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Mindfulness Meditation to Decrease Stress and Anxiety among nurse anesthesia providers: An Educational Module

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Mindfulness Meditation to Decrease Stress and Anxiety among nurse anesthesia providers:

An Educational Module

A DNP Project Presented to the Faculty of the
Nicole Wertheim College of Nursing and Health Sciences

Florida International University

In partial fulfillment of the requirements
For the Degree of Doctor of Nursing Practice

By

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Approval Acknowledged ____________________________, DNA Program Director
Date:_________________________

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Date:_________________________
TABLE OF CONTENTS

ABSTRACT ......................................................................................................................... 5

I. INTRODUCTION ............................................................................................................ 5
   Background ...................................................................................................................... 6
   Problem Identification ................................................................................................. 6
   Scope of Problem .......................................................................................................... 7
   Consequences of Problem ........................................................................................... 8
   Knowledge Gap ........................................................................................................... 9
   Proposal Solution ......................................................................................................... 10

II. SUMMARY OF LITERATURE REVIEW ................................................................. 10
   Rational ........................................................................................................................ 10
   Methods ....................................................................................................................... 11
      Eligibility Criteria ...................................................................................................... 11
      Informational Sources .............................................................................................. 12
      Search Strategy ......................................................................................................... 12
   Diagram 1 Search Keywords ....................................................................................... 13
   Results .......................................................................................................................... 13
      Study Characteristics ............................................................................................... 13
      Results of Individual Studies ................................................................................... 14
      Results Summary Table ........................................................................................... 20
   Discussion .................................................................................................................... 28
      Summary of the Evidence ......................................................................................... 28
Appendix A Approval letter

Appendix B Support letter from faculty

Appendix C IRB Consent Form .................................................................

Appendix B Pre and Post Test Questionnaire ................................................
Abstract

Background: Nurse anesthesia is an incredibly taxing career – especially during its early stages. Although stress is unavoidable within this profession, it is imperative to attain proper coping mechanisms to decrease the tension it brings forth daily. Many healthcare professionals are not aware of their unmanaged stress which has led to countless mental and physical concerns. The practice of mindfulness meditation will not only help endure this stress and anxiety, but also improve self-awareness – helping achieve a greater perspective of oneself and their mental and physical abilities. It is vital for healthcare professionals to have the capability to attain the proper mindset in order to perform to their highest abilities and to appropriately cope immediately following stressful events. The use of mindfulness-based interventions (MBIs) such as meditation will guide healthcare providers across the world to achieve the “here and now” and to take conscious steps to direct their energy towards positivity.

Methods: A thorough and exhaustive search was completed via online databases for information and research studies that included mindfulness meditation for healthcare providers. The use of CINAHL Plus, Elsevier, PubMed, EBSCO, and Directory of Open Access Journals were the specific databases that were used to identify evidence-based research.

Results: Five research studies have been identified as relevant for review. The studies that are incorporated involve MBIs among healthcare professionals in reduction of stress and anxiety.

Keywords: Stress, Mindfulness, Anxiety, Awareness, Healthcare providers, Nurse anesthesia, Resilience
Introduction

Background

Anesthesiology account for 40% of burnouts, which is one of the highest among all specialties\(^1\). There are many costs of burnout which can include higher suicide rates, decreased quality of care and an increased turnover rate\(^4\). These are merely a few compared to the slew of damages done from improper mental practices. These self-destructive tactics may even be self-taught early on in their career, for instance, as graduate-level students. Research including 2,000 graduate students throughout 26 countries has concluded that higher level educational practices has shown six times greater rates of depression and anxiety compared to the general population\(^5\). This shows how graduate-level healthcare practices are impacted more often, which can advance into their professional careers if the proper coping methods are not instilled early on.

Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress\(^3\). This anxiety may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers. A concern that many individuals have is the perception that may come with the stigma or mental health. Seeking help with talk therapy, medications and even attempting to properly exercise can be cumbersome for many. Many different alternatives to the traditional mental support have shown equally important, such as the practice of mindfulness with meditation and yoga\(^6\). This provides an outlet from their very own home with no judgements or explanations.

Problem Identification

The practice of anesthesia entails a great deal of stress and anxiety. Without proper management tools or outlets, this stress can transform into much more. Unmanaged stressors within anesthesia lead to increasing emotional fatigue, deficiency in the sense of self-
accomplishment, and depersonalization – also known as the burnout syndrome\(^1\). This can lead to the beginning of a vicious cycle and bring on the development of many harmful physical and mental disorders. Instead of leading toward this destructive path, it is important to be able to convert these emotions into positive thoughts, feelings, and reactions. It is imperative to focus on the sense of the here and now and lead all thoughts, feelings and sensations based on that foundation because with this is when joy seems to arise\(^2\). The problem with anesthesia is providers get so wrapped up in the anxiety and stress that staying grounded in the “here and now” becomes almost impossible. This is where mindful meditation plays its part.

Many have not used the resources to learn mindful meditation, or better yet, have not ever heard of this practice. This lack of knowledge is a huge issue since this can be an incredibly powerful resource for stress management. Mindfulness-based interventions (MBIs) are a well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation\(^3\). Tackling this issue from the very beginning of the career and teaching a proper coping mechanism that can be applied to the every-day lives of nurse anesthesia providers can change the lives of many individuals worldwide.

**Scope of the Problem**

Frequent burnouts within healthcare providers are common, especially from factors such as: long working hours, attempt to increasing caseloads, nit-picky analysis by administrators and a feeling of no control over the medical practice, affecting over fifty percent of practitioners\(^4\). The stress, anxiety and lack of self-awareness can happen to any individual, especially a highly skilled anesthesia provider. These mental issues can spread throughout their professional lives,
affecting their work environment and the safety of their practice, along with their personal life – possibly leading to social issues or even depression.

As humans, it is easy to focus on past mistakes and create memories that are usually based on negative events. If these thoughts and sentiments are not in the correct headspace, they will spiral and no longer be something that can be controlled. Practicing this control is key. Romito et al. mentions that even in the early 1980’s, healthcare provider stress was published, and research showed that maladaptive practices were executed, showing us that burnouts were an issue for many years and across the globe. Although as practitioners it is easy to speak to patients about their mental illness and provide them with resources, it is not necessarily true that they themselves reach out for the same support services.

Consequences of the Problem

It is imperative for providers to seek proper help and the proper outlet to their daily stressors. A study examining 75 anesthesiology department chairs, 74.7% of those involved acknowledged that they had consulted at least one member to a mental health specialist within the past five years. This is a growing illness and will remain so until actions are taken to decrease an unhealthy mindset following stress, trauma, and daily anxiety. ‘Awareness’ and ‘attention’ represent an individual’s conscious ability to be aware of a situation and focus that energy to specific experiences that provide positivity and enlightenment. Without having the proper knowledge on how to direct this awareness and attention towards a positive outlet, it can lead to many terrible risks. Evaluation of both anxiety and depression are important, and if proper actions are not taken to decrease these risks, it can turn into mental turmoil.

Cardiac diseases, substance abuse, mental health disorders and the development of poor work-related outcomes are highly associated with burnouts. This along with many other
consequences can harm providers across the globe. Self-awareness provides individuals with the ability to make sounds choices when put into difficult situations. No matter how intelligent or capable they are, providers need proper outlets for their professional or personal/private obstacles. It is not necessarily what an individual goes through that determines their capabilities, but rather how they handled and coped with the stress. Being able to transform any given situation to the “here and now” and take conscious steps makes a great deal of difference between someone who deals with day-to-day stress with a calm demeanor, or someone who enacts harmful actions towards themselves and others.

