker, 2017)

**Perceived Stress Scale- 4 (PSS-4 Scale)**

The Perceived Stress Scale is a widely used instrument that is used to measure stress, as well as the perception an individual may hold of their capacity to handle and regulate difficult situations (Ingram, Clarke, & Lichtenberg, 2014). The briefest version of the three scales, the PSS4 has demonstrated adequate psychometric properties (Ingram, Clarke, & Lichtenberg, 2014). Items on the PSS-4 scale are affiliated with a sole latent trait that was designed to assess global stress levels (Ingram, Clarke, & Lichtenberg, 2014). The intent of the scale is to measure the degree to which various situations experienced over the course of the past month were been
perceived to be stressful (Karam, Berard, Sheehy, Huneau, Briggs, Chambers, Einarson, Johnson, Kao, Koren, Martin, Polifka, Riordan, Roth, Lavigne, & Wolfe, 2012). Adequate reliability has been demonstrated by the PSS-4 with a coefficient alpha of 0.60 (Karam, Berard, Sheehy, Huneau, et al., 2012; Ingram, Clarke, & Lichtenberg, 2016).

**Program Description**

All project participants received the mindfulness program, an abbreviated version of the 8week MBSR program originally developed by Kabat-Zinn. The project was conducted over a 4week period (see Table 1) and was comprised of participants that are employed in high intensity settings such as psychiatry, intensive care, and the urgent care/emergency area. The project focused on creating a user-friendly program that was designed to promote mindfulness among nursing staff. The project was intended to be efficient and sufficient in introducing some basic practices of mindfulness to participants using a downloadable application to their telephones. Participants were encouraged to utilize their new skills in the clinical setting, as well as in their personal lives.

The initial meeting with the participants was held to introduce the concept of mindfulness, to discuss the downloadable application (Insight Timer App) that would be used as the intervention for the project, and to facilitate the download of this application to their telephones. During this meeting, the participants were asked to complete a baseline MBIHSSMP, a baseline PSS-4, as well as a baseline Mindful Self-Care Scale. The meeting was conducted by a nurse practitioner employed by the VAMC who has taught mindfulness based programs for 20 years. The participants were provided with an information sheet with instructions on the use of the application for the project and an overview of the available exercises provided by the application. They were also informed of the daily goal of mindfulness
practice for the project (15-30 minutes per day, 7 days per week). Other information that was distributed during this initial meeting was inclusive of a demonstration of the available graphs found on the application that would be useful to track time spent practicing the art of mindfulness exercises and a schedule of follow up sessions that would be held at the end of the second week and one-week post project program implementation.

Participants were encouraged to describe their experiences in the shared group settings at the end of week two and during the post mindfulness program meeting. The discussion at the end of week two included examples of how mindfulness activities were utilized during the work day. The participants shared specific mindfulness activities with the group that they had found to be helpful and relaxing for them. During the face-to-face session held at the end of week two, the participants were also asked these questions (1) What barriers, if any were they experiencing? (2) Were the mindfulness exercises helpful to them? (3) What type of situations in the workplace had resulted in the use of mindfulness during a shift? Each face to face session lasted approximately 1.5 hours and included time for practicing an exercise suggested by a participant that had proven to be beneficial to them. Finally, the participants were asked to complete a questionnaire that included a global evaluation of the mindfulness program on a scale of 1 to 10, 1 being minimum and 10 being maximum to provide feedback regarding the project and potential improvements that can be made prior to the next cohort of nurses.
Chapter 4: Results of Program Evaluation

Outcome measures were assessed based on changes in the scores for the subscales from the Maslach Burnout Inventory, the PSS-4, and the Mindful Self-Care Scale. Descriptive statistics were utilized to summarize the sample characteristics, to evaluate whether the results were normally distributed, and to evaluate patterns of change in burnout, perceived stress, and self-care as a result of participating in the program. All analyses were conducted with GraphPad Quick Calcs and verified with IBM SPSS Software. Participants’ verbal feedback from the face to face sessions was summarized to guide future projects using mindfulness-based stress management interventions for VAMC nurses.

