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# The Impact of Mindfulness-Based Stress Reduction Techniques on Nurse Burnout in an ICU

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## Abstract

**Practice Problem:** Burnout among nurses has been linked to turnover, negative patient safety and quality outcomes, and higher costs for institutions.

**PICOT:** The PICOT question that guided this project was, in ICU nurses (P), what was the impact of the use of MBSR techniques (I), versus the current state in which no MBSR techniques are practiced (C), on self-reported BO (O), over the course of eight weeks (T).

**Evidence:** A total of 14 studies were identified in the literature that directly support the implementation of this project. Themes from the literature show that mindfulness-based stress reduction techniques such as meditation, yoga, and gratitude may reduce nurse burnout.

**Intervention**: A variety of mindfulness-based stress reduction (MBSR) techniques were implemented including a pre-shift "loving kindness" meditation, a five minute "Lunch Break Yoga" practice, and a post-shift gratitude reflection.

**Outcome:** Data demonstrated that 88.9% of the participants reported reduced levels of burnout. A paired t-test showed a statistically significant reduction in BO.

**Conclusion:** The use of MBSR techniques may provide a method to reduce burnout, possibly improving retention and outcomes, reducing costs for institutions.


*Keywords*: nurse burnout, burnout, mindfulness, mindfulness-based stress reduction

# The Impact of Mindfulness-Based Stress Reduction Techniques on Nurse Burnout in an ICU

Nearly 20% of new nurses leave the profession, a phenomenon known as turnover, within their first year of employment and 43% leave within three years (Kelly, Baker, & Horton, 2017). One theory is that the effects of burnout (BO) play a major role in this level of turnover (Jakimowicz, Perry, & Lewis, 2018). The intensive care unit is a prime environment in which BO can develop. Those working in these nursing care units encounter physically, mentally, and emotionally stressful situations on a regular basis and a growing body of evidence indicates that work in a high stress environment is the primary predictor for the development of increased BO (von Mol, Kompanje et al., 2015).

The goal of this project was to assess the baseline level of BO in a medical intensive care unit (MICU), using the BO subscale of the Professional Quality of Life (ProQOL5) scale. An intervention was implemented aimed at providing the staff with a variety of mindfulness-based stress reduction (MBSR) techniques including a pre-shift “loving kindness” meditation, a five minute “Lunch Break Yoga” practice, and a post-shift gratitude reflection (see Appendix A). A follow up survey was used to determine the impact of the implemented MBSR techniques on the nurse’s level of BO. The long-term goal is the reduction in BO leading to reduced cost to the organization through staffing retention, and improved patient care and quality outcomes.

## Significance of the Practice Problem

The discussion around BO is a relatively recent occurrence in the field of healthcare. Over the past five years the study of this phenomenon has increased, and growing evidence suggests that BO can have far reaching impact on the nurses themselves, the institutions they work for, and the patients they care for (Wells-English, 2019). In addition to having a significant mental and emotional strain on the nursing staff, BO can lead to higher rates of turnover, increased medication errors, and a negative impact on a variety of other patient safety outcomes (Hall, et al., 2016).

Nurse BO is now being recognized around the world as a significant issue facing the nursing profession. One of the major effects of BO is the toll that it takes on the nurses themselves and in turn on the profession. Nurses who identify as being burned out report physical and emotional symptoms such as headaches, fatigue, muscle tension, anger and poor judgment (Henson, 2020). These symptoms can lead to an increased use of sick days, can contribute to creating a situation more prone to errors, and to an overall reduction in productivity (English-Wells et al., 2019).

Burnout can have such a profound impact on individuals that data suggests that 20% of nurses will leave the profession within the first year of practice (Kelly, Baker, & Horton, 2017). This can be extremely costly to healthcare organizations, as the projected amount of money to replace a nurse can be up to $60,000, which means that annually organizations may be spending millions of dollars to combat nurse turnover (University of New Mexico, 2020).

In addition to the impact that BO has on nurses and healthcare organizations, it has also been shown to have a negative impact on patient safety. Garcia et al. (2019), in a meta-analysis of the literature, found 21 studies, exploring the concept that identified a significant connection

between the level of BO and worsening patient safety. A systematic review and meta-analysis by Tawfik et al. (2019) echoed those findings by concluding that current literature does in fact demonstrate that BO is associated with a decrease in safety and quality of care.

According to Halbesleben et al. (2008), BO can contribute to medical errors in several ways. A nurse suffering from BO may be less likely to identify that an error has been made, may not believe that the error needs to be reported, or may not have the motivation to complete the reporting process. These errors can be costly to both patient wellbeing and institutional cost. Medication errors occur across a wide spectrum in respect to their impact on patients. Results can range from minor reactions, to increased length of stay, to increased mortality (Bates & Slight, 2014). Meanwhile, the Institute of Medicine (IOM) estimates that medication errors cost the healthcare system between seventeen to twenty-nine billion dollars each year (Mello et al., 2007). Reducing BO in the nursing staff may result in a reduction in these medical errors which benefit both patients and the institution. Additionally, the World Health Organization (Kumar, 2019) has recognized BO as a workplace related syndrome in the current International Classification of Diseases (ICD-11) which is a document that identifies diseases and is often used as a guide for the billing of patient services.

Even though BO is a relatively new issue, it has become a common topic of conversation in the field of healthcare. This topic has become a major concern due to the wide range of negative outcomes that have been tied to BO. According to Bemker-Page (as cited in Relias Media, 2019), BO has a direct tie to turnover, reduced productivity, a lack of vigilance, and increased errors and safety concerns. Therefore, it is apparent that BO is a significant issue facing the nursing profession and healthcare organizations that can have long-lasting impact on nurses, institutions, and patients.

## PICOT Question

Nurse BO has been shown to have a negative impact on organizational costs, patient safety, and outcomes. According to research, increased levels of nurse BO can be tied to poor patient safety outcomes and increased medical errors (Hall, et al., 2016). Emerging research has demonstrated promising data that the use of MBSR techniques may be an effective tool in combating nurse BO (Penque, 2019). For this project, the following PICOT question was addressed: In ICU nurses (P), what was the impact of the use of MBSR techniques (I), versus the current state in which no MBSR techniques are practiced (C), on self-reported BO (O), over the course of eight weeks (T).

The interventions of this project included participants completing various MBSR techniques including a "loving kindness" meditation prior to their shift, a five minute "Lunch Break Yoga" practice, and a reflection of gratitude at the end of their shift. In the current state no MBSR techniques were practiced. This project was centered on the knowledge that nurse BO negatively impacts organizational cost as well as patient safety and outcomes. The focus of the intervention was to reduce BO which will indirectly have a positive impact on organizational costs, nurse turnover, and patient safety and outcomes.

## Evidence-Based Practice Framework & Change Theory

The John's Hopkins evidence-based practice framework was used to guide the development and implementation of this project (John's Hopkins, 2017). This model is a simple three-step process that is designed to be user friendly for practicing nurses and supports the adoption of research based best practices into the clinical setting. The acronym used to identify this model is known as PET, which stands for the three components: practice question, evidence and translation (John's Hopkins, 2017). The steps in the John's Hopkins model were used to

drive this project. This included consideration of the practice question, collaboration with stakeholders to identify a practice problem, evaluation of the evidence, development of practice recommendations, and finally implementation and evaluation of the intervention.