**Knowledge Gaps**

Knowledge on mindful meditation is evolving and ever-changing. In the early 1900’s mental hygiene was initiated by psychiatric professionals who focused on improving an array of mental health disorders. This shows how mental health started at a very early age yet has still so much to grow. Since everything is based on subjective data, it makes it difficult to fully measure outcomes. This may bring on knowledge gaps. Crowley, Kapitula & Munk performed a study which had limitations that when a treatment group is more extreme, it skewed the research altogether. This along with other analytical glitches that follow subjective analysis, leads to some knowledge gaps down the road. Other knowledge gaps are whether the data is from strictly working professionals that have practiced for years or newly graduated professionals that have just begun their career. There is also limited research for mindful meditation mobile applications that are related to stress and anxiety which mentions that biochemical markers such as endorphins and cortisol levels should be evaluated in order to attain a thorough analysis on stress reduction.
Proposal Solution

Raab found that it is imperative to focus on enhancing a self-compassion focus through mindfulness-based stress reduction (MBSR) training in order to incorporate self-compassion to attain a nonjudgmental perspective of oneself. The focus on this project is increasing self-compassion and awareness by mindful meditation which is based off the practice of pure meditation. Bamber & Morpeth explain that MBSR is a combination of Buddhist Vipassana and Zen Buddhist traditions. Vipassana, which is the act of gradual mindful awareness over a period of time – and Zen Buddhism, which trying to find that mindfulness and capture it to attain awareness and discovery. Providing resources to medical professionals to attain this mindset can change their life forever.

It is found that mindfulness training can function as a great tool to promote self-awareness depicting mindfulness as an important foundation for compassion towards oneself and those surrounding. Professionals will be able to practice compassion towards their patients, coworkers, and other staff along with applying it to their personal lives which can cause a great impact. If the professional is eager to learn, mindful meditation will assist their coping strategies and how they handle the various difficulties presented.

Summary of the Literature Review

Rational

The summary of the literature aims to examine prior investigations on the impact of mindfulness meditation on medical professionals and its effects on resiliency and increased self-awareness. Another objective is to gain details on MBIs and its impact on positive health promotion, especially during the everyday stressors that arise within the workplace. Finally, the last objective for this literature review is to conceptualize individual experiences of mental
awareness with the implementation of mindfulness intervention, and the positive changes in the “here and now”.

Minimal research is available on the practice of mindfulness meditation on anesthesia providers who undergo tremendous amount of stress, especially in the early stages of the career. Nurse anesthesia providers are at the front-line during patient trauma, medical and/or surgical distress and, more recently, during pandemics. It is imperative for providers to seek proper help and the proper outlet to their daily stressors. Therefore, the studies presented within this review include studies based on general mindfulness meditation within the workplace and graduate education that are geared toward decreasing stress and anxiety while increasing resiliency.

Methods

Eligibility Criteria

The studies involved for this literature review were selected based on the specific inclusion criteria for the objectives at hand. This includes studies that are within the past six years, written in English, and with accessibility to the entire research study and article at hand. The exclusion criteria included healthcare workers, or doctoral candidates, that are above the age of 21 who undergo extraordinary amounts of trauma in their daily career. The studies focused on the impact of MBI implementation within high stress environments and its effect on resiliency, self-awareness, and self-empowerment. These studies also had an overarching focus on decreasing stress and anxiety in order to have the proper coping mechanisms to steer towards positivity and enlightenment. The following key words were used as a part of this research review: Stress, Mindfulness, Anxiety, Awareness, Healthcare providers, Nurse anesthesia, Resilience.
Information Sources

A thorough and exhaustive search was completed via online databases for information and research studies that included mindfulness meditation for healthcare providers. The use of CINAHL Plus, Elsevier, PubMed, EBSCO, and Directory of Open Access Journals were the specific databases that were used to identify evidence-based research.

Search Strategy

FIU Health Science Librarian provided a thorough investigation of the key terms that were searched which included: (Mindfulness Meditation* OR Mindfulness Based Meditation*) AND (Health Care Provid* OR Nurse*). Other key words were (Stress* Anxiety*, Resiliency*). The inclusion of the terms “improvement of self-awareness” and “anesthesia providers” were also searched in order to fully incorporate the PICO question. The initial search resulted in 480 articles. Pubmed and EBSCO produced 210 and 270 articles respectively. In order to obtain relevant research studies, this review expanded the search criteria to include articles published within six years and that were written in English. This generated 92 articles for Pubmed and 87 articles from EBSCO. There were 33 duplicated articles, which were excluded, leaving 146 for final review. If the heading did not meet the inclusion criteria, they were removed from the search. For instance, studied based on specific patient populations with specific diseases were excluded, such as a focus on Alzheimer, neurobiological perspective, eating disorders, cardiopulmonary patients and those younger than the age of 21.

Eighteen articles were accessed and approved for a thorough review of the abstract. Of the eighteen articles, nine met the criteria and were then fully evaluated via thorough assessment. Studies that included academic programs that did not reflect doctoral studies were removed along with nursing students and any meta-analysis or pilot research studies. Any articles that did
not illustrate the specific effects on MBIs were excluded in order to provide a thorough review on the importance of implementation among the population. The articles were not specific only to healthcare providers so that it would capture and fully grasp other high-stress environments including academia and Intensive Care Units (ICUs). Finally, 5 articles were chosen based on each criterion and used for summation.

![Diagram 1. Search Keywords](image)

**Results**

**Study Characteristics**

The five chosen research studies for this literature review focused on specific viewpoints of the topic at hand. The first concept is the overarching impact of mindfulness meditation and its effects on implementation. Three studies by Hugh-Jones et al., Huang et al., and Klatt, Steinberg & Duchemin, focused on workplace stress in high-education institutions implementation of mindfulness meditation. Duraimani focused on the effects of
mindfulness meditation integrated into a mobile application in order to reduce anxiety and stress\textsuperscript{10}. The final study by Barry et al. provided a doctoral program study on the effects of mindfulness meditation practice\textsuperscript{5}.

The studies all focused on the thorough evaluation of the implementation of mindfulness meditation within the workplace or within doctoral academia. Three studies were a randomized controlled trial (RCT) - Huang et al., Klatt, Steinberg & Duchemin, Barry et al.\textsuperscript{13,5,14}. One was a qualitative review\textsuperscript{12} and the final study was a cross-sectional and longitudinal study\textsuperscript{10}. Some subjects were under randomization while other were selected for qualitative or cross-sectional review. One study included participants from all around the world, gaining feedback on a world-wide platform\textsuperscript{14}, while the other four studies focused on strictly the participants at hand.

**Results of Individual Studies**

This study by Hugh-Jones et al. focused on individualized evaluations following an eight-week mindfulness-based stress reduction program that provided individuals the proper tools for stress and anxiety reduction within the workplace\textsuperscript{12}. The consented participants ranged in age, sex and occupation (n = 15 female; n = 6 male; M age = 47.0 years; range 26–61 years) with academic/research roles (n = 10, 47.6%), professional service roles such as in management and finance (n = 8, 38.1%) and clerical/ student support roles (n = 3, 14.3%) \textsuperscript{12}. This study included 7 stages for 21 individuals in order to achieve a higher level of self-awareness and self-empowerment. The stages are as follows: Resonance, Legitimizing self-care, Awareness, Detection-Choice-Opportunity, Upward Spiraling, Recovering Agency and Settled in self: at ease in the present.

It is reported that the first stage, resonance provided a great foundational tool to provide individualized sessions along with providing a justifiable need for said change. Legitimizing
self-care offered individuals the building blocks for engaging in self-care practices, which then led to the next stage – awareness. This stage resulting in most individuals verbalizing increased awareness in “self”, more so than the environment. The detection-choice-opportunity stage provides an opportunity for people to alter their relationship with those states, and subsequently makes available the prospect of engaging in alternative cognitive, affective, or behavioral responses. Upward spiraling initiated mindfulness in workplace situations and steered individual toward positivity and shed light on difficult situations. The final stage, which focused on settling in self, concluded a sense of peace, calm, well-being and even serenity was well documented.

