USING MINDFULNESS IN NURSING BURNOUT. AN INTEGRATIVE REVIEW.

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

April Day Branham

Liberty University

Lynchburg, VA

Dr. Folashade Odedina

December 2023

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Scholarly Project Chair Approval:

Folashade Odedina DNP, FNP-C, PMHNP-BC Approval Date: 12/13/23

ABSTRACT

The purpose of this integrative review is to evaluate if mindfulness is effective in decreasing nursing burnout. Nursing burnout has negatively affected the nursing profession for many years, and since the COVID-19 pandemic, it appears to be worse. Mindfulness is a practice that has been used for decades, however, it is gaining more attention in the nursing realm. Mindfulness consists of being present in a moment without judgment. It can consist of individual exercises that are completed using an instructor in person, in an application on a smartphone or computer, or yoga-based mindful activities. A preliminary literature review was completed using 10 articles on mindfulness in nursing burnout and a comprehensive literature review was completed using 15 articles on mindfulness and nursing burnout. The PRISMA model was used to aid in reporting and reviewing articles along with using inclusion and exclusion criteria. Major findings included understanding that multiple types of mindfulness interventions can be used, burnout promotes poor patient outcomes and disengagement, lack of leadership promotes burnout, and ICU and oncology nurses are more prone to burnout. Initial findings and comprehensive review findings include that mindfulness is an effective tool in relieving nursing burnout and mindfulness can increase job satisfaction. Some limitations are that larger studies are needed for a longer period and more evaluation is needed on which mindfulness intervention tool is more effective than others. Implications for practice include understanding that mindfulness practice is necessary to mitigate nursing burnout.

Keywords: Mindfulness, nurs*, burnout, stress, compassion fatigue burnout, vicarious trauma

Dedication

I would like to dedicate this integrative review to my children. I want you both to know that all things are possible through God, perseverance, and hard work. I love you both and thank you for being an inspiration to me. It is my hope that this integrative review helps the nursing profession to understand and manage nursing burnout in a more meaningful way.

Acknowledgements

Thank you first and foremost to God and my Lord and Savior Jesus Christ. You helped carry me through this program while managing family, work, and life. Thank you to my husband who has stood beside me as through this long journey and for being my biggest supporter. A big thank you also goes to my parents who have always believed in me and supported my dreams. Thank you to my chair, Dr. Folashade Odedina, for your support and guidance throughout this process. I appreciate you and the entire staff at Liberty University School of Nursing to help me achieve my dream.

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Section One

Introduction

Healthcare is changing rapidly, which has greatly affected nursing in many ways. Nursing must constantly adapt to changes in healthcare, such as delivery of care, a growing, aging population, and increasing complex patient care needs (Sulosaari et al., 2022). Due to these rapid changes and intense psychological distress from caring repeatedly for ill patients, nursing burnout is exacerbated (Ramachandran et al., 2022). Psychological distress can create ineffective coping mechanisms, cause a negative emotional state, and an expression of feelings that can result in harm. Nursing burnout negatively affects healthcare, although often nurses may not realize they are experiencing this phenomenon and may not know how to get help.

Burnout is described as syndrome of emotional exhaustion and negativity that occurs when individuals are caring for very sick people (McNulty et al., 2022). The prevalence of burnout is around 70% in nurses and 50% in providers. Providers are considered as doctors, nurse practitioners, and physician assistants. The American Academy of Critical-Care Nurses (AACN) states that burnout is associated with unhealthy work environments, which can create poor team effectiveness, retention, and negative patient outcomes. Burnout is a risk to patients and healthcare workers. High levels of emotional exhaustion are associated with high mortality rates and decreased perceived patient safety, which is linked to poor memory, decreased responsiveness, and decreased decision-making function.

An integrative review can help reveal the role that mindfulness can play in nursing burnout. Burnout is an issue that may never completely stop occurring in healthcare, but it is important that interventions are sought and utilized that can decrease stress, emotional exhaustion, and increase nurse well-being. Disseminating these interventions, educating nurses

on symptoms of burnout and on how to use these processes can help transform the state of healthcare. When nurses are emotionally able to navigate their feelings, their well-being improves, thus decreasing intent to leave.

Background

The nursing shortage has been prevalent for many years, however, in most recent years it appears to be worsened since COVID-19 (Knill et al., 2021; Pérez et al., 2022). When nursing units are short-staffed, the units can have increased medication errors, disgruntled employees, and poor patient care (Green & Kinchen, 2021). Compounding these reasons with a poor work environment, nurses may want to leave the unit, causing greater staffing issues. When evaluating causes of the nursing shortage, burnout has been recognized as a top contributor to nurses' intent to leave a unit or the profession.

The prevalence of burnout is around 70% in nurses and 50% in providers such as doctors, nurse practitioners, and physician assistants (McNulty et al., 2022). The American Academy of Critical-Care Nurses (AACN) states that burnout is associated with unhealthy work environments. This can create poor team effectiveness, retention, and negative patient outcomes.

Mindfulness is a technique that can be used to relieve burnout (Pérez et al., 2022). This technique is characterized by shifting perspective to the present moment without incorporating judgement. Mindfulness-based stress reduction programs have been used for the last two decades around the world. Using mindfulness as an intervention to burnout has been shown to maintain effectiveness for up to one year. These techniques can be taught in a class and then individuals can use the techniques on their own for even a few minutes a day for effectiveness.

Rationale for Conducting the Review

The American Nurses Association implemented a Well-Being Initiative in 2020 for nurses in the United States (The Well-Being Initiative, 2020). This initiative was started due to the increased demands and stress that have been placed on nurses since the pandemic. Nurses continue to experience unprecedented stress while working and we must find ways to minimize burnout.

Healthy Nurse Healthy Nation was started in 2017. This initiative was formed to improve the health of nurses across the nation. It is centered around improving mental health, physical activity, nutrition, rest, quality, and safety (Healthy Nurse Healthy Nation, 2021). Research has shown that nurses are more likely to have more occupational stress, and being that they are the most trusted profession, it is imperative that avenues are found to decrease their stress levels.

Both initiatives are in alignment with this integrative review since they focus on the health of nurses (Healthy Nurse Healthy Nation, 2021; The Well-Being Initiative, 2020). Since nurse well-being is related closely to burnout, it is imperative that solutions are found to improve the mental health of nurses so that staffing can improve. Once nurse staffing is improved, then patients will receive better care.

