

MINDFULNESS-BASED INTERVENTIONS: COMBATting BURNOUT AND
COMPASSIONATE FATIGUE AMONG MENTAL HEALTH CAREGIVERS

by

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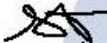
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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Breanna Nicole Lundquist, titled Mindfulness-Based Interventions: Combatting Burnout and Compassion Fatigue Among Mental Health Caregivers and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.


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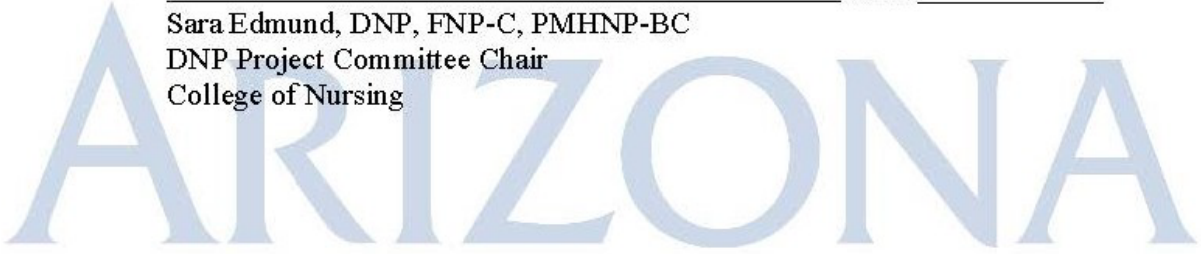

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Final approval and acceptance of this DNP project are contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

I hereby certify that I have read this DNP project prepared under my direction and recommend that it be accepted as fulfilling the DNP project requirement.


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I would like to acknowledge all those who helped make this project possible. I appreciate each and every one of you investing your time, effort, and encouragement.

DEDICATION

I would like to dedicate this project to each and every mental health caregiver who has experienced burnout or compassion fatigue along their journey.

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ABSTRACT

Purpose

The purpose of this quality improvement project was to educate mental health caregivers on the symptoms and risk factors of compassion fatigue and burnout while raising awareness about mindfulness-based interventions and how they can be used to combat these symptoms. The goal was to increase intent to implement mindfulness-based interventions daily and identify barriers to implementation.

Methods

Educational information was presented in a synchronous presentation to all voluntary participants. Instructions on how to perform the body scan technique and mindfulness breathing were provided, and participants were guided through an experiential mindfulness breathing exercise. Knowledge level was tracked with a pretest and posttest. The posttest also included a Likert scale that measured intent to implement mindfulness-based interventions. Completion of a follow-up survey was requested two weeks post-intervention to assess if increased knowledge on compassion fatigue, burnout, and mindfulness-based interventions encouraged caregivers to implement mindfulness-based interventions, the frequency of practice, and identified barriers. No responses were gathered from the follow-up survey.

Results

After the evidence-based educational presentation on compassion fatigue, burnout, and mindfulness-based interventions, the mean tests score showed improvement from the pretest to the posttest; this can be seen by the 9% increase in the mean score and the 12% increase in the median score. The paired t-test in each category found p-values greater than 0.05, establishing

the findings as statistically insignificant. The mean score on the pretest was 87%; the mean score on the posttest was 96%. Three of the participants (n=4) rated their likelihood to implement mindfulness-based interventions as “very likely” on the Likert scale, and one participant rated their likelihood for implementation as “somewhat likely.”

Conclusions

Findings from this evidence-based presentation were improved knowledge of compassion fatigue, burnout, and MBIs as demonstrated by an increase in scores from the pretest as compared to the posttest. This intervention provides a practical way to increase knowledge of the importance of the chosen topics while encouraging self-implementation.

INTRODUCTION

Mental health caregivers are among those who are at increased risk of suffering from burnout and compassion fatigue, which may lead to deterioration in their mental health. The symptoms of these conditions may also affect interpersonal relationships and the ability to provide patients with the highest quality of care. Mindfulness-based interventions (MBI) have been linked to improvements in mood, stress, anxiety, burnout, and compassion fatigue. One of the included studies even associated it with improvements in the level of empathy (Barbosa et al., 2013). MBIs focus on increasing awareness of the present moment. This can be done by identifying and accepting the emotions, thoughts, and bodily sensations that are being felt. MBIs can include activities such as focused breathing, body scanning, aromatherapy, and meditation. Aromatherapy can be used synchronously to enhance the effectiveness of mindfulness meditation (Soto-Vásquez & Alvarado-García, 2017).

The goal of this project was to increase knowledge of the symptoms and risk factors for compassion fatigue and burnout, and how MBIs can be utilized to counter their effects. Educational information was presented in a synchronous presentation to all providers and staff who volunteered to participate. Instructions on how to perform the body scan technique and mindfulness breathing were provided, and participants were guided through an experiential mindfulness breathing exercise. Knowledge level was tracked with a pretest and posttest. The posttest also included intent to implement MBIs post-intervention. Completion of a follow-up survey was requested two weeks post-intervention to assess if increased knowledge on compassion fatigue, burnout, and MBIs encouraged caregivers to implement MBIs, the

frequency of practice, and identified encountered barriers. No responses were gathered from the follow-up survey.

Background Knowledge and Significance

The types of services provided by mental health caregivers, the populations treated, and the growing demand are all factors that increase the risk for these caregivers to develop compassion fatigue and burnout. Compassion fatigue can present as a state of emotional stress, exhaustion, numbness, or indifference when caring for populations of people that have experienced trauma, suffering, or other hardships. Essentially, one loses the ability to empathize or feel compassion. It has also been defined as “a state of tension and preoccupation with traumatized patients by re-experiencing the traumatic events, avoidance/numbing of reminders, and persistent arousal associated with the patient” (Ray et al., 2013, p. 255). This term was created in 1992 by Carla Joinson, specifically with nurses in mind (Ray et al., 2013). Compassion fatigue fits under the broader term of burnout. However, burnout does not have to include compassion fatigue. Burnout is a term that comprises an individual’s response to chronic interpersonal stressors that cause distressing symptoms and even cynicism (Ray et al., 2013). These symptoms of burnout may present as emotional exhaustion, depersonalization, and low levels of personal accomplishment (O’Connor et al., 2018).

Contributing Factors

Mental health services provide care to clients with a wide variety of backgrounds, experiences, and traumas. Many of these clients present in a state of vulnerability or distress. It is essential to provide a place where clients feel safe. To facilitate that feeling of security, mental health caregivers must offer empathy and emotional support. The continual need to be

empathetic and use emotional energy while caring for patients has been identified as a factor that contributes to compassion fatigue (Cavanagh et al., 2020). The role of the mental health caregiver places them in a position where many patients are sharing their trauma experiences. In this scenario, the mental health caregiver can experience secondary trauma. Secondary trauma is another factor that can contribute to the development of compassion fatigue (Cavanagh et al., 2020). The last element identified by Cavanagh et al. (2020) as a risk factor for compassion fatigue is the work environment. The need for mental health services continues to increase. The number of mental healthcare visits in community health centers rose from 8% to 14% annually between 2007 to 2015 (Bruckner et al., 2019). The growing demand for mental health services directly impacts the work environment; it creates a certain level of pressure to increase patient load and work more hours to accommodate this higher need.

Mental Health Specifics

Caregivers in mental health settings report higher levels of burnout than those in other healthcare settings (Johnson et al., 2018). A meta-analysis by O'Connor et al. (2018) included 33 studies (n=9409 combined participants) and pooled the results to estimate the prevalence of burnout symptoms among mental health caregivers. The analysis listed the prevalence of emotional exhaustion at 40%, depersonalization at 22%, and low levels of personal accomplishment at 19%. An alternative study estimates the prevalence of burnout among mental health caregivers to range from 21%-67% contingent on differing variables (Johnson et al., 2018). Being employed on community mental health teams increase an individual's vulnerability to these burnout symptoms (O'Connor et al., 2018). Higher levels of burnout have been significantly linked to adverse events and lower patient satisfaction (Johnson et al., 2018).

Salyers et al. (2015) found that burnout in community mental health could be associated with lower self-rated quality of care. Yanchus et al. (2017) used survey data from 10,997 mental health caregivers and found that higher levels of emotional exhaustion were associated with higher turnover intention. A secondary analysis conducted by Shah et al. (2021) found that of the 418,769 nurses that reported leaving a job in 2017, 31.5% attributed burnout as their reason for leaving. Turnover can be a challenging obstacle in community mental health settings. Significant turnover disrupts the continuity of care, causes frustration among patients as they establish trust in a new provider, and can increase the costs of businesses.