The focus and aim of this project was to evaluate the feasibility of using mindfulness as a means of reducing burnout and stress felt by nurses working in high intensity environments, while potentially improving their propensity for self-care. Using a 4-week modified version of John Kabat-Zinn's 8-week Mindfulness Based Stress Reduction program, 18 nurses working in high intensity areas of a Veterans Administration Medical Center (VAMC) in southeastern United States were initially assessed for burnout, stress, and mindful self-care.

A total of 20 nurses were recruited to participate in the mindfulness program. Two participants were excluded from the project secondary to being unavailable to complete post-program assessments. One of the nurses that was unable to complete the post-program assessments was out of the country on annual leave and the other nurse was on extended sick leave. Eighteen participants (n=18) attended all meetings (pre-, mid-, and post-program), used
mindfulness in their daily lives during the 4-week project timeframe, and completed post program assessments. Sixteen of the eighteen participants were female (89%), with the other two being male (11%). 39% of the participants were between the ages of 26-39 years of age, 28% were between the ages of 40-49 years of age, 22% were between the ages of 50-59 years of age, and 11% were age 60 years old and above. In relation to roles within the medical center, 55% (n=10) were psychiatric nurses, 27% (n= 5) were urgent care/emergency room nurses and 18% (n=3) were intensive care nurses. Intensive care nurses reported the highest level of stress at the beginning of the project. All nurses participating in the project are employed full time, with the majority (n=14, 77%) working the dayshift, 17% (n=3) working the evening shift, and 6% (n=1) working the night shift. Table 2 describes demographics of participants, as well as other characteristics associated with them.

Overall, mindfulness was found to be helpful among participants who practiced at least one exercise for a minimum of 15-30 minutes per day (See Table 3). Participants who participated in the mindfulness program reported a reduction of emotional exhaustion, reduction in depersonalization, and improvement in personal accomplishment (subscales of the Maslach Burnout Inventory). They also reported reduced perceived stress. Multiple domains of self-care also improved. Table 3 displays a comparison of self-reported burnout, perceived stress, and self-care before and after engagement in the mindfulness program. It is also interesting to note that mindfulness appeared to have a positive effect on all age groups with regard to emotional exhaustion; the largest decrease in emotional exhaustion was among women in the 26-39 age group. Nurses in this age group have reported increased feelings of burnout and stress compared to nurses in other age groups. These feelings may manifest as a result of fewer years of experience in the nursing profession, toolbox of coping skills still in development, and seeking
the appropriate work/life balance. This speculation was not confirmed and was beyond this scope of this project.

Finally, participants were asked to rate the overall effectiveness of the program's impact on their lives using a 1-10 scale with 1 representing little impact and 10 representing maximum impact. 72% (n=13) rated the program as an eight on the scale, 17% (n=3) rated the program as ten on the scale, and 11% (n=2) rated the program as 6 on the scale. Overall, all participants reported a positive impact on their lives and daily functioning.

Discussion

The primary objective of this project was to evaluate the usefulness of a mindfulness program to reduce burnout and stress among nurses working in high intensity areas at a VAMC. The second purpose of the project is to increase self-care among these nurses using mindfulness to manage the effects of work-related stress and burnout. A structured 4-week program mindfulness based stress management was implemented within the medical center with initially 20 nurses from the identified high-risk areas (psychiatry, intensive care, and urgent care/emergency), however only 18 successfully completed the entire program. Overall this cohort of nurses was able to engage in the program as designed.

Baseline data collected in this project demonstrated a common theme of burnout, stress, and decreased self-care among nurses working in high intensity areas within a VAMC. The findings in this project propose that mindfulness based stress reduction exercises may help to decrease burnout and stress, as well as promote increased self-care among nurses. Patterns of improvement were reported in the participants' well-being and activities of self-care, as well as significant improvement in the reduction of emotional exhaustion (a subscale of the
MBIHSSMP), and a reduction in perceived stress among the 18 nurses that completed the project. The findings in this project support research and findings in previous studies conducted focusing on using mindfulness as a method of burnout and stress reduction (Fortney, Luchterband, Zakletskaia, Zgierska, & Rakel, 2013; White, 2013; Raab, Sogge, Parker, & Flament, 2015). The results from the project suggest that nurses working in high intensity environments can benefit from daily participation of mindfulness activities for at least 15-30 minutes per day. Through use of a telephone app such as Insight Timer, nurses have the capability of using mindfulness exercises throughout the work shift.