Preliminary Literature Review

A preliminary research review took place for this integrative review. Ten articles were obtained which showed the relationship between mindfulness and nursing burnout. In the review, initially, it was found that mindfulness does decrease nursing burnout.

Purpose of the Project

The purpose of this project was to evaluate if mindfulness is effective in decreasing nursing burnout. The student evaluated articles on mindfulness to determine if this is an effective

tool to minimize nursing burnout. The goal of this integrative review was to decrease burnout so that nurse staffing, nurse wellness, and patient care are improved.

The review question was: Does using mindfulness decrease burnout in nursing?

Inclusion and Exclusion Criteria

Criteria was formulated to evaluate studies that provided robust evidence about mindfulness in nursing burnout. Inclusion criteria were hospital systems, nursing homes, and nursing offices. Nurses and nurse practitioners were examined in these studies. Nurses worldwide were also included. The articles used were all in the English language. Articles that were Melnyk's Hierarchy level I-V were used and all articles were peer reviewed. All articles included the topic of mindfulness in nursing burnout. Articles that were five years or less were used.

Exclusion criteria included articles that were a single descriptive or qualitative study (level VI) or expert opinion (level VII) in Melnyk's Hierarchy. Excluded articles were also those not in the English language, articles over 5 years, and articles about other professions (i.e., social work, teachers, etc.) using mindfulness. Certified nursing assistants (CNAs) were not included in this review.

Defining Concepts and Variables

For this review, burnout is defined as syndrome of emotional exhaustion and negativity that occurs when individuals are caring for very sick people (McNulty et al., 2022). It can cause negative feelings and/or cynicism, which can reduce professional abilities. Burnout can have direct impact on workplace turnover and poor work performance.

Mindfulness is a strategy that is used to enhance a state of awareness to control behavior (Ramachandran et al., 2022). It involves being fully present in the moment without being

reactive of what is happening around an individual, which is a unique trait that each person already possesses (Staff, 2020). This may be accomplished using physical, emotional, and cognitive experiences. Mindfulness can help calm the mind by focusing on present moment awareness (Sulosaari et al., 2022). In this review, mindfulness can be in the form of training sessions or an app on the healthcare member's smart phone.

Registered nurses (RNs), licensed practical nurses (LPNs), and nurse practitioners were studied in this integrative review. RN and LPN students were also studied. A RN is an individual that has completed nursing school, passed their state board of nursing exam, and is licensed by the state to provide care to patients (Definition of Nursing Terms, 2023). An LPN is someone who has completed a practical school of nursing, passed the practical nurse state board exam, and is licensed by the state to give care to patients. An LPN works under a RN in a patient care setting. A nurse practitioner is a registered nurse who holds a graduate degree and can diagnose and treat illnesses. A nursing student is a person enrolled in a nursing program that will lead to a nursing degree (Nursing Student Definition in Medical Conditions Dictionary, 2013).

Many variables may contribute to this phenomenon including extensive workloads, constant contact with suffering patients and family members, lengthened work days, and feelings of powerlessness (Sulosaari et al., 2022). Other variables are time spent, nurses' education on mindfulness, and the level of stress that each nurse may feel.

Conceptual Framework

Integrative reviews are the broadest type of research review (Whittemore & Knafl, 2005). An integrative review examines past theoretical literature to better understand a phenomenon. This method incorporates experimental and non-experimental research, which can impact evidence-based practice nursing in a substantial way. Using an integrative review to understand

burnout in nursing and the use of mindfulness can help healthcare workers decrease perceived burnout symptoms. Using cost-effective and self-directed ways to improve nurses' well-being while improving staffing on units can ultimately improve patient care.

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) includes a checklist and diagram that will aide in reporting of a systematic review (Liberati et al., 2009). It can be used to report systematic reviews, meta-analyses, and can also be used for critical appraisal in systematic reviews. The integrative review and PRISMA (see Appendix D) were both be used to aid in understanding the effect that mindfulness has in nursing burnout.

Section Two: Comprehensive and Systematic Search

Search Organization and Reporting Strategies

A comprehensive search of literature was done by using the Liberty University's Jerry Falwell Online Library and a librarian. The databases used in the search were Academic Search Ultimate, CINAHL Ultimate, MEDLINE Ultimate, APA PyscInfo, EBSCO, Health Source: Nursing/Academic Edition.

The keywords used were nurs*, burnout, stress, mindfulness, compassion fatigue, and vicarious trauma. Parameters of the search included the English language, articles published within the last 5 years, and peer-reviewed articles. The total articles found that fit the inclusion criteria were 2,104.

Terminology

Terminology is an important word to define, since terms can have multiple meanings depending on the specific discipline (Toronto & Remington, 2020). Search engines were used by the Jerry Falwell Online Library. These search engines revealed a host of articles that were

pertinent to the literature review. Key words used in the search included nursing, burnout, and mindfulness.

Section Three: Managing the Collected Data

Literature was collected by searching the Jerry Falwell Online Library. Inclusion and exclusion criteria were used to select the highest form of research for the topic. Each article was labeled and placed in the literature matrix (Appendix A). All articles were reviewed thoroughly using inclusion and exclusion criteria, Melnyk's hierarchy of evidence, and then placed in the table.

Section Four: Quality Appraisal

Sources of Bias

Bias can be present in any part of the research (Toronto & Remington, 2020). Each study must be assessed for any form of bias and the methods used should be easy to use and able to be replicated. If bias is present, it can alter the validity of the study results. Each study was viewed and assessed for bias individually before being placed in the literature matrix by assessing for randomization of the participants. Studies were also assessed for bias by using articles that used standardized protocols.

Publication bias is when articles are not published if they are thought to have negative or nonsignificant results. Studies that have positive results are more likely to be published than those with negative results. Gray literature was not used in this integrative review.

Quality Appraisal

Quality appraisal tools used were the literature matrix and Melnyk's hierarchy of evidence. All articles were assessed for relevance on the topic of mindfulness in nursing burnout.

Internal Validity

Bias can affect the validity of results, which can make integrative reviews less generalizable (Toronto & Remington, 2020). The appraisal was focused on internal validity, which encompasses risk of bias and believability.