Health Implications

Chronic compassion fatigue and burnout correlate closely with reduced mental health, which can manifest as anxiety, grief, nightmares, depression, relationship conflicts, and physical complaints (Ray et al., 2013). A systematic review by Lamothe et al. (2016) found that practicing MBIs has been shown to positively impact the mental health of healthcare providers. Participating in MBIs has also been identified as a protective factor to prevent the frequency and severity of compassion fatigue and burnout in mental health professionals (Turgoose & Maddox, 2017). The idea of mindfulness originated from Buddhism (Sharma & Rush, 2014). Jon Kabat-Zinn, PhD, described mindfulness as “a moment-to-moment awareness that is cultivated by purposefully paying attention to the present moment, with a nonjudging, non-striving attitude of acceptance” (Sharma & Rush, 2014, p. 271). Mindfulness has a large amount of support in current literature. A systematic review done by Turgoose and Maddox (2017) identifies participation in mindfulness and MBIs as a protective factor to prevent the frequency and severity of compassion fatigue. Lowering the frequency and severity of burnout and focusing on

improving the well-being of our mental health caregivers have many long-term benefits. Some of these benefits include improving patient care quality, reducing safety incidents, and preventing unnecessary turnover (Johnson et al., 2018).

Mindfulness

The integration and consistent use of MBIs among mental health caregivers can lower levels of compassion fatigue, burnout, and stress; while also increasing overall satisfaction with life and self-compassion (Duarte & Pinto-Gouveia, 2016). The most common MBIs found in the selected literature were the body scan, mindfulness breathing, and various additional types of mindfulness meditation. The body scan and mindfulness breathing are both types of mindfulness meditation. There were no significant benefits identified in the included literature of one type of MBI compared to another. The body scan is when focus is brought sequentially to specific parts of the body, noticing sensations in a non-judgmental objective manner (Kropp & Sedlmeier, 2019). Mindfulness breathing is when focus is kept on the breath and returned to the breath if the mind wanders (Kropp & Sedlmeier, 2019). The addition of deep breathing exercises, where each step of the breath is timed, can be added to mindfulness breathing (Perciavalle et al., 2017). Perciavalle et al. (2017) also included the physical benefits of MBIs; heart rate and salivary cortisol levels were measured immediately before a one-hour mindfulness session and directly after. The results demonstrated a decrease in both heart rate and salivary cortisol levels of participants, which indicates a decreased stress response from the sympathetic nervous system (Perciavalle et al., 2017). These techniques have the flexibility to fit into the desired timeframe of participants and can be performed at any location. Instructions on the body scan and mindfulness breathing will be included in the education provided to participants.

Local Problem

Utah is frequently associated with poor mental health in public data. The following statistics are intended to illustrate the above-average need for mental health services locally and how this need may impact mental health caregivers. The prevalence of adults with mental illness in Utah is quite high, some data rank Utah as having the highest prevalence in the country at 26.86%; the national average reveals a prevalence of adults with mental illness is 19.86% (Reinert et al., 2021). Utah is also known to have the highest prevalence rate of adults with serious thoughts of suicide at 6.19%; the national average is 4.58% (Reinert et al., 2021). These data were extrapolated during the 2019 through 2020 timeframe. Suicide is the second leading cause of death in adults in Utah for those aged 18-45 (Utah Department of Health [UDH], 2021). While mental illness is problematic in the adult population in Utah, it has also been a persistent problem in the youth population. While the national average of youth who experience severe major depressive episodes is 10.5%, Utah is even higher, with a prevalence of 14.5% (Reinert et al., 2021). Further, suicide is Utah's leading cause of death in youth aged 10-17 (UDH, 2021).

Salt Lake County has an estimated prevalence of adults with depression at 23.6%, while the city of Sandy, UT, has an estimated prevalence of up to 32.1% (UDH, 2021). These elevated numbers may tax mental health providers in these geographical areas. The prevalence of compassion fatigue and burnout among mental health caregivers is elevated nationwide; there is a lack of data when examining at a local level (Cavanagh et al., 2020). Due to the elevated prevalence of severe depressive episodes in Sandy, Utah, there is a high potential for increased acuity of the patient population, which often leads to a secondary trauma response by caregivers.

Anderson Wellness Group is an outpatient clinic formed in 2018. Their patient census has rapidly grown since opening. Anderson Wellness Group provides mental health care to individuals throughout their lifespan. Some services they offer include medication management, psychotherapy, nasal Esketamine treatment, *transcranial magnetic stimulation* (TMS) treatment, and specialized lab work. Options are provided for those that prefer self-pay while also accepting most commercial insurance, along with Medicaid and Medicare. Telehealth visits are offered to treat patients who may live in rural areas, have limited transportation options, or have physical or psychological barriers. Anderson Wellness Group strives to provide inclusivity and acceptance; their website reads, “We treat everyone in the community regardless of lifestyle, background, or spirituality” (Anderson Wellness Group, 2022).

Anderson Wellness Group has had an influx of patients seeking treatment at their location. With a higher number of patients seeking treatment, the increased level of demand has placed a strain on providers and staff. Providers and staff are obligated to keep up with the growing needs of patients and continue providing care to a diverse population while risking experiencing burnout or compassion fatigue themselves.

Intended Improvement

Project Purpose

The purpose of this quality improvement (QI) project was to educate mental health caregivers on the symptoms and risk factors of compassion fatigue and burnout while raising awareness about MBIs and how they can be used to combat these symptoms. MBIs can be implemented into practice to decrease the frequency and severity of compassion fatigue and burnout. The goal was to increase knowledge of the benefits of MBIs and intent to apply the

techniques to their daily routine. Assessment of barriers to implementation was also planned to be assessed but was not completed due to a lack of responses received.

Project Question

The question for this DNP project was: “Will an evidence-based educational presentation to providers at Anderson Wellness Group about mindfulness-based interventions to address burnout and compassion fatigue improve knowledge and intent to self-implement daily?”

Project Objectives

The DNP project proposal included the following objectives: These objectives will be discussed further in the findings section:

1. The creation of a presentation to educate staff and providers on the risk factors and symptoms of compassion fatigue, burnout, and MBIs. The education included the benefits of MBIs and how the techniques can be used to combat compassion fatigue and burnout. The presentation contained instructions on two evidence-based MBIs: the body scan and mindfulness breathing. Guidance was provided through an experiential mindfulness breathing exercise.
2. A pretest was administered before the presentation, and a posttest after the presentation to assess knowledge of compassion fatigue, burnout, MBIs, and intent to implement.
3. A 2-week post-intervention survey was attempted that addressed if the information provided in the presentation prompted them to participate in MBIs, how often they performed MBIs, and what barriers were faced that could be targeted for future change.

Theoretical Framework

Health Belief Model

The Health Belief Model (HBM) acted as a framework for this project. The Health Belief Model was created with an educational program in mind, specifically trying to overcome barriers that prevent populations from acting on provided instruction that has proven benefits (Abraham & Sheeran, 2015). The Health Belief Model is based on research that was performed from as early as the 1950's up until the late 1970s. The research performed in that time frame provided different evidence to support the idea that there is a relationship between health beliefs and behaviors. It was theorized that different beliefs could make behaviors seem more or less appealing (Abraham & Sheeran, 2015). Providing education that highlighted the risks, severity, and increased perception continued to produce positive results.

The Health Belief Model suggests that, with demographic variables and psychological characteristics in consideration, five key components influence the choice to act on intervention (Abraham & Sheeran, 2015). These components include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action (Abraham & Sheeran, 2015). More recent support has been completed to further validate the use of this model. Sulat et al. (2018) completed a scoping review of the literature and found that perceived barriers and perceived benefits were the strongest predictors of follow-through, and perceived severity was the weakest. A systematic review was performed by Jones et al. (2013) to evaluate the effectiveness of this model on behavioral interventions and improving adherence. Of the 18 studies they included, 14 reported clinically significant improvement, and 7 showed moderate to large effect levels (Jones et al., 2013).

Perceived Susceptibility

Perceived susceptibility refers to how each individual perceives their risk of succumbing to any specific illness or disease (Abraham & Sheeran, 2015). Individual levels of perception may vary based on each person's feelings and beliefs. The educational presentation provided information on relevant risk factors that have been associated with the development of compassion fatigue and burnout. Expanding awareness of risk factors for compassion fatigue and burnout allowed each participant to better assess their susceptibility.

Perceived Severity

Perceived severity refers to how seriously each individual perceives the risk of contracting or not treating an illness or disease (Abraham & Sheeran, 2015). Compassion fatigue and burnout symptoms, how they can present, and the consequences of not acknowledging them were discussed. Awareness was brought to the impact this can have on the quality of care that is provided and patient satisfaction.

Perceived Benefits

Perceived benefits refer to how an individual perceives the effectiveness of the available options to reduce the threat of illness or disease (Abraham & Sheeran, 2015). Their choice to participate may have been influenced by how valuable they feel MBIs to be for themselves. The evidenced-based research was presented in the educational presentation and included the benefits and protective factors participating in MBIs has for mental health caregivers.