The other framework that was used to guide this project was the awareness, desire, knowledge, ability, and reinforcement (ADKAR) model of change management (Hiatt, n.d.). This model was chosen specifically because it is built as a bottom-up method. This project was focused on the implementation of MBSR techniques to reduce nurse BO which should ultimately improve the quality of patient care and reduce nurse turnover. Because it is an employee driven intervention it makes sense to use a change model that focuses on employee buy in.

In the awareness phase, the goal was to make sure the employees understood the need for change. Next was to create the desire for a practice change by making the connection to how BO impacted patient care and quality outcomes. After the staff had bought into the plan for change, the next step was to provide them with the knowledge and ability to create the change. The final step in the ADKAR change model was to provide reinforcement through built in reminders for the staff to continue to implement the MBSR techniques within their workday.

## Evidence Search Strategy

The search strategy utilized four different databases: CINAHL, ProQuest, PubMed, and Google Scholar. Within each of these databases the search terms, filters, inclusion, and exclusion criteria were identical. The initial terms used in the search included nurse burnout, nurse burnout AND quality outcomes, nurse burnout AND patient safety, mindfulness AND nursing, mindfulness AND nurse burnout, mindfulness AND nurse burnout AND quality outcomes. After a review of the initial pool of articles additional terms were selected including mindfulness-based

stress reduction (MBSR), mindfulness-based stress reduction AND burnout, mindfulness-based stress reduction AND nursing AND quality outcomes.

The only filter utilized was a date range set to search for articles written between 2010 and the present. Inclusion criteria included those articles that met the date filters, that were primarily written in or translated into English, were from peer reviewed sources, and focused on medical based nursing. Exclusion criteria included those untranslated into English, those that focused on physicians as opposed to nurses or ancillary healthcare staff, those that focused on psychiatric nursing, and those that were not from peer reviewed sources.

## Evidence Search Results

The initial search resulted in 672 articles. Two additional records were identified through a hand search and 53 duplicates were removed. The remaining 619 were screened for relevance based on the inclusion criteria. After review of titles and abstracts for eligibility 572 were excluded, leaving 47 full text articles to be assessed. Twenty of these did not meet inclusion criteria and the remaining 27 were critically appraised. Thirteen final articles were removed following critical appraisal leaving 14 articles for inclusion in the review (see Appendix B).

The final 14 articles included in the review represent all levels of evidence and were a mix of expert opinion, qualitative study, cross sectional survey, quasi experimental studies, randomized controlled trials, meta-analysis, and systematic reviews. There is a near even split between quantitative and qualitative evidence. While the levels of evidence vary, all evidence was found to be of either good or high quality (see Appendix C).

## Themes with Practice Recommendations

A review of the literature revealed two major themes: burnout (BO) and mindfulness. Xie et al. (2020) found that BO is made up of three components including emotional exhaustion,

depersonalization, and lack of personal accomplishment. The topic of mindfulness covers various modalities including gratitude, meditation, and mind-body methods of self-care (Cohen-Katz et al., 2005 & Kabat-Zinn, 2003).

**Nurse Burnout**

Cohen-Katz et al. (2005) found that there are many stressors associated with working as a nurse in today's healthcare environment. Suleiman-Martos et al. (2020) concurred with this finding, adding that intensive care nurses are particularly vulnerable to developing BO. As a follow up to these findings, Alexander et al. (2015) concluded that stressors and BO can lead to a decline in nurses' mental and physical health, can impact their ability to do their job accurately and safely, and may impact their decision to remain in the profession.

Duarte and Gouveia (2016) cite emotional exhaustion as the first phase of BO syndrome which often manifests as fatigue, insomnia, anxiety, or depression. Once BO has progressed to the stage of depersonalization it shows up as cynicism and a lack of empathy for patients and families. According to Cohen-Katz et al. (2005) this is the stage of BO when staff members are prone to making errors and providing a lesser quality of care. If there is no intervention BO can progress to feeling a lack of personal accomplishment and it is usually at this stage that a nurse considers or chooses to leave the profession.

In her research, Penque (2019) found that developing tools to manage BO is critical to maintaining safe patient as well as for ensuring nurses' health and long-term retention. The literature demonstrates that one possible solution to reduce nurse BO is the implementation of MBSR techniques.

## Mindfulness

Goodman and Schorling (2012) describe the practice of mindfulness as intentionally being aware of the present moment without judgment. Lichtenburg et al. (2013) explains that there are several ways to cultivate mindfulness including gratitude, meditation, and mind-body work such as yoga. Howland and Bauer-Wu (2015) have determined that developing a mindfulness practice can support nurses in coping with work stressors and aid in the prevention of BO.

### *Mindfulness-based Stress Reduction*

Kabat-Zinn (2003) founded the formal practice of mindfulness-based stress reduction (MBSR) in the 1970's. MBSR is based on an eight-week program that progressively provides the tools to help users develop mindfulness techniques. It includes training in meditation and simple yoga postures. This program has been used in various applications from treating patients with psoriasis to serving as an adjunct treatment in cancer patients. Goodman and Schorling, (2012) have more recently used it as an intervention in dealing with the issue of nurse BO.

### *Gratitude*

According to Grady (2017), one mindfulness tool that has shown benefit in reducing nurse BO is a gratitude reflection or journal. The desire to help others and feeling that they are not meeting expectations is one of the key drivers of BO. Kim et al. (2019) determined that nurses can combat this feeling with the development of a mindset of gratitude, as gratitude has been shown to be one of the main predictors of well-being and can prevent the symptoms of BO from developing.

### *Yoga*

Alexander et al. (2015) describes additional tools common to MBSR include the use of meditation techniques and yoga practices. The practice of yoga has demonstrated benefits for wellness and self-care and is a proven strategy for nurses to use in the prevention of stress and BO. Horner et al. (2014) found that a control group of nurses reported less BO and the unit reported greater levels of patient satisfaction after a 10-week mind-body program. According to Cohen-Katz (2005) there was significant and long term reduction in levels of emotional exhaustion and depersonalization among a control group of nurses that completed an eight-week MBSR program that included the practice of yoga.

### *Meditation*

Goodman and Scgorling (2012) describe mindfulness meditation techniques as another cornerstone common to MBSR practices. One quasi experimental study, by Duarte and Pinto-Gouveia (2016) found that a six-week MBSR program that utilized “loving kindness” meditation resulted in a significant decrease in rates of BO, particularly in the realm of depersonalization. In a cross-sectional survey, Zhao et al. (2018) found that the use of meditation particularly impacted the levels of emotional exhaustion, the first phase of the burnout cycle, and may possibly be an effective intervention for preventing early-stage BO from progressing further.

## Practice Recommendations

Of the studies examined, all found that MBSR can be an effective intervention in combating BO among nurses. The formal program of MBSR is a structured eight-week program offered by trained providers, yet nine of the ten studies utilized a modified version of the training with some shortening the training time, modifying the training provided, and varying the length

of the intervention. Studies involving traditional and modified MBSR programs both demonstrated a positive impact on nurse BO.

The studies reviewed ranged from Level I randomized controlled trials to Level III observational and qualitative studies (see Appendix C). Across the board, the study results indicated an overall improvement in the levels of nurse BO although there was variation among the studies with respect to the specific focus and length of the interventions offered. Two of the studies followed the participants for twelve weeks after the study completion and found that the intervention was still effective at reducing BO (Xie et al., 2020 and Cohen-Katz, 2005).