Quality Appraisal Tools

There are varying opinions on how to appraise the quality of a study in nursing, although there is no gold standard on how to appraise evidence quality (Toronto & Remington, 2020). In this integrative review a literature matrix was used in the evidence table for quality appraisal (Appendix A). Melnyk's hierarchy of evidence was also used for quality appraisal to assist in locating the best evidence for the integrative review. All articles were assessed for relevance on the topic of mindfulness in nursing burnout. These methods assisted the reviewer to use the best evidence on mindfulness in nursing burnout and see any gaps in literature.

Applicability of Results

The purpose of this integrative review was to evaluate if mindfulness is effective in decreasing nursing burnout. The 15 articles in the literature review suggested that using mindfulness does decrease nursing burnout. The literature matrix was used to appraise each study. Items such as design, sampling, data collection, results, and relevance to practice were placed in the matrix to aid in the integrity of the results of the integrative review.

Reporting Guidelines

The PRISMA guideline was used to decrease bias in reporting of the integrative review. Integrative reviews should bring clarity by following certain requirements (Toronto & Remington, 2020).

This integrative review identified a specific problem, which was nursing burnout. This review discusses using mindfulness to minimize nursing burnout. Mindfulness has been found to

decrease stress, depression, and anxiety in nurses working in various healthcare settings (Suleiman-Martos et al., 2020). An extensive literature review and data analysis were used in this integrative review.

Section Five: Data Analysis and Synthesis

Data Analysis Methods

Data analysis in an integrative review involves ordering, coding, and categorizing data about the research problem (Toronto & Remington, 2020). An integrative review that is done proficiently has high rigor, is clear, and able to be reproduced. Initially, 2,014 articles were found using the Liberty University Jerry Falwell Online Library, then reduced to 15. The PRISMA model and a literature matrix were also used to reduce, organize, and code articles. The search result was narrowed to 15 articles, by eliminating duplicate articles and those that were not related to mindfulness in nursing. Articles were then placed in the literature matrix. Articles were used that focused on using mindfulness in nursing burnout. All 15 articles were peer-reviewed and were published in the last five years. The data matrix encompassed articles that have common themes with coded information as described in the descriptive results section.

Descriptive Results

In the integrative review a data matrix such as Melnyk's Hierarchy of Evidence helps decipher themes, methodological design, country of origin, and date range. The types of articles used for this integrative review included levels of systematic reviews, randomized controlled trials, non-randomized controlled trials, and systematic reviews of descriptive and qualitative studies. These included specifically three systematic reviews, seven randomized controlled trials, three non-randomized controlled trials, and two systematic reviews of descriptive and qualitative data (Bianchini & Copeland, 2020; Cascales-Pérez et al., 2020; Ghawadra et al., 2020; Green &

Kinchen, 2021; Knill et al., 2021; Liu et al., 2023; McNulty et al., 2022; Othman et al., 2023; Pérez et al., 2022; Ramachandran et al., 2022; Suleiman-Martos et al., 2020; Sulosaari et al., 2022; Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020; Yıldırım & Çiriş Yıldız, 2022). The articles that were used examined nurses across the globe including the United States, Egypt, Turkey, Australia, Israel, Canada, Taiwan, Brazil, Spain, Israel, Ireland, Japan, China, Portugal, and Malaysia. Nurses were examined were working part-time or full-time in intensive care units. Areas examined were pediatric units, oncology units, medical units, surgical units, gynecology and obstetric units, teaching hospitals, and elderly care centers. The articles used spanned from 2019-2023. There were two articles from 2023, six articles from 2022, two articles from 2021, and five articles from 2020.

Thematic Analysis

For this integrative review a thematic analysis was used. A thematic analysis is a method used to recognize, examine, and outline patterns found within the data (Toronto & Remington, 2020). The structures found in the literature matrix were used to find similar patterns. Several themes were revealed when examining the articles using the literature matrix, as described in the following sections.

Types of Mindfulness-Based Interventions

There were several types of mindfulness-based programs implemented in the 15 articles. Mindfulness-based interventions were done in person, while working and on days off (Bianchini & Copeland, 2020; Ghawadra et al., 2020; McNulty et al., 2022; Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020). Some of the studies had a mindfulness-based trainer come in and teach staff weekly about resiliency and deep-breathing techniques to help control stress. Other methods used were online training via websites or applications on smartphones (Knill et al., 2021; Pérez et al.,

2022). Types of mindfulness-based interventions used in the articles were breathing exercises, music therapy, body scans, yoga, mindful sleep, stretching, meditation, and audio/visual materials (Cascales-Pérez et al., 2020; Green & Kinchen, 2021; Liu et al., 2023; Othman et al., 2023; Ramachandran et al., 2022; Suleiman-Martos et al., 2020; Sulosaari et al., 2022; Yıldırım & Çiriş Yıldız, 2022). Although there were varying methods of how to implement mindfulness-based interventions, all results of the articles did suggested that there was an improvement in symptoms of burnout in nurses.

Burnout Effects

Another theme found in the integrative review was the effects of burnout. The purpose of this integrative review was to evaluate if mindfulness is an effective way to decrease nursing burnout. Burnout can negatively affect both the individual healthcare worker and the nursing unit where s/he works. Burnout is associated with poor patient outcomes, which can lead to the healthcar working feeling disconnected and inadequate (Bianchini & Copeland, 2020; Green & Kinchen, 2021; McNulty et al., 2022). These feelings may eventually create a negative work environment for the staff and patients. High levels of burnout are associated with caregiver fatigue, poor efficiency, and magnified medical mistakes (Pérez et al., 2022; Ramachandran et al., 2022; Sulosaari et al., 2022; Xiang-Zi & Jia-yuan, 2022).

Administrative Support

Another theme that surfaced during this integrative review is that a lack of administrative support promotes burnout (Ghawadra et al., 2020; McNulty et al., 2022; Ramachandran et al., 2022). Occupational burnout can occur at any time during a healthcare worker's career and measures must be implemented to help decrease the incidence of burnout. Without support from the organization or administrators, nurses may feel abandoned and high levels of stress may

continue, thus worsening the staffing shortage. If organizations can assess the need for burnout mitigation and assist nurses early with implementation measures, then nurses would feel supported. Efforts to decrease symptoms of burnout can begin early in a nurse's career. Nurse managers should try to reduce stressful work environments by providing appropriate supplies on a unit and advocating for safe staffing. It is essential that administration support different methods to reduce stress on units while decreasing symptoms of burnout. Administrators should be supportive of nurses engaging in self-care efforts.