Perceived Barriers

Perceived barriers refer to how a person may feel about barriers that could hinder their progress in being able to participate (Abraham & Sheeran, 2015). In this project, time was

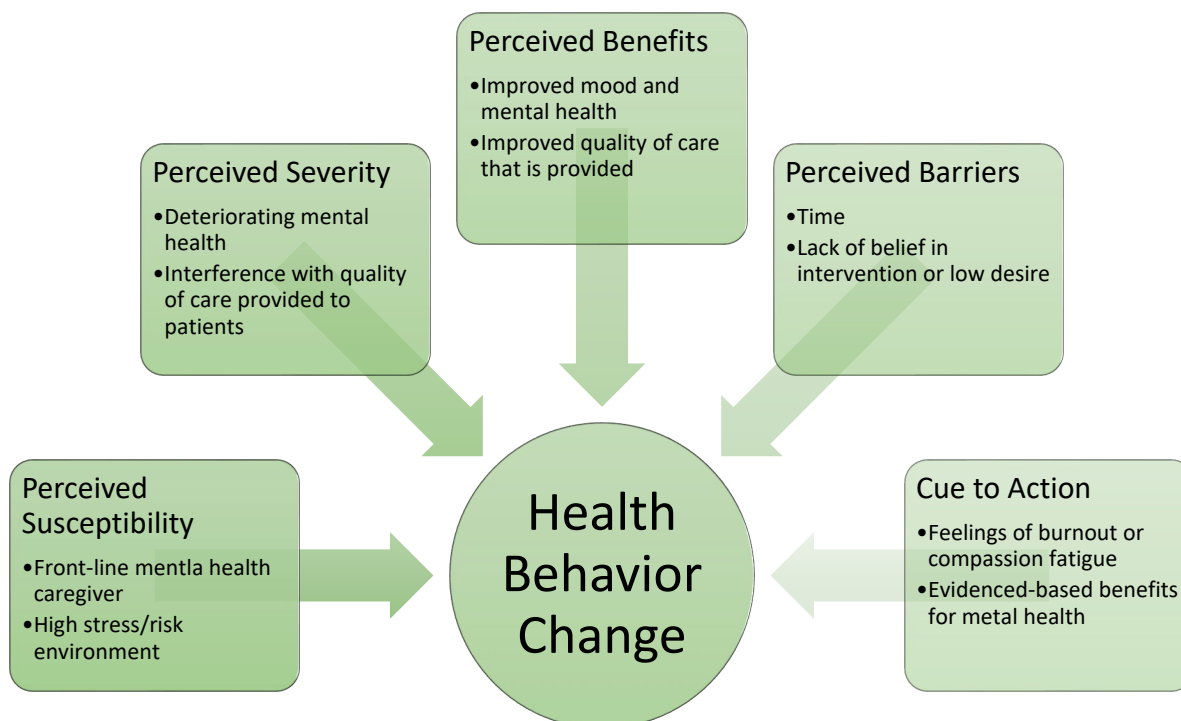
foreseen as the largest potential obstacle. There was no additional cost for participants. There were no dangerous or unpleasant side effects. The component of time was addressed by providing simple MBIs that could easily fit into tight schedules.

Cue to Action

Cue to action is the catalyst that is needed to encourage acceptance and action to start the recommended plan (Abraham & Sheeran, 2015). In this situation, the cues were identified as noticing symptoms of compassion fatigue or burnout in themselves or the desire to proactively prevent these symptoms from occurring. External factors that could have influenced participation may have been the motivation to learn new techniques for themselves, which could then be utilized to benefit many aspects of their lives.

Figure 1

Integrating Mindfulness-Based Interventions into The Health Belief Model



Literature Synthesis

Evidence Search

Google Scholar and the University of Arizona Library were used to search for results related to the project question: “Will an evidence-based educational presentation to providers at Anderson Wellness Group about mindfulness-based interventions to combat burnout and compassion fatigue improve knowledge and intent to self-implement daily?” The keywords used were “burnout,” “compassion fatigue,” “mindfulness-based interventions,” and “mental health caregivers.” The search was limited to studies that had been published between 2013 and 2022, which yielded 4,840 articles. Articles were screened based on their relevance to my project. A total of 65 articles were selected for further review. Thirteen were excluded due to restricted access rights, and another 22 articles were eliminated for lack of relevance of the intervention choice, the overall quality of the study, or the lack of applicability to the current project. The remaining 37 articles were reviewed, and 15 were ultimately selected for further exploration.

Of the 15 articles selected, various levels of studies were included: two systematic reviews, one systematic review/meta-analysis, one meta-analysis, six randomized control trials, one mixed-methods non-randomized control study, one exploratory study, one non-randomized control study, one non-experimental cross-sectional review, and one narrative review. In addition, literature was selected that demonstrates the relationship between MBIs and burnout/compassion fatigue, MBIs and mood, MBIs and healthcare workers, and evidence-based components of MBIs that could be utilized in this project. A literature review table can be reviewed in Appendix G and a PRISMA flow diagram in Appendix H.

Comprehensive Appraisal of Evidence

The literature synthesis was guided by the literature reviewed, where themes became evident. There were three apparent themes, including compassion fatigue, burnout and stress, and MBI components. Each of these themes is explored in subsequent sections and addresses the need for education and resources.

Compassion Fatigue

Cavanagh et al. (2020) found that compassion fatigue has a high prevalence among all healthcare professions and that it is caused by the continual use of empathy and emotional energy, exposure to secondary trauma, and the work environment. Turgoose and Maddox (2017) also link empathy, exposure to trauma (individual or secondary), and high patient caseloads as risk factors for compassion fatigue. Turgoose and Maddox (2017) also identified an association between mindfulness and lower rates of compassion fatigue. Duarte and Pinto-Gouveia (2016) found that participating in MBIs significantly decreased the severity of compassion fatigue. These findings are similar to the findings of Crowder and Sears (2017), who found that MBIs significantly improved compassion satisfaction. Qualitative data was gathered by Crowder and Sears (2017) that emphasized how participating in MBIs improved interpersonal relationships, increased hopefulness, and improved overall mental and physical well-being. These findings were similar to those of Duarte and Pinto-Gouveia (2016), which suggested that participating in MBIs increased satisfaction with life and self-compassion.

Ray et al. (2013) found lower levels of compassion fatigue, higher levels of compassion satisfaction, and higher overall levels of “degree of fit” in six workplace categories (workload, control, reward, community, values, & fairness) predicted if a healthcare provider would

experience burnout. The studies that correlated compassion fatigue among healthcare professionals and MBIs came to the same consensus; practicing MBIs is associated with lower levels of compassion fatigue and increased compassion satisfaction (Turgoose & Maddox, 2017; Duarte & Pinto-Gouveia, 2016; Crowder & Sears, 2017). Three of the included studies provided insight into specific risk factors for developing compassion fatigue as a mental health caregiver (Cavanagh et al., 2020; Turgoose & Maddox, 2017; Ray et al., 2013).

Burnout, Stress, and Anxiety

Crowder and Sears (2017), Lamothe et al. (2016), and Duarte and Pinto-Gouveia (2016) all discovered that participation in MBIs among healthcare professionals was significantly related to reduced rates of burnout. Crowder and Sears (2017) offered further insight with 13-week post-intervention data that showed burnout was returning as less frequent MBIs were being practiced. Barbosa et al. (2013) did not find the quantity of reduction in burnout among graduate-level healthcare students to be statistically significant. Similarly, Khoury et al. (2015) found that MBI participation among healthy adults had a small impact on burnout levels. However, both Khoury et al. (2015) and Barbosa et al. (2013) found significant improvements in stress and anxiety levels. Significant improvement in stress and/or anxiety levels with MBI participation was echoed in six additional studies performed by Call et al. (2014), Perciavalle et al. (2017), Sharma and Rush (2014), Duarte and Pinto-Gouveia (2016), Soto-Vásquez and Alvarado-García (2017), and Lamothe et al. (2016).

Improvements in mood disturbance or depressive symptoms were also found to correlate with MBI participation by Perciavalle et al. (2017), Khoury et al. (2015), and Lamothe et al. (2016). Perciavalle et al. (2017) also measured heart rate and salivary cortisol levels immediately

after an MBI was performed and found that this practice significantly impacted heart rate and salivary cortisol levels. Utilizing MBIs as a successful way to lower burnout was supported by all studies performed among mental health professionals (Crowder & Sears, 2017; Lamothe et al., 2016; Duarte & Pinto-Gouveia, 2016). However, significant change in the level of burnout when utilizing MBIs was not found when performed by graduate healthcare students or healthy individuals (Barbosa et al., 2013; Khoury et al., 2015). Barbosa et al. (2013) suggested a further investigation into the effectiveness of MBIs in reducing burnout among graduate healthcare students and their practicing healthcare professional counterparts.

Significant improvements in stress and/or anxiety levels when participating in MBIs were not disputed by any of the included studies (Call et al., 2014; Perciavalle et al., 2017; Sharma & Rush, 2014; Duarte & Pinto-Gouveia, 2016; Soto-Vásquez & Alvarado-García, 2017; Barbosa et al., 2013; Khoury et al., 2015; Lamothe et al., 2016). The authors that examined the correlation between MBIs and mood components or depressive symptoms produced positive results (Perciavalle et al., 2017; Khoury et al., 2015; Lamothe et al., 2016).