In order to improve the level of BO in the MICU a practice recommendation was made to implement an eight-week long modified MBSR program that focused on having staff practice a variety of MBSR techniques, including a pre-shift "loving kindness" meditation, a five-minute "Lunch Break Yoga" practice, and post-shift gratitude reflection. In order to ensure long term adoption at the systems level the intervention will be followed up with an organizational level MBSR program to impact ongoing hospital wide burnout. The expected outcome is a reduction in nurse BO with a corresponding long-term reduction in nurse turnover and improvement in patient quality outcomes.

## Setting, Stakeholders, and Systems Change

The setting for this DNP project was a 24-bed medical intensive care unit (MICU) within a 500-bed urban safety net hospital in Colorado. The mission of the institution is to "provide access to the highest quality healthcare regardless of ability to pay" (Denver Health, 2020). The nursing leadership structure of the organization consists of a Chief Nursing Officer overseeing three inpatient nursing divisions: acute care, critical care, and nursing support services, each led

by a director. Each division consists of multiple departments with their own unit managers and educators.

The MICU staff consisted of 86 registered nurses, nine nursing assistants, two clerical staff, as well as a manager and educator. The nursing staff reflected a wide range of age and experience levels. Nurse age ranged from 22-65 years old, and years of experience ranged from 0-31 years. The staff worked one of three schedules: full time, part time, or intermittent. Full time staff work a minimum of three shifts per week, part time staff work a minimum of two shifts per week and intermittent staff work a minimum of two shifts per month. The shifts are 12 hours and run from 7am-7pm or 7pm-7am. Staff work either strictly days or nights, or a rotation of the two. The population of interest for this project was any nurse working in the MICU. The only exclusion was those MICU nurses who were on orientation or on the unit working a travel contract.

The organizational needs assessment for this project was completed through interview with the nursing director and associate medical director of the critical care division. The topic of nurse BO was discussed and determined to be one of the main concerns of division leadership, as it relates to the quality of patient care and nurse turnover. This conclusion was validated by the unit leadership who recognized BO as a major concern. Support for the project was provided verbally by all stakeholders.

The stakeholders involved in this project included the nursing director and associate medical director of critical care, the nurse leadership council, and the unit leadership and staff. Collaboration from this group was essential to ensure implementation and sustainability of the intervention.

Sustainability will be achieved through use of a MBSR program packet that will support all units in implementing MBSR techniques with their staff. The standardized huddle board was edited to include the MBSR technique of a "loving kindness" meditation and the standard report sheets now include a gratitude reflection section. A visual poster of the five-minute "Lunch Break Yoga" practice was posted in breakrooms. These strategies all ensure that the MBSR techniques are incorporated into the daily workflow of the staff.

After initial implementation in the MICU, the program will be first rolled out to the remainder of the Critical Care Division and then to the remaining areas of the hospital. The intervention will be sustained through standardized huddle and report sheets as well as the "Lunch Break Yoga" practice being posted in each breakroom. This will ensure that MBSR becomes fully integrated into nursing practices within the institution.

A strength, weakness, opportunity, and threat (SWOT) analysis (see Appendix G) was completed to assess the attributes of the unit that may serve as either a support or barrier to the project. Support for this project included engagement from both leadership and staff. Barriers included the need to communicate virtually due to social distancing, competing priorities related to patient and staffing needs due to the Covid-19 pandemic, and turnover during the project that resulted in a loss of participants. This project had a micro impact and could potentially impact the institution and nursing profession at a meso and macro level in the future. The MBSR techniques impacted individuals' levels of BO and is anticipated to have a positive impact on retention and outcomes for the institution. Additionally, dissemination of this project may add to the larger body of nursing professional knowledge.

## Implementation Plan with Timeline and Budget

The aim of this DNP project was to reduce the incidence of BO among nurses in the MICU with an aim to ultimately reduce nurse turnover, improve patient quality outcomes, and reduce expense to the hospital system. In order to meet this objective, the identified project objectives were implemented as follows:

- Development a modified MBSR program which was utilized as the intervention during the implementation phase of the project (see Appendix A).
- Engagement of the nurses in the MICU in a pre-intervention discussion about the impact of burnout.
- Completion a baseline survey of nurse BO and implementation of the eight-week MBSR intervention.
- Evaluation of the impact of the intervention on the level of BO among the nurses utilizing a post-intervention survey.
- Dissemination of project results both internally and externally.

These objectives were met by adhering to a scheduled timeline of actions (see Appendix F). The overall timeline for project completion included development of the modified MBSR program that was used during the intervention, creation of a presentation explaining the various elements of the MBSR intervention, editing the organization's standard huddle and report sheets to include the MBSR techniques of "loving kindness" meditation and gratitude reflection as a built-in part of the workday, as well as posting the five-minute "Lunch Break Yoga" in breakrooms.

The implementation of the MBSR program occurred over the course of ten weeks with the first week being dedicated to recruitment. The intervention spanned eight weeks and included

a kickoff meeting where the MBSR techniques were presented, and baseline survey data was collected. Evaluation of the intervention occurred in week ten was accomplished through collection and analysis of a post-intervention survey.

Both the John's Hopkins evidence-based practice model and the ADKAR change model were utilized to guide the implementation of the project (John's Hopkins, n.d. and Mulholland, 2017). Using the John's Hopkins model as a guide, BO was identified as an issue, the literature was reviewed, and an intervention developed.

The ADKAR change model was used to drive the implementation of the project on the unit. In order to facilitate awareness of the impact of BO and of the MBSR intervention to the MICU staff, a kickoff meeting was held to provide staff with the necessary information. This meeting focused on creating the need for change. The next step was providing the staff with the knowledge of MBSR that allowed them to participate in the intervention. Reinforcement of these practices was provided through prompts in huddle and report to ensure that the MBSR techniques became a part of the nurses' daily standard practice.

The role of the project manager included meeting with stakeholders to identify an area of concern on the unit, developing a practice question, reviewing and synthesizing the literature, recommending a practice change, developing a modified MBSR program, and implementing and evaluating the intervention. The ability to manage the budget for this project was important to its overall success. The budget needs for this project included the purchase of the supplies to print the survey and the supplies to print and laminate the huddle and report sheets and breakroom posters that will be used in the sustainability strategy (see Appendix I).

## Results

The primary outcome evaluated in this project was the level of nurse BO pre and post intervention. Recruitment of participants for this project was open to all MICU nurses, except those who were on orientation or working on a travel contract assignment at the time of the intervention. The baseline BO data was collected during the project kickoff meeting using the BO subscale of the ProQOL5 (see Appendix H). This same survey was used during the project wrap up meeting to collect post intervention data from participants. The ProQOL5 is a validated tool that has been used in over 200 hundred published studies. The reliability for the BO subscale of the ProQOL5 is 0.75, so produces consistent results 75% of the time (Stamm, 2009). This tool collects interval data in the form of participants' ratings to various questions related to their experience at work on a five-point Likert scale. The ProQOL5 tool is free to use and requires no permissions.