This program included stress recognition education, different types of guided meditation (Ex. body scan, breathing, movement and sitting meditations) along with CDs of guided meditation and practice logs for in-home practice. Interviews upon finishing the program were done to analyze individual thoughts and perception of coping mechanisms and the implementation to daily practice within the workplace environment. It was found that mindfulness promoted well-being at work, involving the decrease in potential toxic responses, increased confidence when dealing with workplace stressors and a greater experience of positive emotions. Since this study used a highly subjective data analysis, some limitations may arise such as apt recollection and ability to conceptualize mental-wellbeing and processes.

A separate study by Huang et al. went into greater detail by using linear mixed model to accurately analyze the research data that was collected in select time intervals. This study used a longitudinal research design and included 144 participants that were grouped to either the interventional group or control group by randomization. This research study’s focus is the psychological distress in workers and its impact on job strain, fatigue, anxiety, and the actual
perception of stress. Measurement data was taken at five different time points: pre-intervention (T1), mid-intervention (T2), at the completion of intervention (T3), four weeks post-intervention (T4), and eight weeks post intervention (T5)\(^1\).

The intervention used included right weeks of two hours of MBI and then receive forty-five minutes added practices that they take home. It was led by a professional vipassana meditation trainer who was one of the authors, in order for proper curriculum structures, but was not receiving data collection, in order to prevent bias. The measurements taken were categorized between mental illness risks and job strain, which was measured by a Health Questionnaire, based on a four-point Likert scale. Within the mental illness risks category, subjects such as fatigue, reduction in motivation, activity, concentration and more. For job strain, they assess job control, demands, and social support within the workplace.

The information received from this study was analyzed via the intent-to-treat principle. The intervention group showed signs of lower psychological distress, fatigue, and the perception of stress. For categories such as prolonged fatigue and perceived stress, the interventional group had a significantly lower means than the control group, presenting with positive results of the MBI. On the other hand, the linear mixed model showed no significant changes in the categories for job strain – representing no substantial changes within control within the workplace. Although job demand had a decreased rate in T3, but no significant changes otherwise.

The study by Duraimani had a much different approach in the battle of stress and anxiety reduction\(^1\). Growing evidence of the positive impact of MBIs were extracted and applied to create a mindfulness meditation application that can be used worldwide. Two separate studies were conducted in order to fully collect data on stress and anxiety reduction from this mindfulness meditation application – a cross-sectional study and a longitudinal study. During the
cross-sectional study 111 individuals who were actively participating within the application for 90 days were involved in the study. The longitudinal study included 67 users who completed a questionnaire before 21 days of this MBI and then the following 21 days.

Duraimani used exclusion criteria to determine participants stating that if individuals were a part of other MBI outside of this application itself, they were not a part of the study\textsuperscript{10}. This gives greater detail on the impact of the individual application itself, rather than having possible outside determinants of change. Depression anxiety stress scales (DASS) was used to properly evaluate levels of relaxation, irritability, feelings of being upset/agitated and impatience while using a four-point scale that assessed the degree of applications for each of these levels\textsuperscript{10}. Both studies resulted in a tremendous reduction in stress and anxiety, reinforcing the practical need to implementation to daily practice.

Klatt, Steinberg & Duchemin performed a study on the implementation of a MBI within a high-stress environment in order to assess their resiliency, work vigor and to then apply the program to facilities nationwide\textsuperscript{14}. Mindfulness in Motion (MIM) is a specific intervention created that provides a less time-consuming approach that is delivered on-site. This intervention if focused on busy individuals that work in high-stress environment and provide education on awareness, group exercises for one hour in a span of 8 weeks. Individual strategies are also provided including CDs and DVDs.

A protocol to help implementation processes for facilities was created including: Understanding the high stress work environment first and foremost, determining appropriate time and location, receiving support for the intervention, doing a baseline assessment one week prior to physical intervention, and finally, the MIM intervention itself\textsuperscript{14}. Weekly prompts are illustrated within this study to provide consistency for all future MIMs with precise details on the
implementation process. Evaluations are conducted one week post intervention with a qualitative survey and analyzed with Connor-Davidson Resiliency Scale.

Results were focused on respiratory rates before and after mindfulness sessions and further analyzed on resiliency and vigor during chronic stress situations within the high-stress environment. The resulting charts represented a positive decline in breath counts between individuals before the class vs. after finishing. The percent change of resiliency for the MIM comparing baseline to after 2 months of the program was over two-fold representing the incredible impact on MIM for individuals with high-stress environments. The control group compared to the MIM group on the resiliency chart was less than half, depicting a positive result from the implementation of MIM within this facility and the encouragement of implementation to other facilities.

Barry et al. conducted a study focused on doctoral candidates and how to increase their perception geared towards thoughts and positive psychological attributes. An 8-week program that included a thirty-minute intervention was performed through a single-blinded randomized control trial. The intervention itself was providing a verbal recording of mindfulness practice of breath and then filling out a questionnaire before, during and after. The DASS scale was used for quantitative information, along with a 10-item Perceived Stress Scale (PSS), and a twelve question Psychological Capital Questionnaire (PCQ). The qualitative data was analyzed via post-trial surveys.

Results for this study show a notable decline in depression and increase in self-efficacy, hope, and optimism in individuals for these participants who are a part of high-level education. It was also resulted that some participants practiced for more hours per week, showing positive engagement for future practices and implementation into daily practice. MBI is strongly
encouraged and perceived as effective and imperative to the daily lives of high-level doctoral candidates who are a part of high stress practices and environments. It was shown to decrease the negative perceptions of long-work hours and help implement positive coping mechanisms.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Purpose</th>
<th>Methodology/ Research Design</th>
<th>Intervention(s)/ Measures</th>
<th>Sampling/Setting</th>
<th>Primary Results</th>
<th>Relevant Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hugh-Jones et al., (2018)</td>
<td>To analyze the results from the participants of a workplace mindfulness implementation program in order to decipher the positive advantages of this model.</td>
<td>Clinical research; Quality improvement (QA) program Level V</td>
<td>Eight-week program analysis using the grounded theory on positive benefits of MBIs to evaluate the results for future research and enhancements on self-empowerment.</td>
<td>Semi-structured interviews on twenty-one employees who had finished an 8-week program on Mindfulness Based Reduction within the workplace.</td>
<td>This study model concluded resiliency, self-care, understanding stress triggers and self-empowerment along with positive reinforcement were results from the implementation of MBI within the program.</td>
<td>The educational program demonstrated that implementation of mindfulness-based stress reduction strategies reduced employee stress and anxiety. This program provided resonance, helped legitimate self-care,</td>
</tr>
</tbody>
</table>
Individual interviews including research-based method for perception analysis in order to incorporate implementation program within workplace for prospective and current employees.

| **Huang et al., (2015)** | To evaluate the use of MBIs in Longitudinal Randomized Data analysis collected in GLIMMPSE and ANOVA along | The results depended on the time interval | There was a notable relation between increase awareness and detection, upward spiraling techniques and lastly, helped attain self-settlement in the present. |
order to effectively decrease psychological distress, stress and strain from the daily stressors of job strain and demands for employees with poor mental health.