Face to face sessions were held with the staff at mid-point of the project and at the end of the project. The mid-point face to face session was used to gather feedback regarding the utilization of the telephone app and to allow the participants the opportunity to share exercises that they found to be beneficial or to share exercises that were found to be challenging. Participants reported enjoying the exercises and stated that they found themselves using them throughout the day and sometimes at night to aid with sleep.

The participants shared that the exercises were extremely helpful during stressful periods of their workday, such as times when providing patient care to a difficult patient was becoming overwhelming and when interacting with a difficult co-worker was paralyzing or mind-boggling. Several participants also reported that they had shared the exercises with family members because they had proven to be an effective de-stressor for them.

The end of project session was used to administer post-program measurement tools and to gather final feedback regarding the effectiveness of mindfulness, as well as recommendations for future implementation of a mindfulness based program. Feedback in this final session included additional positive confirmations of the usefulness of mindfulness exercises.
Participants also reported of comfort in having a toolbox of skills that has been useful in the tackling the feelings of burnout and stress. Comments provided by participants assessed the ease at which they were able to find time during the day to practice mindfulness, with the majority reporting no problems practicing mindfulness daily. During both the mid-point session and the final session participants were asked open-ended questions pertaining to barriers related to the use of the app and the program, which exercises were useful, and how they were able to use them doing the work day.

In concept, the convenience of a program using this design makes the practice of using mindfulness as a burnout and stress reduction conduit feasible and realistic in the busy lives of nurses. Solicitation of feedback from the participants provided several suggestions for opportunities of improvement within the program. These suggestions included using text reminders to program participants, finding a similar program that can be used on a desktop computer, and offering the exercises in a face to face option that would allow staff the opportunity to step away from their work environment.

Limitations

A number of limitations were encountered during the implementation and conduction of this pre-experimental design project. All participants in the project were self-selected with no randomization or control groups. This represents sampling bias and suppresses generalization of findings. The recruitment of an appropriate sample size proved to be a limitation of the project. Initially the project began with 20 participants, however over the course of the 4-week project, two nurses were lost due to their inability to complete all elements required for participation (10% attrition). Future studies may benefit from an evaluation design that integrates a control group, enrollment of a larger sample of participants, and data analysis to determine if patterns of
change in burnout, perceived stress, and self-care are significantly different after participant engagement in a mindfulness program.

Providing the participants an option for the minimum number of minutes for mindfulness exercises practiced per day proved to be a limitation. With a variance of suggested time (15-30 minutes per day) for exercising mindfulness, it was found that participants practiced mindfulness for times daily based on their schedule. In the future, giving the participants a set amount of time to practice mindfulness would allow for analysis of effectiveness of the exercises. Another limitation discovered when meeting with the nurses participating in the project was adhering to the daily requirement of practicing mindfulness. While all participants reported doing so, they reported setting aside time daily was sometimes challenging. Self-reported misunderstanding of the principles of mindfulness reported by 40% of the participants at the end of the project is a limitation as well. This misunderstanding of the philosophy and functionality of a mindfulness based stress management program may have attenuated the potential benefits of the mindfulness program for the participants.

An additional limitation to implementation pertained to constraints on staff time. Despite utilizing an application on their phones and encouragement to practice the exercises at home, 33% of the nurses reported difficulty finding time during their day to balance their workloads and their ability to transition to a dedicated amount of time to complete the mindfulness sessions. These reports of time constraints mirror reported barriers of other studies conducted on the subject (Byron, Ziedonis, McGrath, Frazier, de Torrijos, & Fulwiler, 2014).

Other limitations to consider would be the potentiality that the nurses began the project with the knowledge that mindfulness reportedly improved burnout, stress, and self-care. One idea to consider is that this pre-program knowledge resulted in nurses being biased in their
responses to demonstrate a positive effect on burnout, stress, and self-care (social desirability).