The project manager collected and analyzed the data as well as ensured that the project met the approval process of both the academic institution and clinical site. The academic institution required that the project be a systems level change to a practice that can be sustained in the long term and addressed an identified practice problem. This project was reviewed by the EPRC, and it was determined that it met those criteria. The clinical site required the approval of the project advisor and stakeholders involved who provided signature approval on organization letterhead (Appendix K). This project was also reviewed and approved for internal dissemination by the institution's Quality Improvement Review Committee (QuIRC).

Data security was ensured by keeping the paper surveys de-identified and locked in a file cabinet in the unit manager's office. The integrity of the surveys was ensured by randomly providing each participant a number which was marked on both their pre and post survey as the

only identifier. Because this project did not include any personal identifiers there were no associated HIPAA concerns.

The evaluation of this project focused on several measures including those exploring outcome, process, balancing, financial, and sustainability factors (see Appendix J). The reduction of BO was the main outcome measure of this project, and as indicated in the literature review, will ultimately promote reduction in nurse turnover, improve patient quality outcomes and reduced cost to the institution. The BO subscale of the ProQOL5 was used to assess the level of BO among the participants in a pre and post survey design. Using this scale, a rating of 22 or lower indicates a low level of BO, 23-41 a moderate level, and 42 or greater indicates a high level of BO.

Twenty-three eligible staff members signed up to participate in the intervention. Eighteen participants completed the full intervention and post survey. Two participants left employment at the site during the intervention and three participants chose not to continue participation or completion. According to the baseline ProQOL5 data, of the 18 that completed the intervention, 14 participant's baseline data showed a moderate level of BO and 4 had a baseline low level of BO. Of those with self-reported moderate BO, 10 reported a low level of BO post-intervention and 4 remained at a moderate level of BO. Of the 4 participants with low baseline BO, all reported an even lower level of BO post-intervention, lowering their ProQOL5 scores by anywhere from 4-7 points.

A paired t-Test was used to analyze the data and identify the change in mean between the pre- and post-assessment. When analyzing the data, a p-value of less than 0.05 was considered statistically significant. The t-statistic, or effect size was 3.67 between the pre-and

post-survey data. The two tailed p-value was 0.00086, less than 0.5, indicating a statistically significant change in level of BO between pre-and post-intervention data.

While a statistically significant change in the level of BO was demonstrated, the more important factor was to see clinically significant changes as a result of the reduction of BO in nurses due to the use of MBSR techniques. As a result of this project, the expectation is that the reduction in BO will have the long-term result of staff who are less likely to leave their position and who practice in a safe and effective manner resulting in improved patient quality outcomes.

Significant clinical change will continue to be measured and will be demonstrated by a reduction in nurse turnover rates and improved patient quality outcomes. This will be demonstrated through improvement in the monthly Target Zero quality and safety data and retention numbers in the three months following the intervention. These changes are critical because they are what will ultimately save the organization money and lead to improved patient outcomes.

## Impact

The results of the implementation demonstrated that the use of MBSR techniques reduced BO in 88.9% of the participants. On an individual level this project provided the participants with training in three MBSR techniques including meditation, yoga, and gratitude journaling. These tools have been shown to be effective practices in combating BO. The sample size of this project was limited to a small group of nurses from one unit, however, if the results were to be reproduced on an institution wide level, the impact could potentially reduce BO in thousands of staff members. If reducing BO in turn reduces turnover and improves patient outcomes, the overall impact to the institution could be significant.

For this intervention to be sustainable there will need to be buy in and participation from leaders of the institution at all levels. The leadership team will need to acknowledge the impact of BO and the value of using MBSR techniques as an effective intervention. Resources, including print materials, dedicated education time, and conference room space, will be required in order to provide all staff training in the MBSR techniques. This training will also need to be incorporated into new hire onboarding to ensure all staff coming into the institution receive the same information. For the intervention to be successful long term, local unit leaders will need to provide staff with the time and space in which to practice these techniques. Currently space has been dedicated on several units as "quiet zones" or "Zen rooms" and would be ideal for use in practicing the meditation and yoga portions of the intervention.

Within the nursing profession, BO is recognized as a serious issue with wide ranging consequences to both individuals and institutions. In order to continue the work of combating BO, additional work must be done in this area to standardize the implementation of practices, such as MBSR, which have been shown to reduce BO. Additional research on the long-term effects of BO and the impact of BO reduction will be important for understanding the overall impact of this problem and to develop and implement effective solutions.

## Dissemination Plan

The results of this project have been shared at the institutional level and in future state will be shared within the broader professional community. Within the institution the project results have been shared on the unit level through an hour-long staff meeting. The attendees at this meeting included the project participants, other staff members on the unit, and some additional stakeholders. The project results will be disseminated to the nursing leadership of the institution at an upcoming Nurse Leadership Council meeting and will be presented to the larger

body of staff through presentation at Grand Rounds this fall. This forum is open to all staff at the institution although it is primarily attended by nursing and ancillary clinical staff.

This project will be submitted to the academic institution's internal repository SOAR@USA. This repository houses all the scholarly work produced in association with the institution. A poster presentation of the project will be presented to the members of this DNP cohort.

Prior to presenting the project to the larger nursing community it will be reviewed by the institution's peer review committee which is housed within the Department of Nursing Research. After completing review, the abstract will be submitted for publication consideration to both the AACN journal, Critical Care Nurse, and the Lippincott journal, Nursing Management. This project is appropriate for publication in either of those journals. Burnout is a timely concern for critical care nurses and this project offers an intervention that nurse managers can implement to reduce BO on their units and within their institutions.

The abstract for this project is also planned for submission for consideration as a poster presentation at the AACN's National Teaching Institute conference for critical care nurses in 2022. Locally this project is planned for presentation to the Denver chapter of the AACN at one of their monthly meetings in the fall of 2021.

## Conclusion

Nurse BO has been shown to have a negative impact on nurse turnover as well as patient safety and quality outcomes. Mindfulness-based stress reduction has demonstrated a positive impact in reducing nursing BO. The intervention of this project utilized a variety of MBSR techniques including a pre-shift "loving kindness" meditation, a five-minute "Lunch Break Yoga" practice, and a post-shift gratitude reflection in order to reduce the rate of nurse BO in one

intensive care unit. The data from this project demonstrated a reduction in BO among most participants. The long-term goal of this project is to standardize the use of these MBSR techniques within the institution in order to reduce the overall level of BO among nurses. This reduction in BO will ultimately reduce cost to the organization through improved retention as well as safety and quality outcomes.