MBI Components

This section examines which specific MBI techniques or components were utilized in the included studies and their effectiveness. The most commonly included MBIs were the body scan, mindfulness breathing exercises, and various meditation techniques. The body scan was utilized by Khoury et al. (2015), Call et al. (2014), and Duarte and Pinto-Gouveia (2016). Mindfulness breathing exercises were used by Perciavalle et al. (2017) and Duarte and Pinto-Gouveia (2016). Meditation techniques were used by Khoury et al. (2015), Duarte and Pinto-Gouveia (2016), and Soto-Vásquez and Alvarado-García (2017). Kropp and Sedlmeier (2019) found no statistically

significant differences between using the body scan, mindfulness breathing exercises, or loving-kindness meditation; the body scan exhibited a slight increase in benefits.

Soto-Vásquez and Alvarado-García (2017) tested mindfulness meditation with and without aromatherapy and found that both provided a statistically significant ability to decrease anxiety; the mean improvement of the combination groups ranged from 31.86%-47.73%, while mindfulness meditation alone ranged from 26.55%-30.77%. Lee et al. (2017) found aromatherapy with essential oils improved perceived stress and anxiety, but not significantly. Soares et al. (2021) and Lee et al. (2017) suggest using lemongrass and peppermint essential oils for mood and anxiolytic effects.

Khoury et al. (2015) found improvements in burnout when using the body scan and meditation techniques, but not to the same level as the significant improvements found in stress and anxiety. The effectiveness of the body scan technique in reducing burnout was supported by two of the included studies (Call et al., 2014; Duarte & Pinto-Gouveia, 2016). The effectiveness of meditation techniques in reducing burnout was supported by Duarte and Pinto-Gouveia (2016) and Soto-Vásquez and Alvarado-García (2017).

Mindfulness breathing was associated with decreased rates of burnout by Duarte and Pinto-Gouveia (2016) and reduced stress and anxiety by Perciavalle et al. (2017) and Duarte and Pinto-Gouveia (2016). Soto-Vásquez and Alvarado-García (2017) found that the addition of aromatherapy to mindfulness meditation had increased effects on decreasing stress and anxiety. Similar outcomes were produced regardless of the MBI utilized; therefore, this project investigator selected the body scan technique and mindfulness breathing technique. Both of the chosen techniques offer a level of versatility concerning time and place.

Strengths of Evidence

The evidence contains data gathered from large pools of participants. The association of a decrease in burnout in healthcare providers and reduced stress and/or anxiety levels when utilizing MBIs was supported by several thoroughly completed studies that included large quantities of evidence and low risk for bias (Lamothe et al., 2016; Ray et al., 2013; Turgoose & Maddox, 2017). Quality supportive evidence for the use of MBIs to lower stress and/or anxiety in healthy individuals was gathered from a systematic review by Sharma and Rush (2014) and a meta-analysis by Khoury et al. (2015). Further supportive data was gathered from randomized control trials with greater than 60 participants (Call et al., 2014; Lee et al., 2017; Soto-Vásquez & Alvarado-García, 2017).

Weaknesses of Evidence

Two non-randomized control studies were included that support the effectiveness of MBIs in decreasing compassion fatigue and burnout among healthcare providers (Duarte & Pinto-Gouveia, 2016; Crowder & Sears, 2017). These studies are non-randomized, which places them at risk for bias. The decision to include these studies was based on the fact that they produced outcomes consistent with higher quality studies, and potential biases were addressed in their findings. The meta-analysis by Khoury et al. (2015) that disputed the significance of MBIs in reducing burnout could be skewed because each included research article did not measure burnout levels. Some studies with lower amounts of participants or limited variations in demographics were included due to their ability to be easily replicated and produce similar results.

Gaps and Limitations

Studies were included in this project that were not based solely on healthcare providers. Limitations are present in the quality of the data gathered the risk for bias, smaller sample sizes, some conflicting measures, and narrow demographics. The included research addresses areas that contribute to burnout and compassion fatigue that cannot be fixed with MBIs; the work environment, caseload, demand for service, and acuity of the patient population. MBIs can only decrease the stress and severity of compassion fatigue and burnout in those scenarios.

More research is necessary to gather data specific to mental health providers and MBIs. Further research may consider a focus on various MBIs, and their effectiveness and provide set instructions that can be easily replicated by those who desire to practice MBIs.

Implications

A review of the current literature has demonstrated that MBIs can be a valuable tool to help reduce compassion fatigue, burnout, and stress among mental health caregivers. MBIs can fit into variable schedules, have no monetary cost, can be performed in any location, and have no known harmful effects. Enhancing knowledge and awareness of the benefits of MBIs among mental health caregivers and assessing barriers to participation in MBIs may lead to new ideas for future implementation processes.

METHODS

Project Design

This QI project intended to increase knowledge about the risk factors and symptoms of burnout and compassion fatigue, the benefits of MBI incorporation, evaluate the intent to practice daily MBIs and assess potential barriers to participation in MBIs. A quantitative pretest-

posttest design was utilized to gather data from a knowledge assessment completed by participants immediately before and after the intervention. Further data was attempted to be collected two weeks after the intervention via an online follow-up survey.

The objectives of the educational presentation are listed below. Participants' knowledge level of these objectives was measured in the pretest and posttest.

1. Identification of signs and symptoms of compassion fatigue and burnout.
2. Identification of possible risk factors of developing compassion fatigue and burnout and the prevalence among mental health caregivers.
3. Recognition of how burnout and compassion fatigue can impact the work environment and patient care.
4. The benefits of participating in MBIs and understanding the body scan and mindfulness breathing techniques.
5. Increase the participants' intent to implement MBI participation in their daily life.

Model for Implementation

Part I

The *Model for Improvement* (MFI) method was created to accelerate the rate of change and overall improvement in healthcare settings (Institute for Healthcare Improvement [IHI], 2022). Part I of the MFI consists of three guiding questions:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What change can we make that will result in improvement?

These questions guide the following steps: forming teams, setting aims, establishing measures, and selecting which change to use (IHI, 2022). This DNP project aimed to increase knowledge of the symptoms, prevalence, and risk factors of compassion fatigue and burnout. Secondly, to increase understanding of the benefits practicing MBIs offers and how they could be utilized to combat compassion fatigue and burnout. The third question was assessed by evaluating whether the intervention prompted the intention of implementing MBIs, the frequency of MBI practice, and barriers to MBI participation. Finally, a pretest and posttest measured knowledge level and intent to implement MBIs (Appendix D). The intervention provided education through a PowerPoint presentation, an experiential guided MBI, and an MBI handout for reference (Appendix E). After two weeks, the investigator requested the participants to complete an assessment to identify if they had implemented MBIs, how frequently they practiced MBIs, and what barriers were faced in the process. No responses from this survey were gathered.

Part II

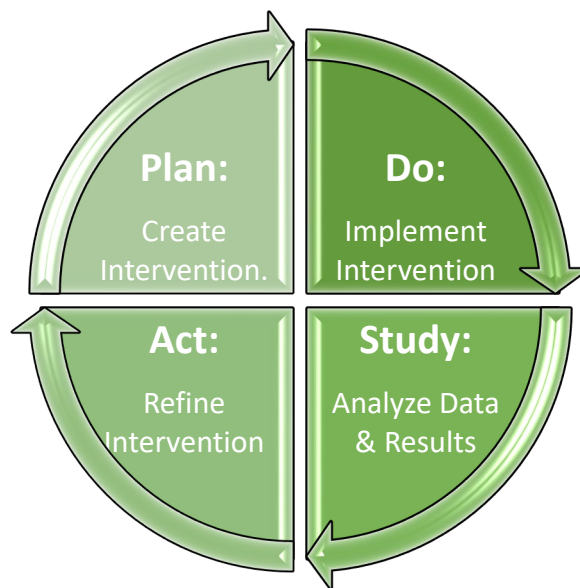
The Plan-Do-Study-Act (PDSA) cycle is utilized in part II of the MFI framework, the testing and implementation portion (IHI, 2022). The PDSA cycle can be used continually during the testing process. It is used to gain confidence in the effectiveness of a change, evaluate how much improvement can be expected, and gain further buy-in at the implementation site (IHI, 2022). The PDSA cycle was used in this project while creating the educational PowerPoint presentation to ensure that all necessary aims would be met.

Plan-Do-Study-Act (PDSA) Cycle

Plan

The first step of the PDSA cycle is the planning phase. The planning phase consists of creating your test or observation, how data will be collected, describing objectives, make predictions about the outcome (IHI, 2022). The preventative measure to address compassion fatigue and burnout became apparent as the influx of patients seeking care grew. Data was gathered through online research that provided a plethora of evidence-based support for using MBIs. Supportive evidence in the literature was consistent across many MBI techniques. For example, their versatility was chosen for mindfulness breathing and the body scan technique. The chosen MBIs are not constrained to a particular time or location, which may have benefits regarding the needs of the mental health caregivers who chose to participate. An educational presentation was created that aligned with the aims of this project.