| Controlled Trial Level II | increments of five separate time intervals for an eight-week MBI group according to the intent-to-treat principle and the linear mixed model. Two hours of weekly training and forty-five-minute home sessions used for practice were with other tools used for incorporation into the general linear multivariate model. and the group being analyzed. There was an increase of positive effects in relation to fatigue and the perception of stress but no statistical relation between MBI on daily job demands and control. | groups for the perception of time in the means of perception of stress, fatigue, and psychological distress showing the positive results of the incorporation of MBIs. |
| **Duraimani (2019)** | Aimed to test the effectiveness of MBI on an application to assess reduction of stress and anxiety through | Descriptive cross-sectional study including a questionnaire and observation. | Level IV | The depression, anxiety, stress scale (DASS) was applied and assessed. Two separate studies were conducted with the depression, anxiety, stress scale (DASS) was applied and assessed. | Both a cross-sectional study and longitudinal study were organized with 111 mediators and 111 non-mediators. | Relevant results concluded the substantial decrease in both stress and anxiety and this method of MBI via application has proved effective. | This study further concluded the effectiveness of a mindfulness meditation application and its ability to function as a medium to appropriately provide |
| Klatt, Steinberg & Duchemin, (2015) | To evaluate the results of a MBI, more specifically Mindfulness in Motion (MIM), in order to assess the difference of individual resiliency and | Clinical research; Quality improvement (QA) project Level V | Protocol development, implementation and evaluation delivered through an 8 week program that evaluated somatic experiences, along with physical | Using the Connor-Davidson Resiliency Scale, and data analysis via charts and graphs, proper depiction of result data was presented to assess individual resiliency post intervention along with a positive decrease in breath counts were resulted from the program study. | and address stress and anxiety. | Work engagement and vigor were positively enhanced due to this program and recommended to other facilities for application to their programs.
| respiratory rates during high-stress situations and environments. | assessment of individuals via breath counts before and after sessions. | resiliency for high-stress environments. | Work engagement and vigor were also compared between the mindfulness group and control group. Weekly prompts were also provided and specified in detail. |
| Barry et al. (2019) | To examine the impact of MBI on psychological distress and its impact on hope, optimism, resilience, and efficacy. | Single-Blinded Randomized Controlled Trial Level II | Implementation of a daily guided practice resource throughout an 8-week period along with a control group that was asked to sustain from regular mindfulness-based practices for proper research results. | Eighty-two participants were randomized and split to 43 and 39 as the intervention group and control group, respectively to assess the progression through the trial. | A significant decrease in depression along with an increase rate of self-efficacy, hope and optimism within participants. | The application of this MBI caused a positive decline in depression and incline in hopeful thoughts and perceptions of self and the world. |
The depression, anxiety, stress scale (DASS) was applied and assessed.
Discussion

Summary of the Evidence

The implementation of a mindfulness meditation intervention provides a great opportunity for anesthesia providers to take their mental health needs into their own hands. This program provides the guidance, confidence and structure needed to attain a positive mental health state that’s based on self-nurturing, understanding and encouragement. Self-care is becoming a more progressive movement and enhancing the standard of care for oneself. It is imperative to focus on the sense of the here and now and lead all thoughts, feelings and sensations based on that foundation because with this is when joy seems to arise\(^2\). This structured mindfulness meditation intervention will provide the needed opportunity for many providers to fully understand the usefulness and effectiveness of meditation.

Hugh-Jones et al. and Klatt, Steinberg & Duchemin focused on the implementation of mindfulness meditation within the workplace itself, providing results of positive attributes to program implementation that could be used for other workplace environments\(^12,14\). The main difference between the two is that Steinberg & Duchemin focused specifically on a high-stress environment\(^14\). Furthermore, Duraimani extends the applicant pool world-wide and provides both a cross-sectional and longitudinal study that analyzes the advantages of MBI through an application that can be used in any environment\(^10\).

Huang et al. focused on employees with poor mental health and sought to analyze the effectiveness of an 8-week program providing MBIs via two hours of weekly training and forty-five-minute home sessions\(^13\). Since anesthesia providers are put through a rigorous graduate level program, it was appropriate to also analyze the study provided by Barry et al.\(^5\). Barry et al.
provided a detailed implementation strategy and the tools needed to be used to properly implement a program into any facility.

Conclusion

This intervention will be created and dispersed by the anesthesia team. There will be a structured 8-week program that provides mindfulness meditation tools that providers will be able to implement on their own into their daily lives. There will be a survey before the beginning of the program and following the completion of the 8 weeks. It is imperative to be up to date on analysis and input all research in order to attain a proper end result that can be used for future practice among other anesthesia organizations. An analytical review process will be used in order to determine the impact of mindfulness mediation’s ability to decrease stress and anxiety and improve self-awareness. In the end, there must be a clear report with the program details, the instructions given to the anesthesia providers, and the received results.

Purpose/PICO Clinical Questions/Objectives

PICO Question of Purpose

Population (P): Nurse anesthesia providers

Intervention (I): Mindfulness meditation

Comparison (C): None

Outcomes (O): Decreased stress, anxiety, and improved self-awareness

Primary DNP Project Goal

The practice of anesthesia brings forth many forms of mental and physical strain. It is important to take time to practice mindfulness meditation in order to have better control of one’s emotions, anxiety, and importantly, decision-making – a vital aspect of anesthesiology. One of
the hardest aspects of mindfulness meditation is attaining the proper education tools of practice, setting aside time for this life-changing practice, and achieving the clear motivation for self-betterment. It is imperative to focus on the sense of the here and now and lead all thoughts, feelings and sensations based on that foundation because with this is when joy seems to arise\(^2\). This can be difficult to achieve without the proper tools and skills. This project is designed to provide just that.

Anesthesia providers endure hours of acute situations, using critical thinking skills which can get tiresome if proper coping mechanisms are not used. Many studies mentioned within this project have focused on employee perceptions before and after mindfulness meditation and have concluded positive results in mental, and even physical attributes. Mindfulness-based interventions (MBIs) are a well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation\(^3\). Different methods were used such as video recordings, guided classes, at-home teachings, and an application. All these methods focused primarily on the individual and their ability to focus on the “here and now” in order to fully decrease stress and anxiety and improve self-awareness.

**Goals and Outcomes**

The goals and objectives strive to be specific, measurable, achievable, realistic, and timely (SMART) in order to guide the development and promotion of a mindfulness meditation practices\(^15\).

**Specific**
A thorough analysis and development of this mindfulness meditation project involving high-stress anesthesia providers in order to assess a decrease in stress and anxiety while improving self-awareness.

**Measurable**

Detailed analysis on the effectiveness of the mindfulness meditation program will be collected to form a plausible conclusion on positive vs. neutral outcomes of the implementation program being tested. Pre- and post- intervention surveys will be distributed and analyzed for effectiveness.

**Achievable**

The stakeholders include anesthesia providers such as: anesthesiologists, anesthesia residents, certified registered nurse anesthetists (CRNAs) and student registered nurse anesthetists (SRNAs).

**Realistic**

Anesthesia professionals will be provided a standardized research-based mindfulness meditation intervention delivering a weekly structure followed by analysis.

**Timely**

Involved anesthesia providers complete an 8-week mindfulness meditation project intervention. A qualitative based pre- and post- intervention survey will then be analyzed in a timely manner to assess quality of mindfulness meditation for its impact on resiliency in stressful and anxiety ridden situations.

**Definition of Terms**

**Meditation**
The definition of meditation that will be used for this project is best described by McGovern. “The practice of meditation, which may be broadly defined as the quieting of the mind and focusing of the concentration, often formalized as a ritual, is recognized as a component of many religions and philosophies”16.

**Burnout Syndrome (BOS)**

First described in the 1970s, BOS is a work-related constellation of symptoms that usually occurs in individuals without any prior history of psychological or psychiatric disorders. BOS is triggered by a discrepancy between the expectations and ideals of the employee and the actual requirements of their position. In the initial stages of BOS, individuals feel emotional stress and increasing job-related disillusionment17.

**Mindfulness-Based Interventions**

Mindfulness is the cultivation of nonjudgmental awareness in the present moment. It is both a practice and a way of being in the world. Mindfulness is purposefully cultivated in a range of structured interventions, the most popular of which is mindfulness-based stress reduction (MBSR), followed by mindfulness-based cognitive therapy (MBCT). Research on mindfulness-based interventions (MBIs) for treating symptoms of a wide range of medical conditions has proliferated in recent decades18.

**Stress Recognition Education**

The definition of stress recognition education in that will be used for this project is best described as the studies revolving around individuals classified as students/medical providers and their ability to be aware of factors that lead to stress within their profession. “Without proper stress management, students may develop various physical (e.g., headache, vertigo) and
emotional (e.g., depression, anxiety) stress symptoms, which could adversely influence their academic and clinical performance\textsuperscript{19}.