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# Appendix A

## Intervention Documents

### Standardized Huddle with "Loving Kindness" Meditation

Daily Huddle Date:

Unit Updates:

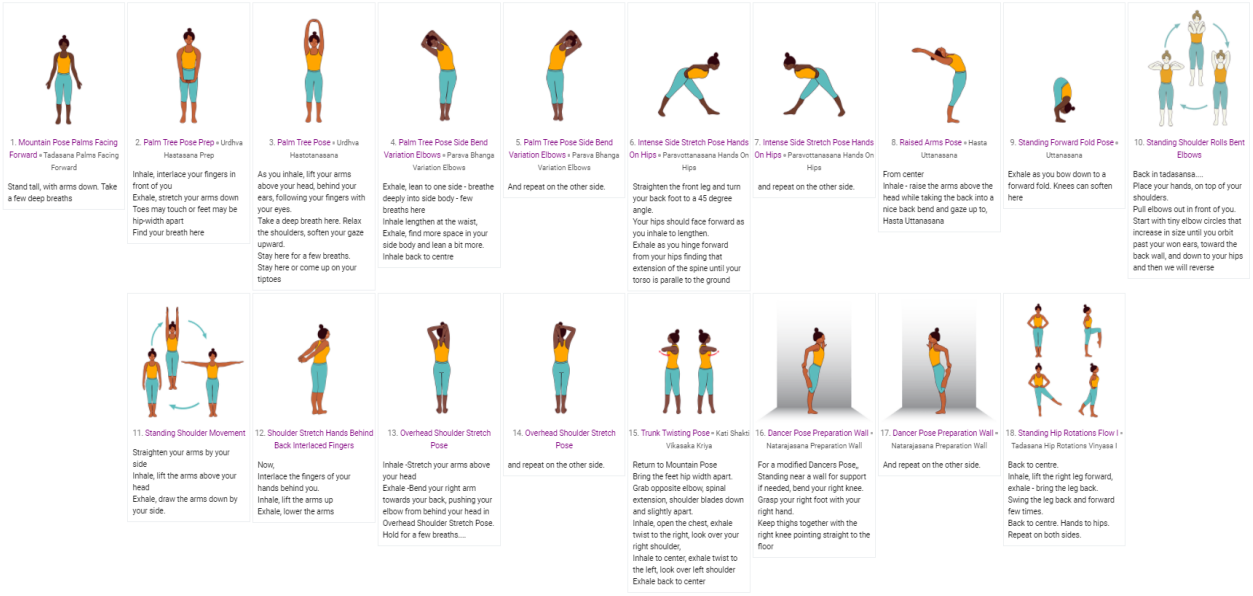
"Loving Kindness" Meditation:
Take a deep inhalation and repeat this mantra to yourself: May I be healthy, peaceful, and strong
As you exhale repeat the following mantra: May I give and receive appreciation today

As you inhale Focus on the patients you care for today and as you exhale envision them with perfect wellness and peace

Extend your thoughts to all the patients and caregivers in the hospital as you inhale and as you exhale extend feelings of connection and compassion to them all.

Take another inhale and exhale and focus on the positive feelings you have generated and know you can revisit them through your shift.

“Lunch Break Yoga” Practice Poster




Standardized Report Sheet including Gratitude Reflection area

| Pt Sticker | History | Lines/Gtts | Procedures | Disposition Plan: | Gratitude Reflection from shift: |
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| | | | | | |
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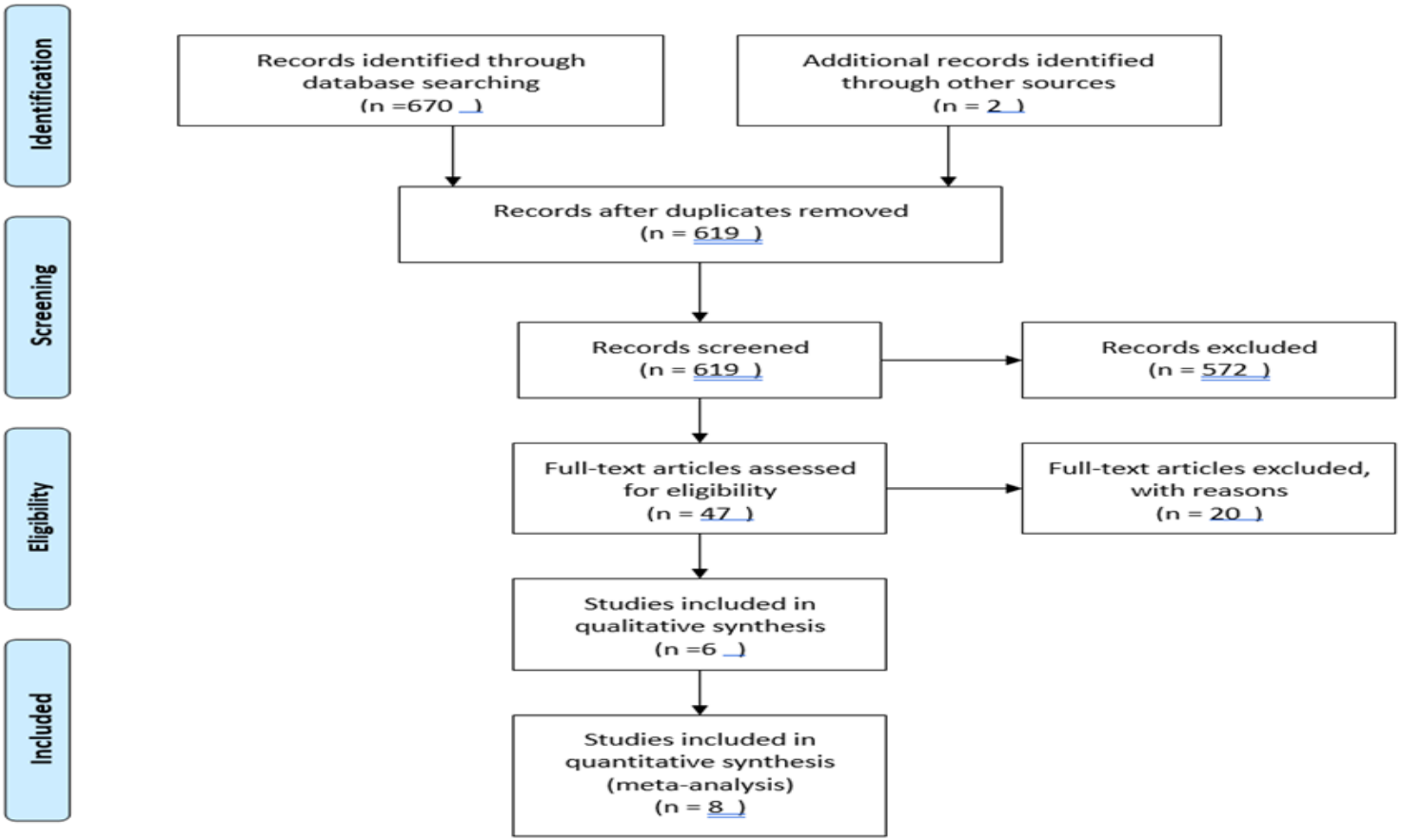
Appendix B

Flowchart of study selection



Appendix C

Johns Hopkins Synthesis Process and Recommendation Tool

| Category (Level Type) | Total Number of Sources | Overall Quality Rating | Synthesis of Findings |
|---|---|---|---|
| Level I · Experimental study · Randomized Controlled Trial (RCT) · Systematic review of RCTs with or without meta-analysis | 3 | A/B Studies demonstrate sufficient sample size, adequate control, fairly definitive conclusions, and are reasonably consistently generalizable | -Mindfulness interventions are likely to be effective in reducing nurse burnout -Results have been maintained at the three-month post assessment |
| Level II · Quasi-experimental studies · Systematic review of a combination of RCTs and quasi-experimental studies, or | 3 | B Quasi experimental studies and systematic reviews | -Mindfulness may be an effective intervention to support nurse wellbeing and improve retention -There is statistically significant data to support this intervention |