The educational presentation was presented in the conference room of Anderson Wellness Group synchronously in person via a PowerPoint presentation. Participants were guided through an experiential mindfulness breathing technique. Google Forms was utilized to create a pretest and posttest that measured knowledge and awareness directly before and after the presentation. Completion of a follow-up survey was requested two weeks after the intervention via Google Forms. The follow-up survey was created to assess if the presentation prompted MBI participation and evaluated the barriers faced. Finally, a timeline was created to guide the plan's progress; dates were updated to reflect an accurate timeline (Appendix F) aligned with necessary approvals from the University of Arizona and the Institutional Review Board (IRB).

Figure 2*Integration of the PDSA Cycle****Do***

The second step of the PDSA cycle is the action (do) phase. During this step, the intervention tested, and limitations, problems, and observations are documented (IHI, 2022). The second step essentially translates to the implementation phase of this project. The pretest was implemented, followed by the educational presentation and guided experiential mindfulness breathing in person at the facility. The education was developed and grounded in evidence. At the conclusion of the intervention, the posttest was administered. The posttest consisted of the same questions that were present on the pretest, with the addition of a Likert scale question evaluating intent to implement MBIs into their life. The participants were also asked to complete a final survey two weeks following the intervention.

Study

The third step of the PDSA cycle is the study phase. The progression to this step involves the analysis of the data where the results are evaluated (IHI, 2022). The methods utilized in this phase included the pretest and posttest results, which were compared and examined for statistical significance via the paired t-test. The information addressed was discussed in the previous section. The follow-up survey results were intended to assess if the intervention was effective at prompting participation in MBIs among participants. Finally, a question regarding the barriers was placed in the two-week follow-up survey to broaden the course of action in the following step of the PDSA cycle.

Act

Act is the fourth and final step in the PDSA cycle. The act step aims to refine the process, determine what modifications should be made, and prepare plans for future testing (IHI, 2022). The outcomes from the gathered data were considered when completing the discussion portion of this project to plan for future implications. Results were evaluated to identify areas that could pose an opportunity for growth and improvement when educating on methods to combat compassion fatigue and burnout.

Setting and Stakeholders

The implementation of this project took place at Anderson Wellness Group, an outpatient mental health clinic in Sandy, Utah. Sandy has an estimated prevalence of adults experiencing depression at a rate of 32.1%, 8.5% higher than Salt Lake County, where Sandy is located (UDH, 2021). Anderson Wellness Group offers integrative care with the collaboration of nurse practitioners and therapists. The mental health caregivers at this location include psychiatric

mental health nurse practitioners (PMHNP), family nurse practitioners (FNP), therapists, nurses, medical assistants (MA), and administrative staff. Patients throughout their lifespan are welcome to receive services at Anderson Wellness. Unfortunately, there is a high demand for mental health services, but with very few providers, causing an elevated risk of burnout and/or compassion fatigue.

The stakeholders in this project included the owners of Anderson Wellness Group, the caregivers employed with this practice, and the patients they serve. Each of these stakeholders is impacted when caregivers are experiencing burnout and compassion fatigue. The owners of Anderson Wellness group are invested in this project due to the benefits decreasing compassion fatigue and burnout can have for their company, employees, and patients. Decreasing the rate of employees experiencing compassion fatigue and burnout has the potential to benefit the company by reducing the risk of attrition or the need for leaves of absence due to these conditions (Cavanagh et al., 2020). Improvements in the previously stated areas will improve the financial stability of the company and maintain continuity of care for the patients. The mental health caregivers at Anderson Wellness group are stakeholders because this project is providing them with knowledge and tools that can be utilized to combat compassion fatigue and burnout. Practicing MBIs can improve their own mental health and potentially the quality of care provided to their patients. Elevated states of burnout have been associated with a higher risk of adverse events and lower patient satisfaction (Johnson et al., 2018). Patients of Anderson Wellness Group are secondary stakeholders in this project. As burnout and compassion fatigue are addressed in caregivers, a trend may also arise in the quality of care provided to patients and overall patient satisfaction levels (Johnson et al., 2018).

Planning the Intervention

The initial approval was sought through a discussion with the project investigator's site champion and the practice owners. The desire to complete a project to help increase knowledge about burnout and compassion fatigue among caregivers at this location was discussed. Buy-in was gained by providing the project plan with supporting evidence to the site stakeholders. Official site approval was obtained on August 17, 2022 (Appendix A).

The intervention was performed in person, synchronously, at Anderson Wellness Group during the time set aside for the weekly provider staff meeting. Those who were interested in participating gathered in the clinic conference room. When a person voluntarily chose to participate, a disclosure form was accessed by scanning a QR code which allowed viewing of the document (Appendix B). Participants read and acknowledged the disclosure before moving on to the pretest questions. The pretest was created on Google Forms. The first four questions of each test/survey were questions used to pair results while maintaining anonymity (Appendix D). These questions produced responses in the form of a number or letter. The questions requested information that could not be linked to any single individual (e.g., "What is the last letter of your childhood street?"). Four questions were included to avoid participants with the same identifying sequence. Once all pretests were completed, the educational PowerPoint was presented, including the experiential mindfulness breathing activity (Appendix E). The educational presentation was designed with the aims of this project in mind. The five components of the MFI, discussed in the theoretical framework section, were utilized to guide the material that was included. The educational presentation lasted approximately 20 minutes. The experiential mindfulness breathing exercise was included in the presentation time and was led by the project

investigator and took roughly three minutes to complete. The breathing exercise aligned with the instructions presented on slide #7, maintaining consistency for future implementation. A posttest was created on Google Forms and was administered immediately following the presentation. A different QR code was provided to the participants and directed them to the posttest, which began with the same four questions as the pretest for result pairing purposes.

A handout with information on the body scan, mindfulness breathing techniques, and instructions on completing these MBIs was offered to participants for future reference. These handouts were direct prints of slides 6 and 7 from the educational PowerPoint presentation (Appendix E).

The follow-up survey was sent via email to all employees 14 days after the intervention. This email requested all employees who participated in the intervention to complete the follow-up survey, accessed by a QR code in the email. The follow-up survey began with the same four questions as the pretest and posttest (Appendix D). Completion of the survey within 72 hours was requested. The follow-up survey was created to assess if participants chose to implement MBIs during the two weeks post-intervention and the frequency of participation. The intention was to compare the frequency of implementation to the Linkert scale scores that assessed for intent to implement in the posttest. Data was reviewed and compared based on the mean, median, range, paired t-tests, and unpaired t-tests from the pretest and posttest. The follow-up survey data was projected to be evaluated categorically based on the variables of each response.

Participants and Recruitment

The criteria to participate in this project included being an Anderson Wellness Group employee with direct patient contact, over 18 years old, and fluent in English. An employee

email list was acquired from the office manager at Anderson Wellness Group. A recruitment email was sent to all employees one week before the intervention to inform them about the project. The email disclosed the details of this project, the voluntary nature of the project, and how the information would be used. A second reminder/recruitment email was sent two days before the intervention (Appendix C). The investigator was on-site for two days leading up to the implementation to address additional questions or inquiries. The project was implemented on October 5, 2022.

Consent and Ethical Considerations

The Belmont Report is a document used to protect the rights of humans who are participants in research (Miracle, 2017). The three major principles of this report are respect for persons, beneficence, and justice. The Belmont Report was used in this DNP project as an ethical framework to ensure all principles were met. This DNP project was also reviewed for compliance by the IRB and was not initiated until approval had been granted.

Respect for Persons

Two ethical concepts define respect for persons: Autonomy and protection of vulnerable populations (Miracle, 2017). Every individual has the right to decide if they would like to participate in any form of research and the right to end their participation before completion. Respect for persons was addressed in this project by allowing each person the autonomy to become a voluntary participant if desired.

Beneficence

Beneficence can be described as the principle of doing good and entails doing no harm, increasing potential benefits, and decreasing possible adverse events (Miracle, 2017). This

principle was followed by providing informed consent to each participant. It was expected that participants must understand the purpose of the study, what would be expected or asked of them, all risks and benefits of participation, advised that potential risks may be unknown, and guarantee that participation was voluntary, so there was no fear of reprisal would be present (Miracle, 2017). The current project maintained beneficence by providing a disclosure statement aligned with The Belmont Report's principles before implementation. Participation could not begin until they had read and acknowledged the disclosure statement. The aims of this project, participant expectations, potential risks, potential benefits, anonymity, and intended use were addressed in the statement above (Appendix B).

Justice

Justice can be defined as equal treatment and fairness for all people (Miracle, 2017). There must be no discrimination, no pressure to participate, and no fear of reprisal for lack of participation or early withdrawal. Every person who met the inclusion criteria for this project had the opportunity to choose to participate if desired. This was ensured by sending out a recruitment email containing a description of the project and the date and time of the presentation (Appendix C). There was no incentive to participate or consequence for lack of participation.

Data Collection

Quantifiable data was gathered through the pretest and posttest. A scoring system was used; one point for each correct response. The pretest data were obtained directly before the intervention, and the posttest data was gathered immediately after the intervention. Each test took roughly five minutes to complete. Once all data from the pretest and posttest were completed, the initial analysis process was started. And 17 days after the intervention, no

responses were submitted from the follow-up survey. If follow-up survey data had been completed, evaluation would have been done categorically based on the variables of each response.