**Conceptual Underpinning and Theoretical Framework of the Project**

**Theoretical Framework**

Self-efficacy and spirituality are two important foundational theories for this mindfulness meditation program. Bandura’s theory of self-efficacy mentions that self-efficacy expectations are also influenced by vicarious experiences or seeing other similar people successfully performing the same activity\textsuperscript{20}. In other words, practice makes perfect and one should surround yourself with like-minded individuals. Proper preparation will build both higher clinical skill levels while also boosting your self-esteem – pushing you past your comfort zone, and into higher levels of clinical practice. Watson’s theory of spirituality mentions that “some individuals experience spirituality internally through self-reflection, trans-personally in close relationships, and/or transcendentally with a High Power”\textsuperscript{20}. This indicates how everyone has a different definition of internal holism, which is an important concept to grasp.

**Program Structure**

The implementation of a mindfulness-based meditation intervention will require collaboration of all aspects of anesthesia and full reliable outcomes for future practices. The use of mindfulness-based interventions (MBIs) such as meditation will guide healthcare providers across the world to achieve the “here and now” and to take conscious steps to direct their energy towards positivity. The qualitative assessment will be achieved through surveys that identify the honest impact of this meditation practice and its ability to decrease stress and anxiety for anesthesia providers. The strength, weakness, opportunities, and threats (SWOT) analysis
assessment tool will be employed to evaluate the usefulness of the project implementation and change variations for future practices.

To begin this project, it is vital to create a thorough implementation process, creating the details of the intervention and practice application. Next, it is imperative for the identification and creation of a group of open-minded anesthesia providers willing to partake in this project. This group will receive a pre-intervention survey in order to achieve a baseline level of stress tolerance, and a self-reflective review. They will then undergo a series of mindfulness meditation educational practices followed by a post-intervention survey.

**Strengths**

The problem with anesthesia is that providers get so wrapped up in the anxiety and stress that staying grounded in the “here and now” becomes almost impossible. This is where mindful meditation plays its role. Attaining proper control of anxiety, stress and other self-sabotaging practices can result in a reduction in provider burnout, mental decline along with physical manifestations of many kinds. Receiving proper knowledge on mindfulness meditation and an effective method to its daily practices will properly guide individuals to positively impact their lives from their very own homes.

It is vital to be ahead of these issues and have the knowledge to tackle these thoughts before they turn into negative actions. If proper action is not taken, it will then begin to manifest into an everyday lifestyle and behavior that causes many future illnesses. Development of this project will greatly impact the lives of these anesthesia providers by guiding the positive mindfulness meditation practices. This project implementation will greatly affect the everyday lives of anesthesia providers and contribute to their ability to take control of stressful situations and transform it to the “here and now”.

Weakness

Moran et al. defines a plan’s weaknesses by its possibility for internal issues that may be damaging to the program as a whole\(^1\). Within the practice of anesthesia, there are many possibilities for error. The long strenuous work hours with added stress of critical situations takes a toll on the human body and mind. This is exactly why gaining a sense of control over oneself is vital for individual mental health. Anesthesia providers are put into many critical-thinking situations that can gravely impact the lives of patients. It is imperative to be in the proper mindset in order to do so. These weaknesses in the profession leave a marginal room for error. Lack of proper individual coping mechanisms can cause this to reflect onto their ability to properly medicate and make critical decisions and lead to potential harm for patients.

Opportunities

The inflammatory response triggered by persistent psychological stress has been implicated in virtually all chronic physical conditions\(^2\). For this reason, it is important to take this opportunity to be proactive and preemptively begin the mental health journey for prevention. A team of anesthesia providers will come together and will be responsible for the review and approval of this intervention along with providing motivational support and encouragement. They will also be responsible for data analysis from the surveys and conclude the mindfulness meditation intervention’s impact on anesthesia provider stress relief.

Threats and Organizational Factors

It is important to evaluate factors that may potentially harm the process or interfere with the program’s ability to achieve its objectives\(^3\). There may be a variety of factors that may cause potential determent to this program intervention. One of the most important hinderances for this program’s success is lack of motivation goals. The anesthesia provider needs to have a certain
mindset and vision before embarking on their meditation journey since this is all based on individual experiences.

One may be seeking clarity on their perception of stress in order to decrease stress and anxiety, while another may be seeking self-managed thought processes to lessen the impact of stress on their everyday lives. Another threat is finding the proper time to set aside for this mindfulness meditation practice. It can be difficult to add another task onto a busy professional’s day, but it is imperative to find the right time set aside for mindfulness meditation. Whether it is the first thing in the morning when one wakes up, going to a remote place away from others in the middle of the day, or if it’s a part of their bedtime routine – it all works. Finding inner motivation and an individual goal for this meditation practice is one of the first steps to embarking on this journey.

**Methodology**

**Setting and Participants**

This study will take place in a hospital setting involving anesthesia providers from different roles such as anesthesiologists, anesthesia residents, certified registered nurse anesthetists and student registered nurse anesthetists. The anesthesia providers are from a diverse cultural background. This study will take place in Miami, Florida with roughly 8-10 participants involved.

**Description of Approach and Project Procedures**

This DNP educational project begins by inviting actively practicing anesthesia providers to participate in this study. With the use of Qualtrix, a pretest/posttest design will be used to measure understanding of the importance of mindfulness meditation. Data collected before the educational intervention includes demographic information, position within the
anesthesia practice, highest level of education and years of practice. The educational module will include a PowerPoint presentation detailing evidence-based uses of mindfulness meditation to decrease stress and anxiety within anesthesia. The educational module is expected to have a duration of 5-10 minutes. After the educational module, participants will be asked to complete the post-test questionnaire.

**Protection of Human Subjects**

Invitations for participation to the anesthesia providers will be sent through email. All participants will be consented through a HIPAA compliant via an online survey from Google forms, SurveyMonkey or SurveySparrow. Participants have full rights to revoke their consent and discontinue their participation in the study at any time. There are many benefits to this study. This DNP project does not illustrate any conflict of interest. The participants were self-selected with no cultural or spiritual bias. All collected data is password protected. There is supportive literature displaying efficacy and illustrating that no harm will be done to the selected participants. The faculty advisor, project mentor(s) and principal investigator oversee and manage this project.

**Data Collection**

Participants will be asked to provide their educational background, race, gender and asked if they practice mindfulness mediation practices routinely at home. If they do practice mindfulness meditation prior to this study, they will be asked to provide the number of hours per week roughly they practice mindfulness meditation and what resources they use during their practice. The Perceived Stress Scale (PSS-14) is used in order to measure the level of perceived stress in each participant. The PSS-14 was created by Sheldon Cohen to properly assess stress perception and individual level of perceived stress. The participants will be asked to take a pre-
evaluation survey in order to gage prior knowledge from each individual. After the implementation and conclusion of the project, participants will be asked to take a post-evaluation survey. Participants will enter their data to the link provided for each within 14 days for accurate representation.

**Data Management and Analysis Plan**

An electronic database is used to store all collection of data. Data analysis is based on the quantitative analysis of the PSS-14 for the pre and post surveys provided. The difference in the pre and post survey will be analyzed for application and the need for implementation of this mindfulness meditation project. Qualtrics was used in order to provide proper assessment that is free of error.

**Discussion of the Results with Implications to Advanced Nursing Practice**

Mental health care is part of the foundation of healthcare professionals. Whether it is anxiety, stress, or depression. It is vital to take time to fully understand and realign proper coping strategies and implement them into everyday practice. Implementation of mindfulness meditation will provide the needed individual efforts to learn meditation and use it daily for decreasing stress and anxiety that arise in the workplace. This decrease in anxiety and stress will lead to between judgement in critical situations which in the end lead to better patient outcomes. Regardless of cultural background, mindfulness meditation works within each individual perspective and each participant creates individual experiences. This in turn affects the hospital as a whole, employing individuals with the skills to use critical care decisions in acute care scenarios with less stress and anxiety and better patient outcomes. This short intervention provides the tools and necessities for proper daily implementation of mindfulness meditation.
Timeline

Project Tasks

1. Develop the education intervention
2. Request FIU Faculty approval
3. Request FIU’s CRNA alumni list
4. Create and send study invitation
5. Administer pretest questionnaires
6. Perform educational intervention
7. Administer posttest
8. Data Analysis

Project Timeline

Send invitation to anesthesia providers ➔ Receive proper consent forms ➔ Administer Pre-Evaluation Questionnaire ➔ Mindfulness Meditation educational intervention ➔ Administer Post-Evaluation Questionnaire ➔ Review and analyze received data
IMPLEMENTATION RESULTS

Pre/Post-Test Demographic Data

The following information represents the demographic data compiled during the pre-test data collection period.