Future projects may benefit from assessing participants social desirability utilizing the Crowne-Marlow Social Desirability Scale (Fastame & Penna, 2012).
Chapter 5: Conclusions and Recommendations for Practice

The findings of this project are powerful and significant for the hospital leadership of the VAMC. This abbreviated workplace intervention demonstrates a no-cost, feasible avenue to building a healthier, more productive nursing workforce within VAMC. As the organization moves toward a culture change that focuses on whole health and employee wellness, a program grounded in MBSR would prove to be a valuable tool in achieving this culture shift. Due to the nature of the work and nurses' caregiver mentalities; burnout, stress and poor self-care will continue to be a problem facing nurses working in high intensity environments. With the ever increasing psychological stress of working in high intensity environments such as psychiatry, intensive care units, and urgent care/emergency room settings, organizational focus on the health, well-being, and retention of nursing staff for these areas will prove to be a challenge without the implementation of interventions such as programs grounded in mindfulness.

This project demonstrated that mindfulness can successfully contribute to the reduction of burnout and stress in the nurses at the VAMC. It also demonstrated that the implementation of mindfulness at the VAMC can result in improved self-care. The project introduced a credible, relatively low-cost method to improve the mental and physical well-being of the nursing staff through the use of the Insight Timer App. Utilizing this app, nurses were exposed to a method that provided a time-efficient, easy access means to practice mindfulness exercises that vary in length from 5 minutes to 60 minutes.
The project's findings also provided preliminary results that are indicative of an approach to employee satisfaction and well-being that enhances self-regulatory resources that increase through a mindfulness based pathway to self-care.

Given the improvements in emotional exhaustion, self-care, and perceived stress, broader implementation of a 4-week mindfulness based program in additional areas is recommended for this VAMC and other VAMCs in the area. As the Department of Veteran Affairs moves forward with programs that evaluates the care of their employees and the promotion of psychological safety, this program would prove to be an integral component of the strategic plan of a healthier organization. The long term desired outcomes of the immersion of this program within the facility include positively impacting the RN turnover rate, positively impacting reported employee satisfaction on the yearly All Employee Survey, and positively impacting patient safety throughout the organization. By taking better care of themselves, nurses working in high intensity areas will be better outfitted to provide quality patient care to Veterans seeking care within the organization. Understanding the complexity of nurse burnout and its relationship to patient care outcomes, as well as staff retention is paramount for leadership.

Development of sound mindfulness programs targeting nurses supports whole health within organizations, addresses self-care promotion, and demonstrates support for overall wellbeing in the face of an ever-evolving healthcare system, where working environments often foster stressful situations. Development of the program must address lessons learned and limitations observed in the current project. Bridging the gap of understanding the principles and objectives of mindfulness for participants is important in expanding the program. Conducting more face to face sessions with participants to expound on the fundamental concepts of mindfulness and the positive effects it has on coping with burnout and stress.
When reflecting upon the fact that thirty-three percent of participants reported finding time constraints when attempting to practice mindfulness, the use of software that generates auto text messages should be considered when seeking expansion of the mindfulness based program. These messages could be sent at various times of the day to remind the staff to practice mindfulness exercises. Another technique that may be considered moving forward with expansion is the implementation of a buddy system to support each other in the practice of mindfulness. This system may be used to share reminders and best practices in mindfulness exercises.

Future projects may also benefit from assessing the levels of burnout, stress, and self-care among those nurses who do not participate in the mindfulness based program. Comparisons of participants versus non-participants could potentially provide attentional validation for the use of a mindfulness based program among nurses working in high intensity areas. However, a research trial was beyond the scope for this project.