All responses collected through Google Forms are stored on the password-protected account of the project investigator. Data exported into Excel is saved solely on the password-protected computer of the project investigator. The project investigator is the only individual with access to the Google Forms data and the exported data in Excel. Following the completion of this project, data will be stored on the project investigator's computer for two years and in the University of Arizona College of Nursing's password-protected cloud service.

Data Analysis

Knowledge was assessed from data gathered by the pretest and posttest. Initially, it was analyzed as discrete numerical data. Each test has a maximum score of 25 points, one point for each correct response. The points were dispersed based on the type of question. True/false questions were worth one point each. Multiple choice questions were worth one point each. Select all that apply questions varied in value from 3-5 points each. The pretest and posttest included eight true/false questions, two multiple choice questions, and four select all that apply questions. The data was categorized based on knowledge of compassion fatigue and burnout and knowledge of MBIs. Seven of the 14 questions were related to compassion fatigue and burnout, worth a total of 18 points; measuring knowledge levels of the risk factors of developing compassion fatigue and burnout, the associated symptoms, and how these can impact the work environment and patient care. Seven of the 14 questions were related to MBIs, worth a total of seven points and addressed objective 4; knowledge level of the benefits of MBI participation, the

body scan, and mindfulness breathing. The Likert scale in the posttest addressed objective 5, the level of intent to implement MBIs into daily practice.

Individual scores were transferred into a Microsoft Excel spreadsheet. Scores from the pretest and posttest were paired based on their matching responses to the first four identifying questions. Data were evaluated as total scores, then separated into results from each knowledge category. Results from questions 1-7 measured knowledge of the symptoms and risk factors of compassion fatigue and burnout. Results from questions 8-14 measured knowledge levels of MBIs. Categorization was completed to acquire more information to evaluate what knowledge areas were impacted by the educational presentation. The mean, median, and range of the results were calculated for the pretest and the posttest. A paired t-test was performed to assess the level of significance of each category which can be viewed in Table 1. Data is recorded below in a descriptive statistics table (Table 1). The categorized data was placed in a side-by-side box plot to better illustrate the findings (Table 2).

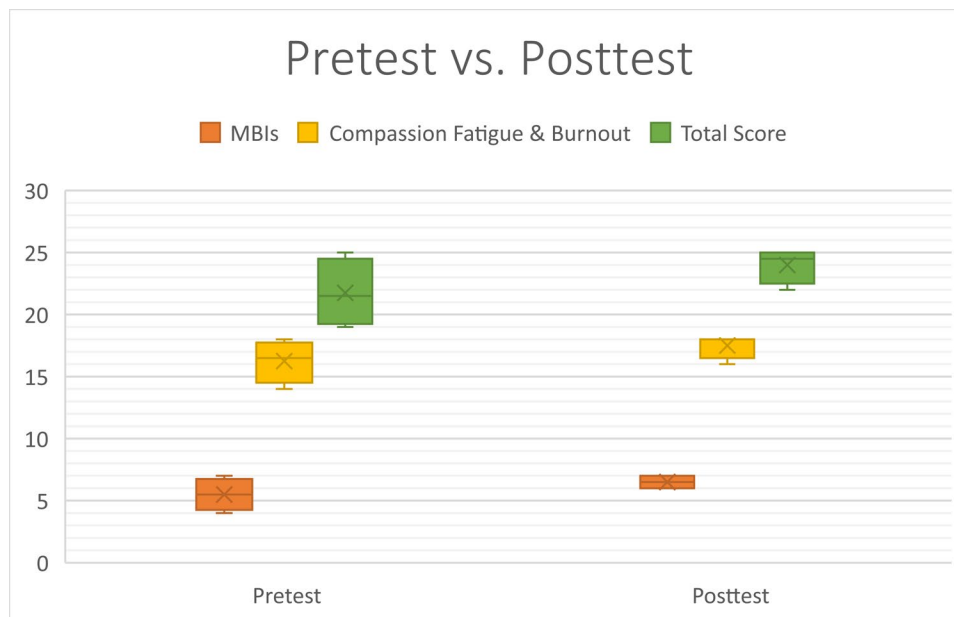
Table 1

Descriptive Statistics of the Pretest and Posttest

	Pretest (Raw Score / %)	Posttest (Raw Score / %)
Mean	21.75 / 87%	24 / 96%
Median	21.5 / 86%	24.5 / 98%
Standard Deviation	2.75	1.41
Minimum	19 / 76%	22 / 88%
Maximum	25 / 100%	25 / 100%
T-Test: Total Score		0.117039
T-Test: Compassion Fatigue & Burnout		0.278319
T-Test: MBIs		0.091721

Table 2

Categorized Results of the Pretest and Posttest



The scores of each participant were evaluated individually. This allowed each participant's knowledge level to be tracked in all categories. This is beneficial to identify where the educational presentation could be enhanced in order to optimize results. Each participant's results were recorded in a descriptive statistics table (Table 3).

Table 3

Participant Result Comparison of the Pretest and Posttest.

		Pretest Score	Posttest Score
<i>Participant #1</i>	Total Score	25	25
	Compassion Fatigue & Burnout	18	18
	MBIs	7	7
<i>Participant #2</i>	Total Score	23	25
	Compassion Fatigue & Burnout	17	18
	MBIs	6	7
<i>Participant #3</i>	Total Score	19	24
	Compassion Fatigue & Burnout	14	18
	MBIs	5	6
<i>Participant #4</i>	Total Score	20	22
	Compassion Fatigue & Burnout	16	16
	MBIs	4	6

These results can be visualized in side-by-side column charts, comparing each participant's categorized scores from the pretest to the posttest (Tables 4-6).

Table 4

Participant Total Score Comparison

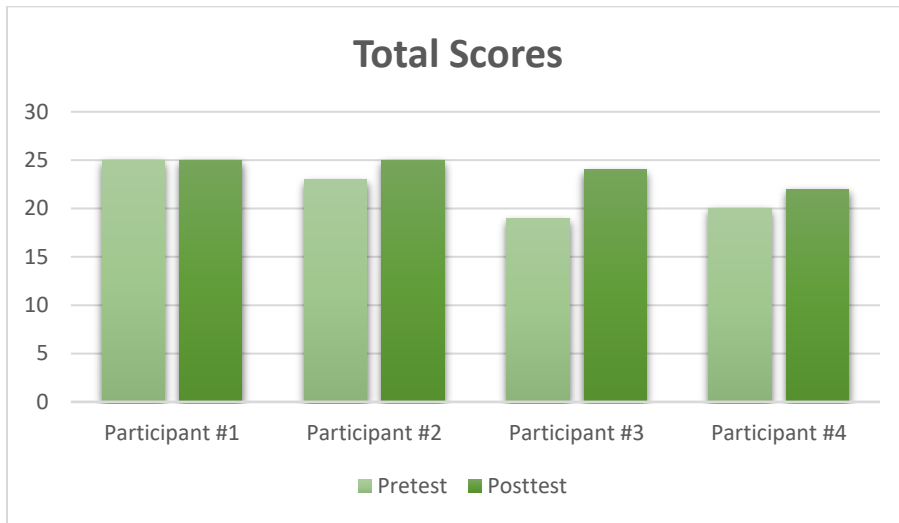


Table 5

Participant Compassion Fatigue and Burnout Score Comparison

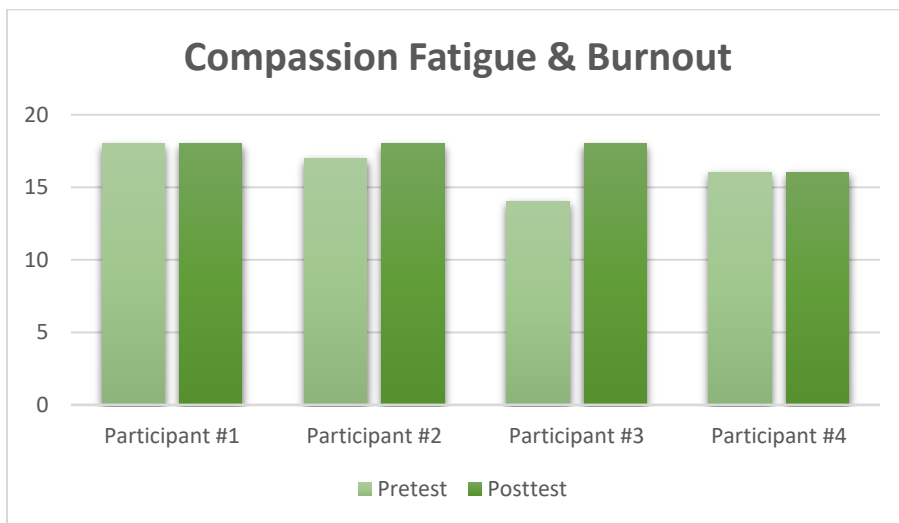
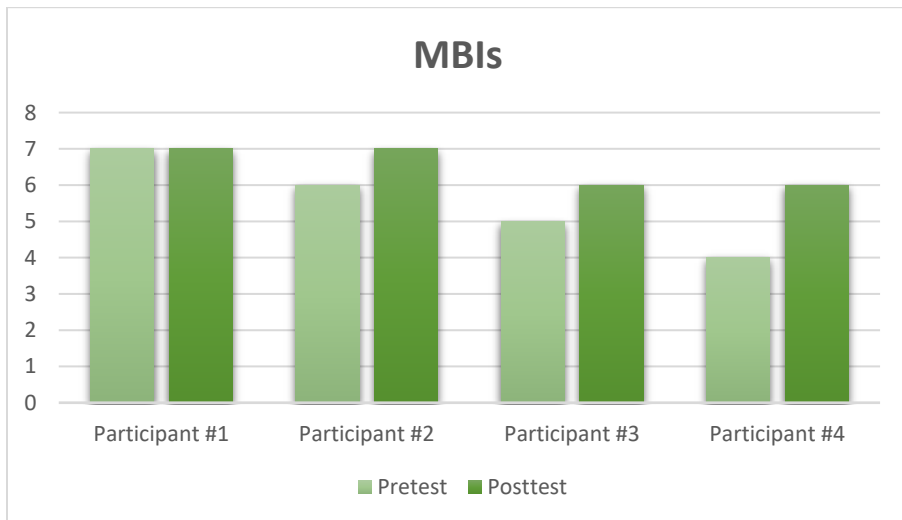