Areas with Higher Levels of Burnout

In this integrative review it was found that some areas experienced higher levels of burnout than others. For example, intensive care unit (ICU) nurses and oncology nurses appear to experience higher levels of burnout than in other departments (Suleiman-Martos et al., 2020; Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020). Due to working in a consistently high stress environment, ICU nurses are subject to more job-related stressors. Nurses working in ICUs are three times more prone to burnout. It is especially important for nurse leaders to be more sensitive to nurses' needs working in these high-risk areas, so that preventative measures may be implemented and an action plan for those nurses who are experiencing burnout can be put into place. Mindfulness has been shown to decrease occupational burnout in ICU nurses and oncology nurses among others (Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020).

Ethical Considerations

When performing research of any kind, it is important to protect all human subjects. Since this was an integrative review, it was not designated as human subject research by the Liberty University Institutional Review Board. Although this review did not directly study human subjects, the 15 articles that were used have strong ethical guidelines to keep all subjects

protected. There were no classifiable or identifiable data used about the subjects in the studies incorporated in this integrative review.

Collaboration Institutional Training Initiative (CITI) training was completed in June 2023 by the student reviewer. The student's chair has also completed this training. The CITI training enabled the student to become more informed about the importance of performing and maintaining ethical research. In August 2023, the Liberty University Institutional Review Board (IRB) found this project to be exempt since it is an integrative review. A copy of the IRB letter is provided in Appendix B.

Timeline

The integrative review followed a specific timeline. In August 2023, the proposal defense took place and was approved by the chair. An IRB application was submitted to Liberty University in August 2023. During the implementation phase of the integrative review, a data analysis and synthesis of the results took place in September 2023. A rough draft of the integrative review was written by the project leader and submitted to the project chair for final review in October 2023. The project leader submitted the scholarly project to an editor in November 2023. Once the review is deemed adequate by the project chair, the project leader defended the scholarly project November 30, 2023. The project leader will then submit the Scholarly Project to Scholar's Crossing by December 15, 2023.

Section Six: Discussion

The discussion section provides an understanding of mindfulness to decrease nursing burnout. The goal of an integrative review is the advancement of a holistic approach to understand a topic better (Toronto & Remington, 2020). This section explains the results of the integrative review and the implication of using mindfulness to address nursing burnout. The

purpose of this integrative review was to synthesize the literature and evaluate if mindfulness is effective in decreasing nursing burnout.

Initial findings of the literature review showed that mindfulness decreases symptoms of nursing burnout. Findings of the comprehensive review showed that mindfulness is an effective tool in decreasing nursing burnout (Bianchini & Copeland, 2020; Cascales-Pérez et al., 2020; Ghawadra et al., 2020; Green & Kinchen, 2021; Knill et al., 2021; Liu et al., 2023; McNulty et al., 2022; Othman et al., 2023; Pérez et al., 2022; Ramachandran et al., 2022; Suleiman-Martos et al., 2020; Sulosaari et al., 2022; Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020; Yıldırım & Çiriş Yıldız, 2022). Mindfulness-based interventions also decrease stress and fosters mindfulness in healthcare professionals. Mindfulness online applications decrease nursing burnout. Some applications used were Headspace and The Mindfulness App. Mindfulness training in any form can increase job satisfaction and improve anxiety. Mindfulness is also found to be an effective tool in decreasing burnout for nurse residents.

Some gaps found in the literature review include understanding which tool may be better for decreasing burnout, such as online versions vs in-person sessions. The studies only used full-time and part-time nurses. There were no specific studies that included nurses who were working multiple jobs or as needed nurses. There were also no studies that included which mindfulness tool is better to use for decreasing burnout in comparison to others. Most of the studies included a time frame for eight weeks or less, which is a short amount of time to assess the effects of mindfulness on nursing burnout. Understanding mindfulness in nursing burnout is also important to evaluate in a post-pandemic world view.

Limitations

There were several limitations in this integrative review. The first is that there should be a better understanding of which method of mindfulness interventions are more effective for burnout, such as online, in-person, music, yoga, or breathing exercises. Larger studies with greater study times are also needed to assess the implications of burnout and mindfulness, so that results can be generalized further.

Implications for Practice

There are many implications for practice and future work. Leaders must become more educated about nursing burnout and its effects on their nursing staff. Clinical nurse leaders need to be more receptive to mindfulness-based interventions, which are cost-effective strategies, that can improve nurse wellness. Continuous mindfulness practice is also important to alleviate nurse burnout. Compassion fatigue, anxiety, stress, and improved quality of life can occur when using these mindfulness programs. This integrative review suggests that it is important for healthcare organizations to take the mental health of their nurses seriously, and implement measures to prevent and minimize burnout, so that patient care does not suffer.

Dissemination

Dissemination is the final process of reaching a targeted audience on the use of mindfulness in addressing nursing burnout. The goal of dissemination is to decrease nursing burnout while increasing education on mindfulness, which will be accomplished through these efforts. This integrative review will be submitted to Scholar's Crossing in December 2023. This research will also be provided to the hospice administration team in the form of a presentation in consideration for implementation to hospice nurses. The findings will be presented in the form of a PowerPoint to nursing hospice staff in the Spring of 2024. This manuscript will be sent to the

American Journal of Nursing for consideration of publication in the Spring of 2024. This review will also be presented to the Virginia Henderson Nursing Symposium in the Fall of 2024.

Conclusion

Nursing burnout is a sensitive topic. It is something that has existed for years but has heightened after COVID-19 (Knill et al., 2021; Pérez et al., 2022). We have an obligation to search for ways to decrease nursing burnout. One way is using the practice of mindfulness, which may be accomplished by using online apps, in person training, music, breathing techniques, audio/visual materials, mindful sleep, meditation, body scans, or yoga. This skill is cost-effective, and nurses can implement this anywhere and anytime once they understand how to use mindfulness effectively. When nurses are taught methods of self-care and how to recognize and decrease symptoms of burnout, then staffing can ultimately improve. The 15 articles included in this integrative literature review revealed that mindfulness is an effective way to improve nursing burnout, thus ultimately improving patient care (Bianchini & Copeland, 2020; Cascales-Pérez et al., 2020; Ghawadra et al., 2020; Green & Kinchen, 2021; Knill et al., 2021; Liu et al., 2023; McNulty et al., 2022; Othman et al., 2023; Pérez et al., 2022; Ramachandran et al., 2022; Suleiman-Martos et al., 2020; Sulosaari et al., 2022; Xiang-Zi & Jia-yuan, 2022; Xie et al., 2020; Yıldırım & Çiriş Yıldız, 2022). Nurse leaders should be cognizant about being proactive about nursing burnout so that symptoms do not worsen. A plan needs to be in place when burnout occurs so that nurses and leaders know how to react. In the future, more efforts need to be made on researching mindfulness-based techniques and nursing burnout. The intervention of mindfulness should be studied over a longer period so that nurse well-being may be further understood.