Assigning value to educating nursing staff on the art of mindfulness, as well integrating mindfulness practices into the fabric of nursing life must become priority to nursing leadership. Implementing a mindfulness program within an organization could potentially facilitate the development of essential skills within the nursing staff that will allow them to be present for themselves, their patients, and the mission.
### Table 1

**Elements of 4-week mindfulness program**

<table>
<thead>
<tr>
<th>Program Components</th>
<th>Specific Elements</th>
<th>Mode of Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1- Introduction</strong></td>
<td>Initial meeting with participants (to include administration of measurement instruments)</td>
<td>Face to face session with participants, Power Point presentation and verbal discussion (Appendix A)</td>
</tr>
<tr>
<td></td>
<td>Introduction of mindfulness concepts</td>
<td>Use of smartphones to download software (Appendix B)</td>
</tr>
<tr>
<td></td>
<td>Application download</td>
<td></td>
</tr>
<tr>
<td><strong>Week 2-Participation</strong></td>
<td>Participants utilized application for 15 minutes per day</td>
<td>Insight Timer Application utilization</td>
</tr>
<tr>
<td></td>
<td>Participants asked to observe any benefits from exercises and record them</td>
<td>Face to face session with participants</td>
</tr>
<tr>
<td></td>
<td>At end of week two, met with participants for a face to face session to monitor progress and to share experiences with group</td>
<td>Verbal discussions</td>
</tr>
<tr>
<td><strong>Week 3- Participation</strong></td>
<td>Participants continued to utilize application for 15 minutes per day</td>
<td>Insight Timer Application utilization</td>
</tr>
<tr>
<td></td>
<td>Participants continued with observations of any benefits from exercises and record them</td>
<td></td>
</tr>
<tr>
<td><strong>Week 4- Participation and Wrap Up</strong></td>
<td>Participants utilized application for 15 minutes per day</td>
<td>Insight Timer Application utilization</td>
</tr>
<tr>
<td></td>
<td>Participants took note of any benefits from exercises and recorded them</td>
<td>Face to face sessions with participants</td>
</tr>
<tr>
<td></td>
<td>At the end of week four, met with participants in a face to face session for post program follow up and administration of measurement instruments</td>
<td>Verbal discussions</td>
</tr>
<tr>
<td></td>
<td>Data was collected from the administration of the measurement instruments, as well as feedback from participants regarding recommendations for change to the project</td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Characteristics of Nurse Participants (N=18)

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>N=18</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>89</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-39</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td>40-49</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td>50-59</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>60+</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td><strong>Area of Expertise</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatry</td>
<td>10</td>
<td>55</td>
</tr>
<tr>
<td>Urgent Care/Emergency Room</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>Intensive Care</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td><strong>Years of Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 years or less</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10 years or less</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>15 years or less</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>20 years or less</td>
<td>7</td>
<td>38</td>
</tr>
<tr>
<td>Greater than 20 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Stress Levels</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Care Unit</td>
<td>11.33</td>
<td>1.15</td>
</tr>
<tr>
<td>Urgent Care/Emergency Department</td>
<td>8.00</td>
<td>2.45</td>
</tr>
<tr>
<td>Psychiatric Mental Health</td>
<td>7.60</td>
<td>3.13</td>
</tr>
</tbody>
</table>
### Table 3.

**Comparison Results of Scores on All Study Measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-Program</th>
<th>Post-Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>N = 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MBI-HSSMP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Exhaustion</td>
<td>30.89</td>
<td>12.53</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>7.72</td>
<td>4.17</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>35.94</td>
<td>7.78</td>
</tr>
<tr>
<td><strong>PSS-4</strong></td>
<td>8.17</td>
<td>2.85</td>
</tr>
<tr>
<td><strong>Mindfulness Self-Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>13.72</td>
<td>3.63</td>
</tr>
<tr>
<td>Exercise</td>
<td>9.80</td>
<td>4.11</td>
</tr>
<tr>
<td>Self-Soothing</td>
<td>22.94</td>
<td>9.23</td>
</tr>
<tr>
<td>Self-Awareness</td>
<td>17.83</td>
<td>5.14</td>
</tr>
<tr>
<td>Rest</td>
<td>11.72</td>
<td>4.48</td>
</tr>
<tr>
<td>Relationships</td>
<td>20.00</td>
<td>5.11</td>
</tr>
<tr>
<td>Physical/Medical</td>
<td>25.67</td>
<td>3.94</td>
</tr>
<tr>
<td>Environment Factors</td>
<td>26.06</td>
<td>4.81</td>
</tr>
<tr>
<td>Self-Compassion</td>
<td>16.50</td>
<td>4.66</td>
</tr>
<tr>
<td>Spiritual Practice</td>
<td>15.89</td>
<td>3.98</td>
</tr>
<tr>
<td>General</td>
<td>5.61</td>
<td>3.15</td>
</tr>
</tbody>
</table>