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| quasi-experimental studies only, with or without meta-analysis | | demonstrate transparency, verification, and reflection | -More research, particularly RCT are needed |
| Level III · Non-experimental study · Systematic review of a combination of RCTs, quasi-experimental, and non-experimental studies, or non-experimental studies only, with or without meta-analysis · Qualitative study or systematic review of qualitative studies with or without meta-synthesis | 4 | B Cross sectional surveys and qualitative studies that demonstrate transparency, verification, and reflection | -MBSR impacts nurses' metal and emotional health.<br>-MBSR may reduce burnout<br>-MBSR supports self care in nurses<br>-While results are promising, more research is needed in this area |
| Level IV · Opinion of respected authorities and/or reports of nationally recognized expert committees/consensus panels based on scientific evidence | 1 | A/B<br><br>Material sponsored by national organizations and published within the past 5 years | -Burnout is a pressing issue in nursing today<br>-Mindfulness interventions can reduce burnout and compassion fatigue<br>-Reduced burnout can impact nurse turnover and quality of care |

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| Level V · Evidence obtained from literature reviews, quality improvement, program evaluation, financial evaluation, or case reports · Opinion of nationally recognized expert(s) based on experiential evidence | 3 | A<br><br>Literature review demonstrates expertise and draws definitive conclusions. | -6 of 8 studies demonstrated reduced burnout after mindfulness intervention.<br><br>-Strong evidence for use of mindfulness practice to reduce job related burnout |

Appendix D

Summary of Primary Research Evidence

| **Citation** | **Design, Level**<br><br>**Quality Grade** | **Sample**<br><br>**Sample size** | **Intervention**<br><br>**Comparison**<br><br>**(Definitions should include any specific research tools used along with reliability & validity)** | **Outcome Definition** | **Usefulness**<br>**Results**<br>**Key Findings** |
|---|---|---|---|---|---|
| Penque, S. (2019). Mindfulness to promote nurses' well-being. *Nursing Management. Vol 50* (5), pp 38-44. doi: 10.1097/01.NUMA.0000557621.42684.c4 | Quasi Experimental Correlational Study,<br>Level -II<br>Grade- B | N=83<br>Adult English Speaking RNS in one 619 bed midwestern hospital | Tools used for measurement included: the Brief Freiburg Mindfulness Inventory, Self-Compassion Scale, Index of Work Satisfaction and Maslach Burnout Inventory<br>Intervention – Participants were lead through Kabat-Zinn's MBSR program for eight weeks. This includes meditation, | The outcome of this study was the decrease in burnout and increase in mindfulness, self compassion, and serenity measured using the tools outlined prior.<br><br>Regression analysis was used to | 61 RNs completed the intervention.<br>53 RNs turned in both pre and post test.<br>Demographic Findings- 95% female<br><br>Findings- Positive statistical significance that mindfulness, self-compassion, and serenity post intervention.<br><br>Results support hypothesis that these qualities would be greater post intervention was supported.<br><br>Rates of empathy were not affected by intervention.<br><br>All measures on the self-compassion scale were |

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| | | | mindfulness, and yoga techniques | examine the correlation between mindfulness and study outcomes.<br>A t-test was used to examine pre and post survey results | statistically improved with intervention.<br><br>Job satisfaction was not statistically improved post intervention.<br><br>Burnout was statistically significantly improved post intervention.<br><br>Usefulness: This study demonstrates that there may be a statistically significant impact of mindfulness on self-compassion and burnout and supports the aim of this project. |
| Duarte, J., & Pinto-Gouveia, J. (2016). Effectiveness of a mindfulness-based intervention on oncology nurses' burnout and compassion fatigue symptoms: A non-randomized study. *International journal of nursing studies*, *64*, 98–107. https://doi.org/10.1016/j.ijnurstu.2016.10.002 | Experimental Study<br><br>Level- I<br>Grade -B | N=94 RNs from two hospitals<br><br>45- experiemental group<br>48- control | 6 week intervention based on the Kabat-Zinn MBSR program<br><br>Measurement tools used-Professional Quality of Life Scale (ProQOL—5), Depression, Anxiety, and Stress Scale (DASS-21), Acceptance and Action Questionnaire | This study used the tools outlined prior to assess the impact of MBSR on nurses' level of burnout and compassion fatigue.<br>A series of Analyses of | Final sample had 29 in the intervention group and 19 in the comparison group<br><br>Demographic findings: The intervention group had 26 females and 3 males, mean age 38.4, mean years of experience 15, and average 35 hours per week. Control group:16 female 3 male, mean age 42.1, years of experience 19 and 40 hours per week. |

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| | | | (AAQ-II), Ruminative Response Scale (RRS), The Five Facets of Mindfulness Questionnaire, and the Self Compassion Scale. | covariance were used to examine the difference between intervention and control group.<br><br>Descriptive statistics were used to evaluate the intervention among that group. | Chi squared revealed no significant difference in demographics between groups.<br><br>Study findings: There was a statistically significant decrease in compassion fatigue and burnout among the intervention group but not the control group.<br><br>Descriptive statistics showed that 98% of the intervention group felt the MBSR skills learned were important, 72.5% reported they made some changes in their life, and 70.6% changed the way they reacted to stressful situations.<br><br>Usefulness: The findings in this study demonstrate that there is a statistically significant impact on burnout and compassion fatigue in the intervention group which supports the use of MBSR techniques. |
| Xie, C., Zeng, Y., Yu, L., Li, X., Xiao, J., & Hu, X. (2020). Educational intervention versus mindfulness-based intervention for ICU nurses with occupational burnout: A parallel, controlled trial. Complementary Therapies in | Randomized Controlled Trial<br>Level- I<br>Grade- A | N=106<br>Education group=53<br>Mindfulness Group=53 | 8 week intervention comparing educational intervention versus a mindfulness intervention.<br><br>Measurement tools: Maslach Burnout | The outcome definition for this study is a decrease in burnout and improvemen t in | 91 people completed study<br><br>Findings: Mindfulness, emotional exhaustion, depersonalization, and personal accomplishments were all impacted by the intervention. |

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| Medicine, 52http://dx.doi.org/10.1016/j.ctim.2020.102485 | | | Index, the Mindfulness Attention Awareness Scale, and Acceptance and Action Questionnaire | mindfulness using the tools discussed prior. | Results: mindfulness interventions can effectively improve the level of burnout and was maintained at 12 weeks out.<br><br>Usefulness: The findings in this study demonstrate that in a control group, mindfulness interventions created a sustained improvement in burnout among nurses. |
| Cohen-Katz, J., Wiley, S. D., Capuano, T., Baker, D. M., & Shapiro, S. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout. Holistic Nursing Practice, 18(6), 302-308. https://search.proquest.com/docview/232543461?accountid=158603 | Randomized Controlled Trial<br>Level – I<br>Grade- A | N= 27<br>Treatment= 14<br>Control= 13 | 8-week traditional MBSR program in which participants completed "homework" 6 days per week.<br><br>Measurement tools: Mindfulness Attention Awareness Scale and Maslach Burnout Index | The outcome in this study is is the reduction of burnout as improved scores on the survey tools. | 13 control and 12 experimental participants completed the study<br><br>Findings: No statistically significant difference in pre intervention survey and a highly statistically significant difference post intervention. The results of the study were maintained at 12 weeks post intervention.<br><br>Usefulness: The results of this study show that mindfulness based interventions can create a sustained improvement in the level of burnout among nurses |
| Heard, P., Hartman, S., & Bushardt, S. (2013). Using mindfulness to end nursing burnout. *Nursing Management. Vol 44* (11) , pp. 24 – 29**.** Retrieved from: https://www.nursingcenter.c | Expert Opinion<br><br>Level-V<br><br>Grade-B | Review of 64 studies to formulate expert opinion | The use of mindfulness is an emerging option for healthcare leaders to use as a tool to aid in the reduction of | The outcome aim in this article is the reduction in burnout among | The authors cite a meta-analysis of the literate and an 8 week study that demonstrated a reduction in burnout as a rational for why nurse managers should consider the use of mindfulness |