Consent

![Consent Chart]

<table>
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<tr>
<th>#</th>
<th>Field</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Variance</th>
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<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8</td>
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Gender

![Gender Pie Chart]

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<th></th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>42.86%</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>57.14%</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
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Ethnicity

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<th>%</th>
<th>Count</th>
</tr>
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<td>1</td>
<td>Hispanic</td>
<td>42.86%</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Caucasian (non-Hispanic)</td>
<td>14.29%</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>African American</td>
<td>28.57%</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Asian</td>
<td>14.29%</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>7</td>
</tr>
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</table>

Position/Education:

<table>
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</thead>
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<tr>
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<tr>
<td>MD Anesthesiologist</td>
<td></td>
</tr>
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</table>

Participant Job & Education

<table>
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<th>Count</th>
</tr>
</thead>
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<tr>
<td>Certified Registered Nurse Anesthetist</td>
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<tr>
<td>Bachelor’s Degree</td>
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<tr>
<td>Masters</td>
<td>2</td>
</tr>
<tr>
<td>Doctorate</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>MD Anesthesiologist</td>
<td>0</td>
</tr>
</tbody>
</table>
This study focused on individuals who attended the Florida International University before 2020. The total number of FIU Alumni that participated in this study was a total of 7 individuals. The pre-test demographics of these individuals are summarized as follows. All seven individuals gave consent to participate in this study—three of the seven individuals who participated in the survey identified as male and four as female. Males represented 42.86% of the participants while females represented 57.14%. Various ethnicities were also represented among the participants, with the majority being Hispanic (42.86%), followed by African American (28.57%), and Asian & Caucasian representing the minority (14.29%). All participants in this study were Certified Registered Nurse Anesthetists. Out of the 7 participants, 5 held doctorate
degrees (71.43%), and two held master's degrees (28.57%). Lastly, all participants were asked how many years of practice they had as a medical provider. Out of the 7 participants, 3 individuals have been working less than 5 years (42.86%), 3 individuals have been working between 5-10 years (42.86%), and 1 individual has been working more than 15 years (14.29%).

**Pre-Test Knowledge Information on Mindfulness-Based Interventions**

Within this study, participants were asked to answer a short series of questions that tested their understanding of mindfulness-based interventions and their uses in their daily lives. The pre-test consisted of 10 questions and was completed by 7 participants. The first five questions focused on each individual's knowledge and use of the mindfulness-based intervention. When asked to complete the statement "Mindfulness-based interventions is best defined as…," 2 participants (25.00%) correctly completed the statement by answering "…Well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation.” After defining what participants believed to be the definition of mindfulness-based intervention, they were asked how often they had considered mindfulness meditation as a part of their daily routine. 42.85% of participants (3 individuals) stated that they considered mindfulness meditation as a part of their daily routine most of the time, 42.85% of participants (3 individuals) indicated that they considered mindfulness meditation as a part of their daily routine sometimes, and 14.28% of participants (1 individual) stated that they never considered mindfulness meditation as a part of their daily routine.

When asked how often participants engaged in mindfulness meditation, 14.29% (1 individual) answered once a week, 42.85% (3 individuals) answered 2-4 times a week, and 42.86% (3 individuals) answered that they don't engage in mindfulness meditation at all. In
comparison, when asked how likely they would be to use mindful meditation in clinical practice, 28.57% (2 individuals) stated they were slightly likely to use mindful meditation in a clinical practice. Of the remaining participants, 62.50% (5 participants) responded uniformly from "equally unlikely" to "equally Likely." The last question asked in this focus area asked participants to complete the following statement: "Long-term mental health problems of employees may lead to…" 42.85% (3 participants) answered correctly choosing the answer "all the above" which consisted of all 4 of the preceding answers (increased absenteeism, reduced productivity, greater compensation claims, and high medical costs). 42.85% (3 individuals) got the answer wrong by choosing "reduced productivity" as the answer, and 14.29% (1 Individual) also got the answer wrong, choosing "high medical cost" as the answer. This showcases that participants did somewhat understand the impact of long-term mental health problems.

**Pre-Test Knowledge Information on Anxiety and Burnout Syndrome**

The remaining 5 questions focused on identifying the knowledge participants had prior to this study on anxiety and burnout syndrome. The first question asked participants to choose true, false, or neither to the following statement: “Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress that may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers.” 28.57% (2 participants) got the answer right by selecting true. 57.14% (4 participants) selected false, and 14.28% (1 participants) selected neither. The second question asked participants to choose an answer to complete the following statement "Self-awareness provides individuals with the ability to.." 14.28% (1 participant) answered correctly choosing "make sounds choices when put into difficult situations." The majority, accounting for 71.42% (5 participants), answered incorrectly
choosing "properly account for one's well-being, physical activity, diet, nutrition, and sleep cycle."

The remaining 14.28% (1 participant) chose "Identify someone or something from previous encounters or knowledge," which was also incorrect. The remaining questions in this pre-test had to do with the participant's knowledge of burnout syndrome. The practice of anesthesia entails a great deal of stress and anxiety. This stress can transform into much more without proper management tools or outlets. Unmanaged stressors within anesthesia lead to increasing emotional fatigue, deficiency in the sense of self-accomplishment, and depersonalization – also known as burnout syndrome. When participants were asked what percentage of burnout syndrome Anesthesiology accounts for, 42.85% (3 participants) answered correctly choosing the answer of 40%, 57.14% (4 participants) picked the wrong answers of 35%, and 15% equally.

The next question asked participants to choose true, false, or neither to the following statement: "The costs of burnout are staggering and clinicians who feel burned out make more medical errors. They often reduce their work hours, resulting in reduced access to medical care for patients." 71.43% (5 participants) correctly answered by choosing true while 14.29% (1 participant) chose false and 14.29% (1 participant) chose neither. The last question that pertained to burnout syndrome asked participants to pick which disease is associated with burnout syndrome in a list. The list included the following choices: cardiac diseases, substance abuse, mental health disorders, the development of poor work-related outcomes, and all of the above. The majority of participants (71.43%; 5 participants) answered correctly by choosing all of the above. 14.29% (1 participant) chose substance abuse, and 14.29% (1 participant) chose mental health disorders.
**Post-Test Knowledge Information on Mindfulness-Based Interventions**

After the presentation on mindfulness-based interventions was given to participants in this study, they were asked to complete a post-survey to test their newfound knowledge of mindfulness-based interventions. All capacities, excluding two (which had no change), illustrated an increase in knowledge compared to baseline knowledge on the topics at the pre-test stage. When asked to again complete the statement "Mindfulness-based interventions is best defined as…," 6 participants (85.71%) now correctly completed the statement by answering "…Well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation."

After defining what participants believed to be the definition of mindfulness-based intervention, they were asked how often they had considered mindfulness meditation as a part of their daily routine. 42.85% (3 individuals) which is the same number of participants pre-test, stated that they considered mindfulness meditation as a part of their daily routine most of the time. When asked how often participants engaged in mindfulness meditation, 57.14% (4 participants) now answered 2-4 times a week. In comparison, when asked how likely they would be to use mindful meditation in clinical practice, 28.57% (2 individuals) stated they are highly likely to use mindful meditation in a clinical practice. The last question asked in this focus area asked participants to complete the following statement: "Long-term mental health problems of employees may lead to…" 85.71% (6 participants) answered correctly choosing the answer "all the above" which consisted of all 4 of the preceding answers (increased absenteeism, reduced productivity, greater compensation claims, and high medical costs).
Post-Test Knowledge Information on Anxiety and Burnout Syndrome

The last five questions focused on identifying the knowledge participants have now on anxiety and burnout syndrome. This focus area is the one that improved the most in the study.