**Note:** After participation in the mindfulness program, nurses experienced improvements in burnout, perceived stress, and self-care.
Appendix A

Mindfulness-Based Stress Management Educational Materials for Participant

**USING MINDFULNESS TO REDUCE BURNOUT AND STRESS**

**WHAT IS MINDFULNESS**

- MEANS OF RESILIENCY AGAINST STRESS, BURNOUT, AND EMOTIONAL EXHAUSTION
- A STATE OF ACTIVE AND OPEN ATTENTION TO THE PRESENT
- AWARENESS OF EXTERNAL AND INTERNAL PRESENT MOMENT FEELINGS AND EXPERIENCES
- EXEMPLIFIES INTENTIONAL PRESENT MOMENT AWARENESS
  SUSPENDING RUMINATION AND INTEREST ABOUT WHAT MAY HAVE HAPPENED
  IN THE PAST OR WHAT WILL HAPPEN
WHY IS THE PRACTICE OF MINDFULNESS USEFUL TO NURSES?

• Nurses endure the stress of caring for dying patients, provide support to both patients and their families,

• Nurses are faced with complex patient needs, staffing shortages, and a growing perception of lack of control

• Feelings of burnout and stress have led to decrease cognitive functioning and problem solving, decreased employee and patient satisfaction, decreased patient safety

THE PRACTICE OF MINDFULNESS: CRITERIA FOR PARTICIPATION

• RN working in high intensity area of a VAMC/psychiatry, urgent care/emergency room, intensive care unit

• Willing to participate in mindfulness activities during a 4week period

• Willing to attend an introductory and wrap up session

• Be willing to complete pre and post intervention measurement tools such as the Maslach Burnout Inventory, the Mindfulness Self-Care Inventory, and the perceived stress scale.

• Willing to download the Insight Timer application to their smartphones to practice the mindfulness exercise
OUTLINE OF 4-WEEK MINDFULNESS PROGRAM

- Initial meeting to provide information sharing regarding mindfulness, burnout and stress, and how mindfulness can decrease complete preintervention measurement tools. Download the app, and answer any questions related to the program.
- Begin mindfulness exercises on August 14, 2017.
- Practice mindfulness exercises daily at a minimum of 1530 minutes per day.
- Mid-point meeting on August 28, 2017 to discuss progression of program, barriers experienced, successes experienced, and answer any questions regarding mindfulness and the program.
- Project slated to end on September 8, 2017.
- Final meeting on September 17, 2017 to complete postintervention measurement tools and to discuss feelings regarding practicing mindfulness.

QUESTIONS? CONCERNS?
Appendix B

Screenshot of Mindfulness Insight Timer Smartphone Application Used by Participants
Appendix C

Maslach Burnout Inventory: HSSMP

_____________________________________________________________________________
0= Never, 1=A few times per year, 2= Once per month, 3= A few times per month, 4= Once per week, 5= A few times per week, 6= Daily

_____________________________________________________________________________

How often 0-6

Statements:

1. ________I feel emotionally drained from my work.

2. ________ I feel used up at the end of the workday.

3. ________I feel fatigued when I get up in the morning and have to face another day on the job.

4. ________I can easily understand how my patients feel about things.

5. ________I feel I treat some patients as if they were impersonal objects.

6. ________Working with people all day is really a strain for me.

7. ________I deal very effectively with the problems of my patients.

8. ________I feel burned out from my work.

9. ________I feel I'm positively influencing other people's lives through my work.

10. ________I've become more callous toward people since I took this job.

11. ________I worry that this job is hardening me emotionally.

12. ________I feel very energetic.

13. ________I feel frustrated by my job.

14. ________I feel I'm working too hard on my job.

15. ________I don't really care what happens to some patients.

16. ________Working with people directly puts too much stress on me.
17. ________ I can easily create a relaxed atmosphere with my patients.