Appendix A

Evidence Table

Name: April Branham

Clinical Question: Does using mindfulness decrease nursing burnout?

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Example, A. (2015) Title etc. per Current APA	To identify the need for technology to prevent falls	A convenience sample of 44 nurses in an acute care hospital	A non-experimental, descriptive survey	Findings indicate that fall rates decreased by 2% with the introduction of technology into the care setting	Level 6: descriptive design	Conducted in only one setting, small sample size	Does provide some good foundational information even though the level is a 6.

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
Article 1 Sulosaari, V., Unal, E., & Cinar, F. (2022). The effectiveness of mindfulness-based interventions on the psychological well-being of nurses: A systematic review. *Applied Nursing Research*, *64*, 151565. https://doi.org/10.1016/j.apnr.2022.151565	The purpose of the study was to determine mindfulness-based intervention and to understand the well-being of nurses.	A sample of 1009 nurses were examined.	A systematic review of 11 randomized control trials.	10 out of 11 studies showed a positive outcome of MBI on the well-being of nurses. One study had no findings of increase in well-being of nurses.	Level I since this was a systematic review of randomized control trials.	Gray literature/unpublished studies were not used, which could have omitted relevant studies. Could not do a meta-analysis due to low amount of RCT with a difference in outcomes.	Yes, strong literature supporting MBI decreasing burnout in nurses. One out of eleven studies did not support this however, that study did not report a change at all.
Article 2 Xiang-Zi, J., & Jia-yuan, Z. (2022). Mindfulness exercises reduce death anxiety and burnout in intensive care nurses. *Death Studies*, *47*(5), 600–605. https://doi.org/10.1080/07481187.2022.2113480	The purpose of the study was to understand the impact of MBIs on	66 ICU nurses from two hospitals in Heilongjiang Province were used.	A non-randomized control trial was used.	The nurses who received mindfulness intervention had less burnout symptoms at the post-test than the nurses who	Level III non-randomized control trial.	Randomized control trials should be used in the future so that the study has a higher evidence level. Long term	Yes, this study shows that a short-term mindfulness program does

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	burnout levels and death anxiety in ICU nurses.			did not receive the training. The mindfulness program also decreased death anxiety and burnout in ICU nurses.		follow-up should be done to further test effects of MBI for maintenance. The study may not be generalizable due to the small sample. Self-reporting can be biased. Only done with ICU nurses and limits generalizability.	decrease symptoms of burnout in ICU nurses.
Article 3 Green, A. A., & Kinchen, E. V. (2021). The effects of mindfulness meditation on stress and burnout in nurses. *Journal of Holistic Nursing*, *39*(4), 356–368. https://doi.org/10.1177/0898010121 1015818	To understand the relationship between mindfulness training and burnout symptoms.	A sample of 290 nurses were used.	A systematic review of 8 studies were examined.	Nurses who were in a modified MBSR program had a reduction in stress related to work after one or more MBI programs. One study involving pediatric	Level V systematic review of qualitative studies.	Some studies examined were small, so this would be hard to generalize to a larger population. The studies did not have consistent interventions. There was a	Yes, the article supports that MBI is effective in decreasing burnout symptoms. It can be done anywhere

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
				oncology nurses did not report a change in burnout.		likelihood of healthy behaviors outside the study, which could have influenced results.	and anytime after training is initiated.
Article 4 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. https://doi.org/10.1111/jan.14318	To examine the effect of training about mindfulness in nurses.	A sample of 632 nurses were used.	A systematic review and meta-analysis were used.	Mindfulness training reduces burnout in nurses.	Level I meta-analysis design was used.	Few RCT have been done to compare different mindfulness training. There are variations of mindfulness in different studies. Mainly female nurses were examined could have biased results.	Yes, this meta-analysis supports that burnout is beneficial in reducing burnout in nurses.
Article 5 Ramachandran, H., Bin Mahmud, M., Rajendran, P., Jiang, Y., Cheng, L., & Wang, W. (2022). Effectiveness of	The purpose of the study is to	Eleven studies were examined including 1077 nurses total.	A systematic review and meta-	Mindfulness-based interventions was effective in	Level I meta-analysis was used.	Some studies had missing summary data. Studies that had	Yes, this study supports that MBI is

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
mindfulness-based interventions on psychological well-being, burnout and post-traumatic stress disorder among nurses: A systematic review and meta-analysis. *Journal of Clinical Nursing*, *32*(11-12), 2323–2338. https://doi.org/10.1111/jocn.16265	investigate how effective mindfulness-based interventions on burnout, psychological well-being, and PTSD symptoms in RNs.		analysis of RCT was used.	decreasing stress, feelings of sadness/hopelessness and burnout.		small sample sizes could have overembellished effects of MBI. Some studies had reporting bias. English language only studies were included, so non-English studies that were relevant were not included.	effective in managing burnout symptoms in nurses. These effects can be seen up to three months after intervention.
Article 6 Pérez, V., Menéndez-Crispín, E. J., Sarabia-Cobo, C., de Lorena, P., Fernández-Rodríguez, A., & González-Vaca, J. (2022). Mindfulness-based intervention for the reduction of compassion fatigue and burnout in nurse caregivers of institutionalized older persons with dementia: A randomized controlled trial. *International Journal of Environmental Research and Public Health*, *19*(18),	To understand the effect of mindfulness on burnout by using a RCT.	74 geriatric nurses were analyzed in a RCT.	A randomized controlled trial was used.	There was a significant improvement in the experimental group after mindfulness intervention. Three months after the intervention,	Level II level of evidence since this is a RCT.	The study is not generalizable due to the small sample size and one area of nurses were examined. Small study. The intervention was done online and not face-to-face	Yes. Using online training on mindfulness was shown to be effective in reducing burnout and compassion fatigue.