Table 6

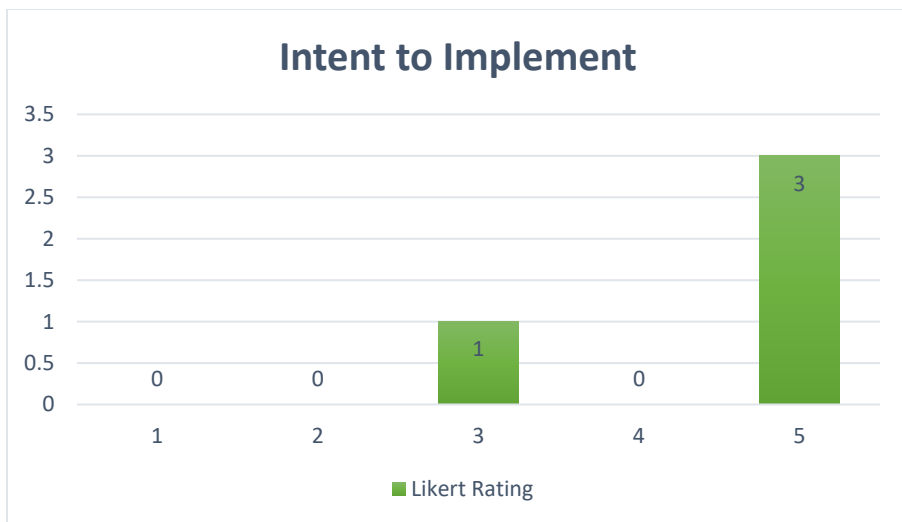
Participant MBI Score Comparison



The Likert scores from the posttest were recorded and matched with each participant. The Likert scores can be visualized in a side-by-side column chart demonstrating how many participants selected each number (Table 7).

Table 7

Likert Intent to Implement MBIs (n=4)



Follow-up survey responses would have been transferred into the Excel spreadsheet. The results would have been matched up using the responses from the same four identifying questions. It was planned to utilize a linear regression with the Likert scale numerical responses from the posttest as the independent variable and the frequency of MBI participation from the follow-up survey as the dependent variable. The remaining questions on the follow-up survey would have been used to identify barriers faced and benefits noticed if self-implementation were completed. Data would have been categorized and displayed in a side-by-side bar graph to represent the barriers and benefits that were experienced. The categorical variables would have been placed on the x-axis, and the number of responses on the y-axis.

Findings illustrate the significance of the intervention on knowledge levels of compassion fatigue and burnout, and MBIs. Intent to self-implement MBIs was examined after evidence-based education was provided on compassion fatigue, burnout, and MBIs. It was also planned to identify the barriers that existed for those who implemented MBIs during the two weeks between the initial presentation and the follow-up survey. Barriers would have been identified and synthesized into themes to guide future implications. The findings will be displayed and disseminated via a PowerPoint presentation to the project committee during the DNP Project Final Defense. Additionally, an executive summary will be provided to Anderson Wellness Group once completed.

RESULTS

Sample Size and Demographics

Participation was offered to all employees of Anderson Wellness Group that met the needed criteria. A total of four participants (n=4) completed the pretest, attended the

presentation, and completed the posttest. Specific demographics were not gathered to maintain the anonymity of participants.

Outcomes

The pretest and posttest were compared to assess for a change in the knowledge level of compassion fatigue and burnout, and MBIs after attending the presentation. Descriptive statistics and a paired t-test are displayed in Table 1. Results were evaluated based on total scores and then further categorized into the subtopics of compassion fatigue and burnout and MBIs. A side-by-side box plot was created to enhance descriptive statistics visualization (Table 2). A p-value of <0.05 was used to determine if the results were statistically significant. The paired t-test in each category found p-values >0.05 , establishing the findings as not statistically significant (Table 1). However, there were increases in the posttest scores indicating that knowledge was increased. The mean score on the pretest was 87%, with a low score of 76% and a high score of 100%. The mean score on the posttest was 96%, with a low score of 88% and a high score of 100% (Table 1). After the evidence-based educational presentation on compassion fatigue, burnout, and MBIs, the mean test scores showed improvement from the pretest to the posttest; the 9% increase can be seen in the mean score and the 12% increase in the median score.

Participant scores were evaluated individually and can be visualized in Tables 3-6. Participant #1 scored 25/25 on both the pretest and posttest. Participant #2 scored 23/25 on the pretest and 25/25 on the posttest; their score improved by one point in each category. Participant #3 scored 19/25 on the pretest and 24/25 on the posttest; their score improved by four points in the compassion fatigue and burnout category and by one point in the MBI category. Participant

#4 scored 20/25 on the pretest and 22/25 on the posttest; their 2-point improvement occurred in the MBI category.

Responses from the Likert scale in the posttest that measured “intent to implement” can be viewed as a column graph in Table 7. Participants #1, #3, and #4 rated their intent to implement MBIs following this presentation at a 5/5, “very likely.” Participant #2 rated their intent to implement at a 3/5, “somewhat likely.”

DISCUSSION

Summary

The prevalence of burnout among mental health caregivers has been estimated to reach levels up to 67% (Johnson et al., 2018). Anderson Wellness Group is a growing practice located in an area with a high demand for mental health services, placing its employees at risk of experiencing the symptoms of burnout and compassion fatigue. Integration and consistent use of MBIs among mental health caregivers can lower levels of compassion fatigue, burnout, and stress; while also increasing overall satisfaction with life and self-compassion (Duarte & Pinto-Gouveia, 2016). The purpose of this quality improvement (QI) project was to educate mental health caregivers on the symptoms and risk factors of compassion fatigue and burnout while raising awareness about MBIs and how they can be used to combat these symptoms. The educational presentation included evidence-based information on compassion fatigue, burnout, and MBIs. The key components of the Health Belief Model were used as a guide when creating the slides of the presentation to enhance buy-in and future participation of MBIs among participants. The presentation was roughly 20 minutes in length and included a guided mindfulness breathing experience led by the project investigator (PI). The pretest and posttest

were created to measure knowledge levels of the selected topic. An instructional handout was provided that included directions on how to perform the body scan and mindfulness breathing techniques. A follow-up survey was created to evaluate if the knowledge gained from the presentation influenced participants to practice MBIs and identify any barriers to self-implementation.

Interpretation

The data analyzed from this QI project support that the educational presentation improved knowledge of the symptoms and risk factors for compassion fatigue and burnout while raising awareness of MBIs. Despite the scores between the pretest and posttest improved, there was a lack of significance. This lack of significance is not surprising in that the existing knowledge may have been elevated in those who chose to participate in this project.

Positive results were produced when measuring participants' intent to implement MBIs post-intervention. The Likert scale demonstrated that three of the four participants had high intentions to self-implement MBIs. High intent to implement MBIs may indicate optimistic outcomes for improving compassion fatigue and burnout among mental health caregivers. Follow-up survey results were not obtained. A lack of participation in the follow-up survey could be related to the request to complete the form within a 72-hour timeframe.

The findings of this project inform future investigators that providing education on compassion fatigue, burnout, and MBIs to mental health caregivers may be utilized to increase knowledge and intent to practice MBIs. Further data would need to be gathered to assess the implementation of MBIs post-intervention, barriers to MBI participation, and long-term effectiveness.

Implications

Practice

Evidence-based education is useful for improving knowledge of compassion fatigue, burnout, and MBIs among mental health caregivers. Although findings were not statistically significant, growth in knowledge levels was seen. Mental health caregivers are at an increased risk for experiencing compassion fatigue and burnout due to the type of care provided and high-stress environments. Frequent practice of MBIs has been supported throughout the literature to improve rates of compassion fatigue and burnout among mental health caregivers. The educational presentation prompted a high amount of intent to implement MBIs into daily practice among participants.