The first question asked participants to choose true, false, or neither to the following statement:
"Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress that may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers." 100% (7 participants) got the answer right by selecting true. The second question asked participants to choose an answer to complete the following statement "Self-awareness provides individuals with the ability to.." 71.42% (5 participants) answered correctly choosing "make sounds choices when put into difficult situations." The remaining questions in this pre-test had to do with the participants' knowledge of burnout syndrome. When participants were asked what percentage of burnout syndrome Anesthesiology accounts for, 100% (7 participants) answered correctly choosing the answer of 40%.

The next question asked participants to choose true, false, or neither to the following statement: "The costs of burnout are staggering, and clinicians who feel burned out make more medical errors. They often reduce their work hours, reducing access to medical care for patients." 85.71% (6 participants) correctly answered by choosing true. The last question that pertained to burnout syndrome asked participants to pick which disease is associated with burnout syndrome in a list. The list included the following choices: cardiac diseases, substance abuse, mental health disorders, development of poor work-related outcomes, and all the above. All participants (100%; 7 participants) answered correctly by choosing all of the above.
Summary Of Data

The results from this study show that participants demonstrated an increase in knowledge rates between the pre-test and post-tests. There were only two questions that yielded a 0% change in pre to post-test answers. 4 out of 10 questions showcased a 50%+ increase in knowledge rates, while 4 out of 10 questions showcased a rise between 10%-50%. Exhibit 1 represents percentages based on pre-test and post-test correct answers. Exhibit 2 illustrates the individual pre-test and post-test results of each question.
## EXHIBIT 1. DIFFERENCE IN PRE-TEST AND POST-TEST KNOWLEDGE

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>PRE-TEST % CORRECT ANSWERS</th>
<th>POST-TEST % CORRECT ANSWERS</th>
<th>Delta/Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mindfulness-based interventions is best defined as</td>
<td>25.00%</td>
<td>85.71%</td>
<td>▲ 60.71%</td>
</tr>
<tr>
<td>2</td>
<td>How often have you considered mindfulness meditation as a part of your daily routine?</td>
<td>42.85%</td>
<td>42.85%</td>
<td>0.00%</td>
</tr>
<tr>
<td>3</td>
<td>How often do you participate in mindfulness meditation?</td>
<td>42.85%</td>
<td>57.14%</td>
<td>▲ 14.29%</td>
</tr>
<tr>
<td>4</td>
<td>True or False: Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress that may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers</td>
<td>28.57%</td>
<td>100.00%</td>
<td>▲ 71.43%</td>
</tr>
<tr>
<td>5</td>
<td>Anesthesiology accounts for what percentage of burnout syndrome?</td>
<td>42.85%</td>
<td>100.00%</td>
<td>▲ 57.15%</td>
</tr>
<tr>
<td>6</td>
<td>Burnout syndrome of associated with what disease?</td>
<td>71.43%</td>
<td>100.00%</td>
<td>▲ 28.57%</td>
</tr>
<tr>
<td>7</td>
<td>Self-awareness provides individuals with the ability to</td>
<td>14.28%</td>
<td>71.43%</td>
<td>▲ 57.15%</td>
</tr>
<tr>
<td>8</td>
<td>True or False: The costs of burnout are staggering and clinicians who feel burned out make more medical errors. They often reduce their work hours, resulting in reduced access to medical care for patients</td>
<td>71.43%</td>
<td>85.71%</td>
<td>▲ 14.28%</td>
</tr>
<tr>
<td>9</td>
<td>Long-term mental health problems of employees may lead to</td>
<td>42.85%</td>
<td>85.71%</td>
<td>▲ 42.86%</td>
</tr>
<tr>
<td>10</td>
<td>How likely would you use mindful meditation in clinical practice?</td>
<td>14.28%</td>
<td>28.57%</td>
<td>▲ 14.29%</td>
</tr>
</tbody>
</table>
A. Well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation

B. A self-reported measure which assesses the degree to which the respondent has perceived situations in his/her life within the past month as stressful

C. Psychotherapy that can help eliminate or control troubling symptoms so a person can better function and can increase well-being and healing

D. The prevention or treatment of disorders and chronic disease through regular, repetitive physical activity that enhances fitness and mobility.
Q2. How often have you considered mindfulness meditation as a part of your daily routine?

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Always  Most of the time  Sometimes  Never

Pre-Test  Post-Test

Q3: How often do you participate in mindfulness meditation?

Do not participate
5-7 times a week
2-4 times a week
Once a week

Post-Test  Pre-Test
Q4. How likely would you use mindful meditation in clinical practice?

Q5. Long-term mental health problems of employees may lead to

- All of the above
- High medical costs
- Greater compensation claims
- Reduced productivity
- Increased absenteeism
Q6: True/False “Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress that may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers.”

Q7. Self-awareness provides individuals with the ability to

- Identify someone or something from previous encounters or knowledge
- Make sounds choices when put into difficult situations
- Properly account for one’s well-being, physical activity, diet, nutrition, and sleep cycle.
- None of the above
Q8. Anesthesiology accounts for what percentage of burnout syndrome?

- 40% [Post-Test]
- 35% [Post-Test]
- 15% [Post-Test]
- 8% [Post-Test]

Q9. True or False: The costs of burnout are staggering and clinicians who feel burned out make more medical errors. They often reduce their work hours, resulting in reduced access to medical care for patients.

- NEITHER [Post-Test]
- FALSE [Post-Test]
- TRUE [Post-Test]
Q10. Burnout syndrome of associated with what disease?

- All of the above
- Development of poor work-related outcomes
- Mental health disorders
- Substance abuse
- Cardiac diseases

Options: Post-Test  Pre-Test
IMPLEMENTATION DISCUSSION

Limitations

There are many limitations that can arise when conducting a study of this kind. When completing this study, there were limitations on time and the number of individuals who could participate. Out of the 45 FIU alums, this study was sent out to only seven individuals who partook in the study. Larger sample size would have replicated a more precise representation of the knowledge base of how Mindfulness Meditation can be used to decrease stress and anxiety among anesthesia providers. There was also a limitation of time on when the study could be completed. Some participants, early on in the study, began to take the pre-test but failed to meet the study in its entirety due to the completion window being closed. Given ample time the study may have had an increased response rate, which would have led to larger sample size.

Conclusion

The objective of this project was to educate and enable anesthesia providers to use mindful meditation to reduce the stress and anxiety that being in a high-pressure environment brings to everyday life. One of the most challenging aspects of mindfulness meditation is attaining the proper education tools, setting aside time for this life-changing practice, and achieving a clear motivation for self-betterment. It is imperative to focus on the sense of the here and now and lead all thoughts, feelings, and sensations based on that foundation because this is when joy seems to arise.\(^2\) The educational module for this study revealed a growth in knowledge rate compared to baseline knowledge rates.
References


Appendix A

MEMORANDUM

To: Dr. Vicente Gonzalez
CC: Jeslin Mody
From: Elizabeth Juhasz, Ph.D., IRB Coordinator
Date: April 7, 2022

Protocol Title: "Mindfulness Meditation to Decrease Stress and Anxiety among nurse anesthesia providers: An Educational Module"

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the Exempt Review process.

IRB Protocol Exemption #: IRB-22-0138
IRB Exemption Date: 04/07/22
TOPAZ Reference #: 111400

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.