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
11441. https://doi.org/10.3390/ijerph191811441				burnout was still reduced.		and may be less effective.	This supports the goal of the project.
Article 7 Cascales-Pérez, M., Ferrer-Cascales, R., Fernández- Effects of a mindfulness-based programme on the health A work-related quality of life of healthcare professionals. (2020). *Scandinavian Journal of Caring Sciences*, *35*(3), 881–891. https://doi.org/10.1111/scs.12905	To assess the effectiveness of a mindfulness-based intervention program in healthcare professionals.	58 primary care nurses were examined in Spain.	A randomized controlled trial was used.	The intervention group had higher scores for quality of life and lower burnout. Improvements in burnout were still present 12 months after the program.	A level II was used since this is a RCT.	A member of the research team, who is also directed the assessment could have affected the results. Comparison of the control group was not followed up on in the 12 months after the intervention. There could have been social desirability bias from the nurses. Small sample size.	Yes. This study has a high level of evidence and supports the idea that mindfulness is effective in burnout. Mindfulness programs show an improvement in burnout.

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
Article 8 Othman, S., Hassan, N. I., & Mohamed, A. (2023). Effectiveness of mindfulness-based interventions on burnout and self-compassion among critical care nurses caring for patients with Covid-19: A quasi-experimental study. *BMC Nursing*, *22*(1). https://doi.org/10.1186/s12912-023-01466-8	The study examined the effectiveness of MBI's on burnout, mindfulness, and self-compassion.	Sixty critical care nurses in Egypt were examined working in three hospitals.	A quasi-experimental study was used.	After eight weeks of MBI intervention in the MBI group, emotional exhaustion decreased when compared to the control group. Overall MBI reduced emotional exhaustion and increased self-compassion and mindfulness in CCRN's.	A level III was used since this is a quasi-experimental study.	This study used a small sample size and convenience sampling. This could decrease generalization of results. No long-term follow-up used. The intervention was done online so it may have affected engagement. Most of the participants were female.	Yes. This showed that MBI do help in decreasing symptoms of burnout. Small study but this study looked at nurses surrounding Covid.
Article 9 McNulty, D., LaMonica-Way, C., & Senneff, J.-A. (2022). The impact of mindfulness on stress and burnout of new graduate nurses as a component of a nurse residency program. *JONA: The Journal of Nursing Administration*, *52*(4), E12–	The study examined the impact of mindfulness on a nurse	200 nurse residents were examined in the study.	A randomized controlled trial was used.	Positive results were achieved with the intervention of mindfulness with new graduate nurses. Perceived stress	A level II was used since this is a RCT.	The pandemic occurred during the study. Mindfulness techniques could not have been used due to distraction with	Yes, even though the study was small, it still supported that mindfulnes

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
E18. https://doi.org/10.1097/nna.0000000000001137	residency program.			and burnout were lower in the intervention group.		the pandemic. Only one control group and one intervention group were used so generalizability is limited. The study was also limited to nurse graduates.	s was effective in decreasing stress and burnout.
Article 10 Xie, C., Zeng, Y., Lv, Y., 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 Medicine*, *52*, 102485. https://doi.org/10.1016/j.ctim.2020.102485	The purpose was to determine if an 8-week mindfulness program influenced ICU nurses.	A sample of 106 nurses were examined.	A random controlled trial was used.	The nurses experienced a decrease in burnout symptoms one week, one month, and three months after the intervention. The differences in between the groups was statistically significant.	A level II study was used since this was a RCT.	Randomization was done per unit not by participant. Effect was monitored for three months after- longer study needed to understand long-term effects. Nurses were from ICUs so not easily	Yes, this article supports other research articles that MBI decreases occupational burnout. These methods can improve mindfulnes

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
						generalizable to other areas.	s and decrease experiential avoidance.
Article 11 Ghawadra, S., Lim Abdullah, K., Choo, W., Danaee, M., & Phang, C. (2020). The effect of mindfulness-based training on stress, anxiety, depression and job satisfaction among ward nurses: A randomized control trial. *Journal of Nursing Management*, *28*(5), 1088–1097. https://doi.org/10.1111/jonm.13049	To understand the effect of a 4-week mindfulness training on stress and job satisfaction on ward nurses.	A sample of 224 nurses were used for the study.	A randomized control trial was used.	Over time, stress, anxiety, and depression were decreased.	A level II study was used since this was a RCT.	The study used self-reported questionnaires to assess SAD, so the level of SAD might not be completely accurate. The study had a high dropout rate from the website intervention, and the reasoning is unknown. Qualitative design method was the only method used. No monitoring for nurses using mindfulness	Yes, this study supports that mindfulness is effective in burnout since it decreased symptoms of anxiety, depression, and stress.

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
						during and after the intervention.	
Article 12 Yıldırım, D., & Çiriş Yıldız, C. (2022). The effect of mindfulness-based breathing and music therapy practice on nurses' stress, work-related strain, and psychological well-being during the Covid-19 pandemic. *Holistic Nursing Practice*, *36*(3), 156–165. https://doi.org/10.1097/hnp.0000000000000511	The purpose of the review was to examine the effect of mindfulness-based breathing and music therapy intervention on stress levels and work-related strain during Covid-19.	104 nurses in Turkey were studied in a hospital and provided care to Covid patients (52 nurses in intervention group and 52 nurses in the control group). Intervention group got MBI with music and breathing techniques.	A randomized control trial was used.	MBI with breathing and music did decrease stress and work strain. Psychological well-being was increased. The control group had no change in these areas.	A level II study was used since this was a RCT.	Long-term effects of MBI were not studied. The intervention was done in a single session.	Yes, supports that MBI is effective in decreasing stress and work-related strain, which can decrease burnout.
Article 13 Liu, L., Tian, L., Jiang, J., Zhang, Y., Chi, X., Liu, W., Zhao, Y.-H., & Sun, P. (2023). Effect of an online mindfulness-	To evaluate the effects of	A sample of 68 nurses were used (31 in intervention	A randomized control trial was used.	Intervention group got 8 weeks of weekly online	A level II study was used since	Study only lasted 8 weeks and long-term effects need to	Yes, this study does that mindfulnes