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| om/journalarticle?Article_ID=1618249 | | | burnout among their nursing staff. | nursing staff as evidenced by improved scores on a validated tool such as the ProQOL or Maslach scale. | interventions as a means to support their staff. |

Appendix E

Summary of Systematic Reviews (SR)

| **Citation** | **Quality Grade** | **Question** | **Search Strategy** | **Inclusion/ Exclusion Criteria** | **Data Extraction and Analysis** | **Key Findings** | **Usefulness/Recommendation/ Implications** |
|---|---|---|---|---|---|---|---|
| Suleiman-Martos, N., Gomez-Urquiza, J. L., Aguayo-Estremera, R., Cañadas-De La Fuente, G. A., De La Fuente-Solana, E. I., & Albendín-García, L. (2020). The effect of mindfulness training on burnout syndrome in nursing: A systematic review and meta-analysis. *Journal of advanced nursing*, *76*(5), 1124–1140. | Level-II Grade- B | What effect does mindfulness-based intervention have on burnout suffered by nurses? | Search of databases: CINHAL, LILACS, Medline, ProQuest<br><br>Search terms: Nurse AND burnout AND mindfulness | Inclusion: clinical trial or quasi experimental study, analysis of the impact of mindfulness on burnout in nurses, no restriction in year of publication, and language of English, French, Spanish, or Portuguese.<br><br>Exclusions: mixed sample and did not provide independent data for nurses | Data was coded by two researchers working independently<br><br>Publication variables complied: Author, year, country, language, gender and average age of sample<br><br>Methodological variables: sample size, research design, burnout measurement tool, and type of MBSR intervention | 673 initial articles 631 excluded<br><br>17 final sample with 8 RCTs and 9 quasi experimental studies<br><br>15 articles were published after 2012 and 10 in the USA.<br><br>7 studies used ProQOL, 9 used Maslach Burnout Inventory<br>1 used the Copenhagen Burnout Inventory<br><br>14 studies used MBSR as an intervention the remaining 3 used MBSRC | The overall review of studies shows that MBSR is effective in combating burnout. There are only a few RCTs exploring this topic, so more study is needed. The quasi experimental studies have shown effectiveness of MBSR on burnout. Two meta-analysis corroborate these findings. |

| Citation | Quality Grade | Question | Search Strategy | Inclusion/ Exclusion Criteria | Data Extraction and Analysis | Key Findings | Usefulness/Recommendation/ Implications |
|---|---|---|---|---|---|---|---|
| https://doi.org/10.1111/jan.14318 | | | | | | The sample population of 632 nurses Demographics: Hospital based nurses, 87%women, age 29-52. | There is variability across studies on how they implemented MBSR. While data is promising more study is needed. |
| Riet, P. V. D., Levett-Jones, T., & Aquino-Russell, C. (2018). The effectiveness of mindfulness meditation for nurses and nursing students: An integrated literature review. *Nurse Education Today*, *65*, 201–211. https://doi.org/10.1016/j.nedt.2018.03.018 | Integrated Literature Review<br><br>Level -V<br>Grade -A | What is the effectiveness of mindfulness-based meditation on nurses and nursing students? | Search Databases: CINAHAL, Medline. EMBASE, PsycINFO, ERIC, EMCARE, and SCOPUS<br><br>Search terms: Mindfulness, MBSR, vipassana, nurses, nurse education, | Inclusion: English language, include focus on mindfulness meditation and nurses<br><br>Exclusion: did not report mindfulness meditation for nurses, written in a language other than English, were systematic or literature reviews, | Initial search yielded 1703 articles; 50 duplicates were removed leaving 1655 for screening for relevance<br><br>1567 were removed after abstract review and 68 for not meeting criteria | A review of the literature shows that the use of MM programs when used regularly have a significant impact on stress, burnout, and well being<br><br>7 studies looked at the use of MBSR and its impact on burnout.<br><br>5 studies used the Maslach Burnout Inventory and 2 used the ProQOL | While this literature reviewed looked at several wellbeing topics related to nurses, 7 of the studies looked at the impact of MBSR on burnout and their results showed a positive impact that supports the intervention in this project |

| Citation | Quality Grade | Question | Search Strategy | Inclusion/ Exclusion Criteria | Data Extraction and Analysis | Key Findings | Usefulness/Recommendation/ Implications |
|---|---|---|---|---|---|---|---|
| | | | Limits: studies limited to humans and published in English. No limit set for date of publication | discussion, or descriptive papers | After final critical appraisal 16 articles remained<br><br>Quantitative paper were critically appraised using the McMaster critical review form and the Critical Appraisal Skills Program for qualitative studies<br><br>Data abstraction was a manual process completed by two researchers working independently. Synthesis was completed using a descriptive coding process | both of which have psychometric integrity.<br><br>6 of the 7 studies demonstrated a statistically significant improvement in burnout after the implementation of an MBSR program. | |

# Appendix F

## Project Schedule

| | NUR7801 | | | | | | | | NUR7802 | | | | | | | | NUR7803 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Activity | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 |
| Meet with preceptor | x | x | x | | x | | x | x | x | x | x | | x | | x | x | x | | x | | x | | x | x |
| Prepare project proposal | | x | x | X | x | x | x | x | | | | | | | | | | | | | | | | |
| Complete 8-week MBSR training program | | x | x | X | x | x | | | | | | | | | | | | | | | | | | |
| Develop MBSR PowerPoint presentation that will be used to rollout the intervention and be housed with the employee wellness department for use by managers in the future. | | | | | | | x | | | | | | | | | | | | | | | | | |
| Develop MBSR tip | | | | | | | x | | | | | | | | | | | | | | | | | |

| | NUR7801 | | | | | | | | NUR7802 | | | | | | | | NUR7803 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Activity | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 |
| sheet that will be included in all new hire onboarding to sustain the intervention | | | | | | | | | | | | | | | | | | | | | | | | |
| Obtain EPRC approval for project | | | | | | | | | x | x | | | | | | | | | | | | | | |
| Recruit participants from MICU staff through informational email, speaking at huddle, and handing flyers in breakroom. | | | | | | | | | | x | x | | | | | | | | | | | | | |
| Hold intervention rollout meeting, 2 sessions (in person if able) online through zoom if needed. Collect pre | | | | | | | | | | | | x | | | | | | | | | | | | |

| | NUR7801 | | | | | | | | NUR7802 | | | | | | | | NUR7803 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Activity | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 |
| intervention baseline survey data | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement intervention- RNs to complete MBSR techniques supported with email reminders sent and check in forms returned weekly. | | | | | | | | | | | | x | x | x | x | x | | | | | | | | |
| Hold close out meeting to wrap up project participation and collect post intervention survey results | | | | | | | | | | | | | | | | x | | | | | | | | |
| Evaluate results of pre-post intervention survey data. | | | | | | | | | | | | | | | | | x | x | | | | | | |

| | NUR7801 | | | | | | | | NUR7802 | | | | | | | | NUR7803 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Activity | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 | Week 1 | Week 3 | Week 5 | Week 7 | Week 9 | Week 11 | Week 13 | Week 15 |
| Write up project review including outcomes | | | | | | | | | | | | | | | | | | | x | x | x | x | | |
| Report out project outcomes to internal stakeholders | | | | | | | | | | | | | | | | | | | | | | | x | |
| Meet with Nurse Leadership Council to finalize the documents to be used in the future and plan of sustainable implementation of the intervention. | | | | | | | | | | | | | | | | | | | | | | x | x | |
| Develop plan for wider dissemination of project and outcomes | | | | | | | | | | | | | | | | | | | | | | | | x |