EJ
Appendix B

Nicole Wertheim College of Nursing & Health Sciences

February 2, 2022

Vincente Gonzalez DNP, CRNA, APRN
Clinical Assistant Professor
Department of Nurse Anesthetist Practice
Florida International University

Dear Dr. Gonzalez,

I thank you for inquiring about the use of the FIU DNAP alumni list for participation in the Doctor of Nursing Practice (DNP) project conducted by Jeslin Mody entitled “Mindfulness Meditation to Decrease Stress and Anxiety: An Educational Module” in the Nicole Wertheim College of Nursing and Health Sciences, Department of Nurse Anesthesiology Practice at Florida International University. I have granted Ms. Mody permission to conduct the project using our providers.

The educational module’s primary aim is to yield the best outcomes for patients by selecting evidence-supported interventions. This project intends to evaluate if a structured education targeting anesthesia providers will increase knowledge on the use of Meditation to Decrease Stress and Anxiety.

We understand that participation in the study is voluntary and carries no overt risk. All Alumni Anesthesiology providers are free to participate or withdraw from the study at any time. The educational intervention will be conveyed by a 15-minute virtual PowerPoint presentation, with a pretest and posttest questionnaire delivered by a URL link electronically via Qualtrics, an online survey product. Responses to pretest and posttest surveys are not linked to any participant. The collected information is reported as an aggregate, and there is no monetary compensation for participation. All collected material will be kept confidential, stored in a password-encrypted digital cloud, and only be accessible to the investigators of this study: Jeslin Mody and Dr. Gonzalez.

Once the Institutional Review Board’s approval is achieved, this scholarly project’s execution will occur over two weeks. Jeslin Mody will behave professionally, follow standards of care. We support the participation of our Anesthesiology providers in this project and look forward to working with you.

Sincerely,

Jorge A. Valdes, DNP, CRNA, APRN
Interim Chair, Department of Nurse Anesthesiology
Clinical Associate Professor
Appendix C

CONSENT TO PARTICIPATE IN A QUALITY IMPROVEMENT PROJECT
“Mindfulness Meditation to Decrease Stress and Anxiety among anesthesia providers: An Educational Module”

SUMMARY INFORMATION
Things you should know about this study:

- **Purpose**: Educational module providing information which encompasses the impact of mindfulness medication on anxiety and stress among anesthesia providers.
- **Procedures**: Participate in a pre-test, view an Educational Module via voice over PowerPoint, then participate in a post test.
- **Duration**: This will take about a total of 20 minutes.
- **Risks**: The main risk or discomfort from this research is minimal.
- **Benefits**: The main benefit from this research is an increase in the participant’s knowledge on the effects of mindfulness meditation to decrease stress and anxiety.
- **Alternatives**: There are no known alternatives available to than not taking part in this study.
- **Participation**: Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE PROJECT
The goal of this project is to improve health care provider knowledge on mindfulness meditation to decrease stress and anxiety among anesthesia providers. You are being asked to participate in this quality improvement project.

DURATION OF THE PROJECT
Your participation will require about 20 minutes of your time, you will be one of 10 people in this study.

PROCEDURES
If you agree to be in the project, we will ask you to do the following things: Participate in a pretest view, an Educational Module via voice over PowerPoint, then participate in a post test.

RISKS AND/OR DISCOMFORTS
Minimal risk, risk not greater than if participant was conducting similar activity. Physical, psychological, social, legal, and economic risks minimal and no greater than if a participant was participating in a similar activity. Similar activity such as filling out an online survey and
watching voice over PowerPoint.

**BENEFITS**
Benefits associated with participation in this project: An increase in knowledge of mindfulness meditation.

**ALTERNATIVES**
There are no known alternatives available other than not taking part in this project. However, if you would like to receive the educational material given to the participants in this project, it will be provided to you at no cost.

**CONFIDENTIALITY**
The records of this project will be kept private and will be protected to the fullest extent provided by law. If, in any sort of report, we might publish, we will not include any information that will make it possible to identify you as a participant. Records will be stored securely, and only the project team will have access to the records.

**PARTICIPATION**
Taking part in this research project is voluntary.

**COMPENSATION & COSTS**
There is no cost or payment to you for receiving the health education and/or for participating in this project.

**RIGHT TO DECLINE OR WITHDRAW**
Your participation in this project is voluntary. You are free to participate in the project or withdraw your consent at any time during the project. Your withdrawal or lack of participation will not affect any benefits to which you are otherwise entitled. The investigator reserves the right to remove you without your consent at such time that they feel it is in the best interest.

**RESEARCHER CONTACT INFORMATION**
If you have any questions about the purpose, procedures, or any other issues relating to this research project, you may contact Jeslin Mody at (813) 838-0716, jgeor073@fiu.edu or Dr. Vicente Gonzalez at (305) 348-7747, gonzalv@fiu.edu.

**IRB CONTACT INFORMATION**
If you would like to talk with someone about your rights pertaining to being a subject in this project or about ethical issues with this project, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

**PARTICIPANT AGREEMENT**
I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the “consent to participate” button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)
Appendix D

Pretest and Posttest Questionnaire:

Mindfulness Meditation to Decrease Stress and Anxiety Among Anesthesia Providers: An Educational Module

INTRODUCTION

The primary aim of this QI project is to improve the knowledge on mindfulness meditation to decrease stress and anxiety among anesthesia providers.

*Please answer the question below to the best of your ability. The questions are either in multiple choice or true/false format. These questions are meant to measure knowledge and perceptions on identification, referral, management, and education on provider knowledge of mindfulness meditation.*

PERSONAL INFORMATION

1. Gender
   a. Male
   b. Female
   c. Non-binary
   d. Prefer not to answer

2. Ethnicity:
   a. Hispanic
   b. Caucasian (non-Hispanic)
   c. African American
   d. Asian
   e. Other

3. Position/Title
   a. Certified Registered Nurse Anesthetist
   b. MD anesthesia

4. Highest level of education
   a. Bachelors
   b. Masters
   c. Doctorate
   d. Other
5. Years of practice as an anesthesia provider
   a. Less than 5
   b. 5-10
   c. 10-15
   d. Greater than 15
**QUESTIONNAIRE**

1. Mindfulness-based interventions is best defined as
   a. Well-researched psychological practice that is characterized by control of attention, awareness, acceptance, non-reactivity, and non-judgmental thoughts that are gained through the practice of meditation
   b. A self-reported measure which assesses the degree to which the respondent has perceived situations in his/her life within the past month as stressful
   c. Psychotherapy that can help eliminate or control troubling symptoms so a person can better function and can increase well-being and healing
   d. The prevention or treatment of disorders and chronic disease through regular, repetitive physical activity that enhances fitness and mobility.

2. How often have you considered mindfulness meditation as a part of your daily routine?
   a. Always
   b. Often
   c. Sometimes
   d. Never

3. How often do you participate in mindfulness meditation?
   a. Once a week
   b. 2-4 times a week
   c. 5-7 times a week
   d. Do not participate

4. True or False: Anxiety is conscious perception that is suffered when one is faced with longstanding or continuous stress that may easily translate into the everyday lifestyle, wrongfully guiding the actions and thoughts of healthcare providers
   a. True
   b. False

5. Anesthesiology accounts for what percentage of burnout syndrome?
   a. 8%
   b. 15%
   c. 35%
   d. 40%

6. Burnout syndrome of associated with what disease?
   a. Cardiac diseases
   b. Substance abuse
   c. Mental health disorders
   d. Development of poor work-related outcomes
   e. All of the above

7. Self-awareness provides individuals with the ability to
   a. Identify someone or something from previous encounters or knowledge
b. Make sounds choices when put into difficult situations  
c. Properly account for one’s well-being, physical activity, diet, nutrition, and sleep cycle.  
d. None of the above  

8. True or False: The costs of burnout are staggering and clinicians who feel burned out make more medical errors. They often reduce their work hours, resulting in reduced access to medical care for patients.  
   a. True  
   b. False  

9. Long-term mental health problems of employees may lead to  
   a. Increased absenteeism  
   b. Reduced productivity  
   c. Greater compensation claims  
   d. High medical costs  
   e. All of the above  

10. How likely would you use mindful meditation in clinical practice?  
    a. Highly likely  
    b. Likely  
    c. Somewhat likely  
    d. Not likely