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
based stress reduction intervention on postpandemic era nurses' subjective well-being, job burnout, and psychological adaptation. *Holistic Nursing Practice*, *37*(5), 244–252. https://doi.org/10.1097/hnp.0000000000000603	mindfulness-based stress reduction intervention on post-COVID nurses well-being and burnout.	and 37 in control group)		MBI stress reduction training. Intervention group had higher results of good emotions and life satisfaction.	this was a RCT.	be studied. Online learning can have a high attrition rate and, in this study, could be related to the pandemic.	s does decrease stress and burnout symptoms. Mindfulness can help nurses communicate with patients and families better. This practice can enable nurses to be more caring and accepting of themselves.
Article 14 Knill, K., Warren, B., Melnyk, B., & Thrane, S. (2021). Burnout and well-being: Evaluating perceptions in bone	To evaluate if the use of a	A sample of 86 nurses and NPs in an oncology unit.	A quality improvement initiative	High levels of improvements seen in burnout in nurses and	This study was a level V due to it being a	Unknown if same participants participated	Yes, this study supports data that

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
marrow transplantation nurses using a mindfulness application. *Clinical Journal of Oncology Nursing*, *25*(5), 547–554. https://doi.org/10.1188/21.cjon.547-554	mindfulness mobile application Headspace decreased perceived burnout among nurses and NPs.		study was used.	NPs seen overall. There was a decrease in mean scores of burnout at 30 days, no change seen at 60 days, and, worsened scores a 90 days. Independent-sample t tests showed large improvements in burnout from the baseline at each point of time.	qualitative study.	throughout the study. The study took place between Nov and Jan and holidays could have increased the stress level. Construction was taking place on BMT units which could have impacted the study results. Some participants did not use the app as they were instructed. Survey opportunities were missed through email due to staff not checking it.	mindfulness does have a positive effect on well-being and decreases burnout.

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
Article 15 Bianchini, C., & Copeland, D. (2020). The use of mindfulness-based interventions to mitigate stress and burnout in nurses. *Journal for Nurses in Professional Development*, *37*(2), 101–106. https://doi.org/10.1097/nnd.0000000000000708	The purpose of the study was to decrease the perception of burnout in nurses on three units.	One-hundred fifty nurses participated in the study from three units.	A quasi-experimental project was used.	There was an improvement in emotional exhaustion, depersonalization, perceived stress levels, and burnout over a three-month period.	This study was a level III since it was quasi-experimental.	There was no consistent way to track how frequently the participants participated in the interventions. Some read emails but did not attend MBI training sessions. Anonymity of the participants limited further statistical analysis in the pre- and post-results. Other disciplines were not represented.	Yes, the study does support previous data that mindfulness does decrease burnout in nurses.

Appendix B

IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 15, 2023
April Branham
Folashade Odedina
Re: IRB Application - IRB-FY23-24-228 Using Mindfulness in Nursing Burnout: An Integrative Review
Dear April Branham and Folashade Odedina,
The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research
Explanation: Your study is not considered human subjects research because it will not involve the collection of identifiable, private information from or about living individuals (45 CFR 46.102).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

For a PDF of your IRB letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu. Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix C

CITI Training

CITI PROGRAM

Completion Date 23-Jun-2023
Expiration Date 23-Jun-2026
Record ID 56138600

This is to certify that:

April Branham

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher
(Curriculum Group)
Biomedical & Health Science Researchers
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Liberty University

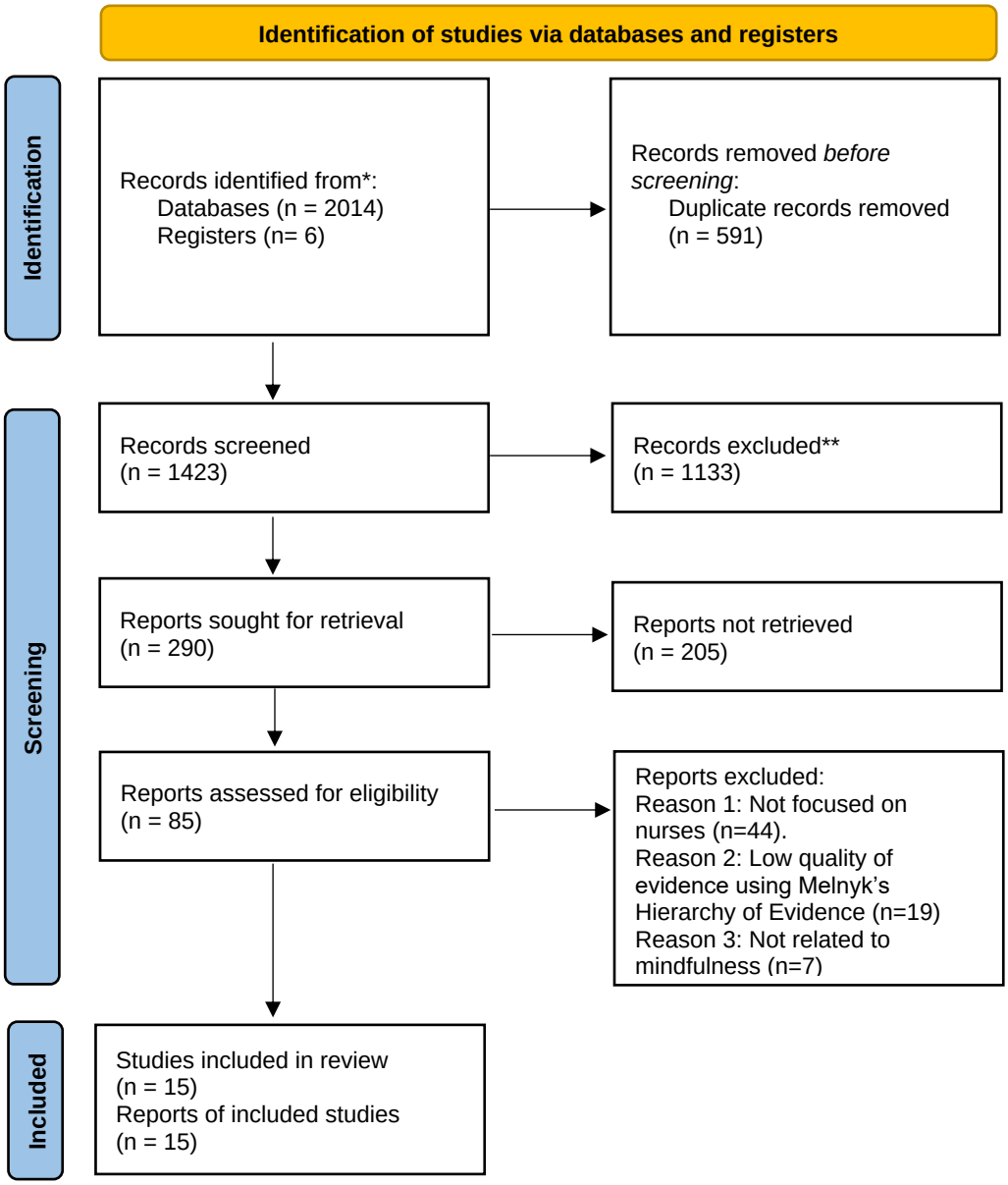
CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w58dcd8d5-54f2-4be0-afba-ff3c781cf842-56138600