Appendix G

SWOT Analysis

| | |
|---|---|
| **Strength**<br>• Engaged leadership and staff.<br>• Strong informal leaders on unit who will help drive buy in and participation.<br>• Burnout is a major self-reported concern of the staff. | **Weaknesses**<br>• Competing priorities for staff<br>• Communication virtually (due to social distancing policy) is not ideal.<br>• Limited number of leaders currently knowledgeable about MBSR |
| **Opportunities**<br>• Project addresses a known issue of importance to organizational leadership and larger nursing practice.<br>• Buy in from the stakeholders who will ensure sustainability.<br>• Potential for hospital wide improvement<br>• Potential for new practices or guidelines for leaders | **Threats**<br>• Competing priorities for institution<br>• Potential turnover |

Appendix H

Data Collection Tool for Evaluation (Professional Quality of Life Scale)

# Professional Quality of Life Scale (ProQOL)

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

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

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

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

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# Appendix I

Budget

| **EXPENSES** | | **REVENUE** | |
|---|---|---|---|
| Direct | | Billing | $0 |
| Salary and benefits | $0 | Grants | $0 |
| Supplies | $30- supplies and printing | Institutional budget support | $0 |
| Services | | | |
| Statistician | $0 | | |
| | | | |
| | | | |
| Indirect | | | |
| Overhead | $0 | | |
| | | | |
| Total Expenses | $30 | Total Revenue | $0 |
| Net Balance | | | -$30 |

# Appendix J

## Evaluation of Project Measures

**EVALUATION PLAN FOR PROJECT: The Impact of MBSR on Nurse BO in the ICU**

**Project Design: Pre/Post Evaluation**

An improvement plan based on the implementation of an evidence based behavior change.

| MEASURES | CATEGORIES | | | | | | TIME FOR DATA COLLECTIO | | | | | | STATISTICAL TEST | | | Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUTCOM | PROCES | BALANCIN | FINANCIA | SUSTAINABILI | CONTEX | Baseline | 7 Days | 14 Days | 21 Days | 30 days | 60 days | paired t-test | unpaired t-test | $\chi^2$ | Values |
| **Statistically Significant Imoriovment in the Incendence of BO**<br>The sum of the differences of each pair divided by the square root of n times the sum of the differences squared minus the sum of the squared differences, overall n-1 | x | | | | | | x | | | | | x | x | | | </=0.05 |
| **Percent of Staff Who Completed MBSR Training**<br>Number of staff that complete training/Total number of staff x 100 | | x | | | | | x | | | | | x | | x | | >30% |
| **Time That Staff Speand Off the Unit While Practicing MBSR (other staff must cover)** | | | x | | | | x | x | x | x | x | x | | | | </=15min |
| **Percent of Time Staff Utilize MBSR techniques as directed**<br>Number of shifts techniques are used/Total number of shifts x 100 | | x | | | | | x | x | x | x | x | x | | x | | >90% |
| **Reduction in the rate of NDNQI reportable incidents**<br>Post intevention NDNQI incidents/Pre intervention NDNQI incidents x 100 | x | | | | x | x | x | | | | | | | x | | >=20% |
| **Percent of Savings From Reduction in NDNQI Incidents**<br>Pre implementation cost of NDNQI incidents-Post implementation cost of NDNQI incidents/Pre implementation cost of NDNQI incidents x 100<br>Example: $5306 (7 HAIs) -$4244.8 (5.6 HAIs) =$1061.2 in savings $1061.2/$5306=0.2 x 100= 20% | | | | x | x | | x | | | | | | | x | | $5,306 |
| **Redcution in Nurse Turnover**<br>Post intervention Turnover Reate/Pre intervention Turnover Rate x 100 | x | | | | x | x | x | | | | | | | x | | >=20% |
| **Project Impact on Institutional Savings** (in dollars)<br>Cost of turnover pre implementation - Cost of turnover post implementation | x | | | x | x | | x | | | | | x | | | | |

# Appendix K

## Project Approval Letter

DENVER HEALTH.
est. 1860
FOR LIFE'S JOURNEY

2/3/2021

Denver Health and Hospital Authority
777 Bannock Street
Denver, Colorado 80203

Re: Heather Vincent-Richichi MBA, MSN, RN, NEA-BC, CCRN

To Whom it May Concern:

The Nursing Education and Research Department at Denver Health and Hospital Authority is aware of Heather's proposed project. We are pleased to support Heather's proposed project, "The Impact of Mindfulness Based Stress Reduction Techniques on Nurse Burnout in an ICU."

Please do not hesitate to contact us if you should require any further information.

Sincerely,

David Mulkey

**David Mulkey, DNP, RN, CPHQ, CCRN, CHSE**

Nursing Quality Research Specialist
Nursing Education and Research Department
Denver Health
303.602.4907
David.Mulkey2@dhha.org

DENVER HEALTH
NURSING EDUCATION AND RESEARCH

Kelly Medero RN

**Kelly Medero, MSN, RN, CCRN, NE-BC**
Nursing Director of Critical Care
(She / Her / Hers)
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780 Delaware Street - MC: 8300
4th Floor, Pavilion B, Room B400
Denver, Colorado 80204

DENVER HEALTH

DenverHealth.org | 303.436.4949 | f @DenverHealthMedical | @DenverHealthMed

# Appendix L

## EPRC Approval Letter

UNIVERSITY OF ST. AUGUSTINE
FOR HEALTH SCIENCES

Doctor of Nursing Practice Program
Evidence-Based Practice Review Council
1 University Blvd.
St. Augustine, FL 32086

**1/27/21**

Dear **Heather Vincent-Richichi**

Your proposal titled, **The Impact of Mindfulness Based Stress Reduction Techniques on Nurse Burnout in an ICU** has been reviewed by the University of St. Augustine for Health Sciences Doctor of Nursing Practice Evidence-Based Practice Review Council (EPRC) and determined to not meet the requirements for research as defined in the Federal Register.

Your proposal reflects an evidence-based practice change project and is approved. The proposal must be implemented as submitted (changes are not permitted). You may proceed to obtain approvals from the facility where the project will be implemented as soon as the primary course faculty member has reviewed and approved all facility application materials. Implementation may not begin until you have submitted the EPRC approval letter and the facility approval letter to NUR7802 and are notified in writing by practicum course faculty that you may implement the project.

Questions regarding the USAHS approval process should be addressed to Dr. Douglas Turner at DTurner@usa.edu. Questions regarding the facility approval process should be addressed to course faculty.

Sincerely,

Douglas Turner

Douglas M Turner, PhD, DNP, RN, CNE, NE-BC, NEA-BC