18. ________ I feel exhilarated after working closely with my patients.

19. ________ I have accomplished many worthwhile things in this job.

20. ________ I feel like I'm at the end of my rope.

21. ________ In my work, I deal with emotional problems very calmly.

22. ________ I feel patients blame me for some of their problems.

__________________________________________________________

____EE     _____DP     _____PA

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Appendix D

Mindful Self-Care Scale

*Check the box that reflects the frequency of your behavior (how much or how often) within past week (7 days):*

<table>
<thead>
<tr>
<th>This past week, how many days did you do the following?</th>
<th>Never 0 days</th>
<th>Rarely 1 day</th>
<th>Sometimes 2 to 3 days</th>
<th>Often 3 to 5</th>
<th>Regularly 6 to 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>I drank at least 6 to 8 cups of water</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

*Use this response format and randomize items.*

**The questions on the scale follow:** Nutrition/Hydration (NH)

1. I drank at least 6 to 8 cups of water
2. Even though my stomach felt full enough, I kept eating (reverse score)
3. I adjusted my water intake when I needed to (e.g., for exercise, hot weather)
4. I skipped a meal (reverse score)
5. I ate breakfast, lunch, dinner, and, when needed, snacks
6. I ate a variety of nutritious foods (e.g., vegetables, protein, fruits, and grains)
7. I planned my meals and snacks

**Exercise (E)**

1. I exercised at least 30 to 60 minutes
2. I took part in sports, dance or other scheduled physical activities (e.g., sports teams, dance classes)
3. I did sedentary activities instead of exercising (e.g., watched tv, worked on the computer) (reverse score)
4. I sat for periods of longer than 60-minutes at a time (reverse score)
5. I did fun physical activities (e.g., danced, played active games, jumped in leaves)
6. I exercised in excess (e.g., when I was tired, sleep deprived, or risking stress/injury) (reverse score)
7. I planned/scheduled my exercise for the day
Self-Soothing (S)

1. I used deep breathing to relax
2. I did *not* know how to relax (reverse score)
3. I thought about calming things (e.g., nature, happy memories)
4. When I got stressed, I stayed stressed for hours (i.e., I couldn’t calm down) (reverse score)
5. I did something physical to help me relax (e.g., taking a bath, yoga, going for a walk)
6. I did something intellectual (using my mind) to help me relax (e.g., read a book, wrote)
7. I did something interpersonal to relax (e.g., connected with friends)
8. I did something creative to relax (e.g., drew, played instrument, wrote creatively, sang, organized)
9. I listened to relax (e.g., to music, a podcast, radio show, rainforest sounds)
10. I sought out images to relax (e.g., art, film, window shopping, nature)
11. I sought out smells to relax (lotions, nature, candles/incense, smells of baking)
12. I sought out tactile touch-based experiences to relax (e.g., petting an animal, cuddling a soft blanket, floated in a pool, put on comfy clothes)
13. I prioritized activities that help me relax

Self-Awareness/Mindfulness (SA)

1. I had a calm awareness of my thoughts
2. I had a calm awareness of my feelings
3. I had a calm awareness of my body
4. I carefully selected which of my thoughts and feelings I used to guide my actions
5. I meditated in some form (e.g., sitting meditation, walking meditation, prayer)
6. I practiced mindful eating (i.e., paid attention to the taste and texture of the food, ate without distraction)
7. I practiced yoga or another mind/body practice (e.g., Tae Kwon Do, Tai Chi)
8. I tracked/recorded my self-care practices (e.g., journaling, used an app, kept a calendar)
9. I planned/scheduled meditation and/or a mindful practice for the day (e.g., yoga, walking meditation, prayer)
10. I took time to acknowledge the things for which I am grateful

Rest (R)
1. I got enough sleep to feel rested and restored when I woke up
2. I planned restful/rejuvenating breaks throughout the day
3. I rested when I needed to (e.g., when not feeling well, after a long work out or effort)
4. I took planned breaks from school or work
5. I planned/scheduled pleasant activities that were not work or school related
6. I took time away from electronics (e.g., turned off phone and other devices) 7. I made time in my schedule for enough sleep