Appendix D

PRISMA Model



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

References

Bianchini, C., & Copeland, D. (2020). The use of mindfulness-based interventions to mitigate stress and burnout in nurses. *Journal for Nurses in Professional Development*, *37*(2), 101–106. https://doi.org/10.1097/nnd.0000000000000708

Cascales-Pérez, M., Ferrer-Cascales, R., Fernández-Alcántara, M., & Cabañero-Martínez, M. (2020). Effects of a mindfulness-based programme on the health- and work-related quality of life of healthcare professionals. *Scandinavian Journal of Caring Sciences*, *35*(3), 881–891. https://doi.org/10.1111/scs.12905

Definition of nursing terms. (2023). NCSBN. Retrieved August 9, 2023, from https://www.ncsbn.org/resources/nursing-terms.page

Ghawadra, S., Lim Abdullah, K., Choo, W., Danaee, M., & Phang, C. (2020). The effect of mindfulness-based training on stress, anxiety, depression and job satisfaction among ward nurses: A randomized control trial. *Journal of Nursing Management*, *28*(5), 1088–1097. https://doi.org/10.1111/jonm.13049

Green, A. A., & Kinchen, E. V. (2021). The effects of mindfulness meditation on stress and burnout in nurses. *Journal of Holistic Nursing*, *39*(4), 356–368. https://doi.org/10.1177/08980101211015818

Healthy Nurse Healthy Nation. (2021, April 29). ANA Enterprise. Retrieved October 4, 2023, from https://www.healthynursehealthynation.org

Knill, K., Warren, B., Melnyk, B., & Thrane, S. (2021). Burnout and well-being: Evaluating perceptions in bone marrow transplantation nurses using a mindfulness application. *Clinical Journal of Oncology Nursing*, *25*(5), 547–554. https://doi.org/10.1188/21.cjon.547-554

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The prisma statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *PLoS Medicine*, *6*(7), e1000100. https://doi.org/10.1371/journal.pmed.1000100

Liu, L., Tian, L., Jiang, J., Zhang, Y., Chi, X., Liu, W., Zhao, Y.-H., & Sun, P. (2023). Effect of an online mindfulness-based stress reduction intervention on postpandemic era nurses' subjective well-being, job burnout, and psychological adaptation. *Holistic Nursing Practice*, *37*(5), 244–252. https://doi.org/10.1097/hnp.0000000000000603

McNulty, D., LaMonica-Way, C., & Senneff, J.-A. (2022). The impact of mindfulness on stress and burnout of new graduate nurses as a component of a nurse residency program. *JONA: The Journal of Nursing Administration*, *52*(4), E12–E18. https://doi.org/10.1097/nna.0000000000001137

Nursing student definition in medical conditions dictionary. (2013). Medical Conditions Dictionary. Retrieved November 13, 2023, from http://medconditions.net/nursing-student.html

Othman, S., Hassan, N. I., & Mohamed, A. (2023). Effectiveness of mindfulness-based interventions on burnout and self-compassion among critical care nurses caring for patients with Covid-19: A quasi-experimental study. *BMC Nursing*, *22*(1). https://doi.org/10.1186/s12912-023-01466-8

Overview of the integrative review. (2020). In Toronto, C. E., & Remington, R. (Eds.), *A step-by-step guide to conducting an integrative review* (pp. 1–114). Springer International Publishing. https://doi.org/10.1007/978-3-030-37504-1_1

Pérez, V., Menéndez-Crispín, E. J., Sarabia-Cobo, C., de Lorena, P., Fernández-Rodríguez, A., & González-Vaca, J. (2022). Mindfulness-based intervention for the reduction of compassion fatigue and burnout in nurse caregivers of institutionalized older persons with dementia: A randomized controlled trial. *International Journal of Environmental Research and Public Health*, *19*(18), 11441. https://doi.org/10.3390/ijerph191811441

Ramachandran, H., Bin Mahmud, M., Rajendran, P., Jiang, Y., Cheng, L., & Wang, W. (2022). Effectiveness of mindfulness-based interventions on psychological well-being, burnout and post-traumatic stress disorder among nurses: A systematic review and meta-analysis. *Journal of Clinical Nursing*, *32*(11-12), 2323–2338. https://doi.org/10.1111/jocn.16265

Staff, M. (2020, July 8). *What is mindfulness? - mindful*. Mindful. Retrieved August 9, 2023, from https://www.mindful.org/what-is-mindfulness/

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. https://doi.org/10.1111/jan.14318

Sulosaari, V., Unal, E., & Cinar, F. (2022). The effectiveness of mindfulness-based interventions on the psychological well-being of nurses: A systematic review. *Applied Nursing Research*, *64*, 151565. https://doi.org/10.1016/j.apnr.2022.151565

The Well-Being Initiative. (2020, May 13). ANA. Retrieved November 9, 2023, from https://www.nursingworld.org/practice-policy/work-environment/health-safety/disaster-preparedness/coronavirus/what-you-need-to-know/the-well-being-initiative/

Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, *52*(5), 546–553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

Xiang-Zi, J., & Jia-yuan, Z. (2022). Mindfulness exercises reduce death anxiety and burnout in intensive care nurses. *Death Studies*, *47*(5), 600–605. https://doi.org/10.1080/07481187.2022.2113480

Xie, C., Zeng, Y., Lv, Y., 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 Medicine*, *52*, 102485. https://doi.org/10.1016/j.ctim.2020.102485

Yıldırım, D., & Çiriş Yıldız, C. (2022). The effect of mindfulness-based breathing and music therapy practice on nurses' stress, work-related strain, and psychological well-being during the Covid-19 pandemic. *Holistic Nursing Practice*, *36*(3), 156–165. https://doi.org/10.1097/hnp.0000000000000511