Relationships (RR)
1. I spent time with people who are good to me (e.g., support, encourage, and believe in me)
2. I scheduled/planned time to be with people who are special to me
3. I felt supported by people in my life
4. I felt confident that people in my life would respect my choice if I said “no”
5. I knew that, if I needed to, I could stand up for myself in my relationships
6. I made time for people who sustain and support me
7. I felt that I had someone who would listen to me if I became upset (e.g., friend, counselor, group)

Physical/Medical (PM)
1. I engaged in medical care to prevent/treat illness and disease (e.g., attended doctors visits, took prescribed medications/vitamins, was up to date on screenings/immunizations, followed doctor recommendations)
2. I engaged in dental care to prevent/treat illness and disease (e.g., dental visits, tooth brushing, flossing)
3. I took/did recreational drugs (reverse score)
4. I refrained from drinking alcohol (i.e., I not drink alcohol)
5. I practiced overall cleanliness and hygiene
6. I accessed the medical/dental care I needed
7. I refrained from smoking (i.e., I did not smoke)
8. I refrained from drinking alcohol in excess (i.e., more than 1 to 2 drinks \[1 \text{ drink} = 12 \text{ ounces beer, 5 ounces wine, or 1.5 ounces liquor}\])

Environmental Factors (EF)
1. I maintained a manageable schedule
2. I avoided taking on too many requests or demands
3. I maintained a comforting and pleasing living environment
4. I kept my work/schoolwork area organized to support my work/school tasks
5. I maintained balance between the demands of others and what is important to me
6. Physical barriers to daily functioning were addressed (e.g., needed supplies for home and work were secured, light bulbs were replaced and functioning)
7. I made sure I wore suitable clothing for the weather (e.g., umbrella in the rain, boots in the snow, warm coat in winter)
8. I did things to make my everyday environment more pleasant (e.g., put a support on my chair, placed a meaningful photo on my desk)
9. I did things to make my work setting more enjoyable (e.g., planned fun Fridays, partnered with a co-worker on an assignment)

Self-Compassion (SC)
1. I noticed, without judgment, when I was struggling (e.g., feeling resistance, falling short of my goals, not completing as much as I’d like)
2. I punitively/harshly judged my progress and effort (reverse score)
3. I kindly acknowledged my own challenges and difficulties
4. I engaged in critical or harsh self-talk (reverse score)
5. I engaged in supportive and comforting self-talk (e.g., “My effort is valuable and meaningful”)
6. I reminded myself that failure and challenge are part of the human experience
7. I gave myself permission to feel my feelings (e.g., allowed myself to cry)
Spiritual Practice (SP)

1. I experienced meaning and/or a larger purpose in my work/school life (e.g., for a cause)
2. I experienced meaning and/or larger purpose in my private/personal life (e.g., for a cause)
3. I spent time in a spiritual place (e.g., church, meditation room, nature)
4. I read, watched, or listened to something inspirational (e.g., watched a video that gives me hope, read inspirational material, listened to spiritual music)
5. I spent time with others who share my spiritual worldview (e.g., church community, volunteer group)
6. I spent time doing something that I hope will make a positive difference in the world (e.g., volunteered at a soup kitchen, took time out for someone else)

General (G)

1. I engaged in a variety of self-care strategies (e.g., mindfulness, support, exercise, nutrition, spiritual practice).
2. I planned my self-care
3. I explored new ways to bring self-care into my life
Appendix E

Perceived Stress Scale-4

Perceived Stress Scale- 4 Item

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you felt that you were unable to control the important things in your life?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt confident about your ability to handle your personal problems?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt that things were going your way?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

This scale can be found in the following articles:


Perceived Stress Scale Scoring

PSS-4 scores are obtained by reverse coding the positive items, e.g., 0=4, 1=3, 2=2, etc. and then summing across all 4 items. Items 2 and 3 are the positively stated items.

The PSS was designed for use with community samples with at least a junior high school education. The items are easy to understand and the response alternatives are simple to grasp. Moreover, as noted above, the questions are quite general in nature and hence relatively free of content specific to any sub population group.
REFERENCES