Education

This project provided evidence to support that increasing knowledge on compassion fatigue, burnout, and MBIs among mental health caregivers also increases the desire to self-implement MBIs. Providing education on the topic of MBIs and how they can be utilized to combat compassion fatigue and burnout among mental health caregivers may prove to be an important way to facilitate improvements in these areas. Barbosa et al. (2013) recommend that MBIs be taught to all students in the field of healthcare as a way to decrease stress and improve empathy in future caregivers. Placing focus on continuing education on this topic should be prioritized in healthcare settings to prevent compassion fatigue and burnout.

Research

Implementing this project with a larger sample size would be useful to further evaluate if the findings would remain statistically insignificant or would prove more useful at a larger scale.

Implementation of this research among healthcare professionals outside of the mental health field who may also be at increased risk of compassion fatigue and burnout could prove to be beneficial. The efficacy of MBIs already has a plethora of support in the literature; the third topic of research could focus on the evaluation of various modalities for overcoming barriers to the practice of MBIs among mental health caregivers.

Policy

Reduction in the rate healthcare providers experience compassion fatigue, and burnout can benefit the healthcare system by reducing the number of healthcare workers who chose to leave the profession (Cavanagh et al., 2020). Improvements in the previously stated areas have also been linked with lower adverse events involving patients and higher levels of patient satisfaction (Johnson et al., 2018). Supportive evidence should be taken into consideration as our healthcare system strives to improve the quality of care provided to patients. The mental health of all healthcare providers should be placed among the top priorities when seeking to achieve this goal. The information gathered in this QI project, past QI projects, and future QI projects should be utilized to steer policy change in a direction that prevents compassion fatigue and burnout among caregivers.

Strengths

The design of this DNP project, which included the utilization of a pretest and posttest, is an efficient way to assess the effectiveness of a chosen intervention within a specific community or clinic. This strength created a solid foundation for the structure of the project. The initial knowledge level of each participant was compared to the knowledge level following the educational presentation to evaluate the amount of improvement. A t-test, mean knowledge

levels, and individual results were also evaluated and compared. The creative measure of utilizing questions that would manifest a four-letter/numerical response code allowed a paired t-test to be performed while maintaining anonymity and increasing the quality of the findings. The inclusion criteria created for this project allowed a wide variety of individuals to participate if desired.

The educational presentation was enhanced by a guided experience through a mindfulness breathing technique. The guided MBI was included to promote acceptance of MBI practice and normalize participation. The educational presentation and guided experience were well-received by participants and produced high intentions to self-implement MBIs into daily practice.

Limitations

This project had a limited number of participants and was restricted in the amount of demographic data that could be gathered while maintaining anonymity. Only a modest number of providers chose to participate (n=4). It is possible that the sample size may have been expanded if several different presentations had been performed to accommodate the busy schedules of the target demographic. Detailed demographic data would have allowed for a higher level of scrutiny when evaluating the results but was not gathered to maintain the anonymity of participants.

This QI project was tailored to fit the needs of Anderson Wellness Group, and the results are not generalizable. The information gained from this project may hold limited benefits for other outpatient mental health clinics with similar circumstances. The project investigator (PI) will discuss how these limitations can be addressed for future implications.

All requested data for this project was not completed by participants. This project was not able to fully evaluate the choice of participants to practice MBIs post-intervention or barriers that were encountered to self-implementation. Retrospectively, the addition of a question to assess current MBI practice in the pretest would have been helpful when reviewing the results from the Likert scale “intent to implement” in the posttest. Current MBI practice would have been helpful to validate the effectiveness of the project on raising intent to implement. The baseline knowledge of mental health caregivers on compassion fatigue, burnout, and MBIs may have also affected the significance of the results.

DNP Essentials Addressed

The American Association of Colleges of Nursing (AACN) created eight essential components for the education of advanced practice nurses. These essential components guide the DNP program to prepare graduates with the tools needed to navigate complex systems, research the latest evidence-based practices available and excel in leadership roles (Zaccagnini & Pechacek, 2021). This DNP project encompassed two of the DNP essentials, as described below.

DNP Essential I: Scientific Underpinnings for Practice

DNP Essential I establishes the necessity for the DNP-prepared nurse to possess the ability to think when analyzing each patient problem critically; knowledge must be drawn from many scientific disciplines and theoretical concepts to create the best possible individualized plan of care (Zaccagnini & Pechacek, 2021). This DNP project demonstrated this essential by utilizing various evidence-based philosophies, theories, frameworks, and methods. The Health Belief Model was used to guide the priority education included in the educational presentation. The MFI guided the method followed in the creation, implementation, and dissemination of this

DNP project. MBIs were chosen as a significant point of education in this project due to their abundant support in the literature. The practice of MBIs is considered one of the philosophical principles that contribute to the framework of holistic nursing (Hilcove et al., 2021). The inclusion of these underpinnings of practice encouraged the basic beliefs behind this project that improved education on compassion fatigue, burnout, and MBIs can influence mental health caregivers' choice to self-implement MBIs into their daily life.

DNP Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

DNP Essential II encompasses the necessity for the DNP-prepared nurse to be able to identify issues quickly and efficiently implement an evidence-based plan for system redesign when indicated (Zaccagnini & Pechacek, 2021). The model of this QI project tested the efficacy of the implemented intervention and had planned to assess barriers that would guide future implications. Humility and empathy, some of the core traits of the transformational leadership style, were utilized when communicating with participants to enhance their experience (Perez, 2021).

Integration of Theoretical Framework

Gaining buy-in from participants on the importance of MBIs in preventing compassion fatigue and burnout played a crucial role when striving to increase their intent to implement MBIs into daily practice. The Health Belief Model was created to overcome barriers that prevent populations from acting on provided instruction with proven benefits (Abraham & Sheeran, 2015). Five key components of the Health Belief Model influence the choice to act on an intervention (Abraham & Sheeran, 2015). These components include perceived susceptibility,

perceived severity, perceived benefits, perceived barriers, and cues to action (Abraham & Sheeran, 2015). The educational presentation for this project was created to target each component of the Health Belief Model. The intent to practice MBIs was gathered at the end of the posttest to measure the intervention's effectiveness based on the Health Belief Model framework.

Conclusions

This DNP project provided evidence-based education on compassion fatigue, burnout, and MBIs to mental health caregivers. An increase in awareness of the benefits MBIs possess to combat the symptoms of compassion fatigue and burnout among mental health caregivers demonstrated high levels of intent to self-implement the practice of MBIs. A literature review aided in the identification of respective MBIs with supportive evidence that could be exercised when barriers such as time or place were present. Findings from this evidence-based presentation were improved knowledge of compassion fatigue, burnout, and MBIs, as demonstrated by an increase in scores from the pretest as compared to the posttest. This intervention provides a practical way to increase knowledge of the importance of the chosen topics while encouraging self-implementation.

Plan for Sustainability

To promote the sustainability of the project, handouts were provided with instructions on how to perform two selected MBIs for future use. Participants were guided through an MBI to incite acceptance and improve self-confidence with practice. Additional handouts were provided to the site to place in the employee break room to encourage more widespread use of MBIs.

Plan for Dissemination

The findings will be displayed and disseminated via a PowerPoint presentation to the project committee during the DNP Project Final Defense. The results of this DNP project will be provided to the owners of Anderson Wellness Group through an executive summary.

Information about the project design and results will be provided for future use. Contact information of the project investigator will be included for any further questions or inquiries.

APPENDIX A:

SITE APPROVAL / THE UNIVERSITY OF ARIZONA INSTITUTIONAL REVIEW BOARD
AUTHORIZATION LETTER

Anderson Wellness Group
45 West Sego Lily Drive
Suite 312
Sandy, UT 84070

August 17th, 2022

University of Arizona Institutional Review Board
c/o Office of Human Subjects
1618 E Helen St
Tucson, AZ 85721

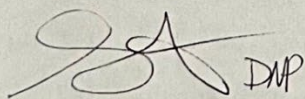
Please note that Mrs. Breanna Lundquist, UA Doctor of Nursing Practice student, has permission of the Anderson Wellness Group to conduct a quality improvement project at our facility for her project, "MINDFULNESS-BASED INTERVENTIONS: COMBATting BURNOUT AND COMPASSION FATIGUE AMONG MENTAL HEALTH CAREGIVERS."

Mrs. Lundquist will conduct an educational presentation that includes a pre-test and post-test to mental health caregivers at Anderson Wellness Group. She will recruit participants through email. The email will provide a description of the project, what they will be asked to do and the time involved. After two weeks, a follow up survey will be gathered to assess if any caregivers chose to implement mindfulness-based interventions into their life, what barriers were faced, and what could be improved for future planning. This process will be completed by December 16th, 2022.

Mrs. Lundquist has agreed to provide to my office a copy of the University of Arizona Determination before she recruits participants. She will also will present aggregate results to the providers at their monthly staff meeting.

If there are any questions, please contact my office.

Signed,

A handwritten signature in black ink, appearing to be 'SA' with 'DNP' written below it.

Sumer Anderson, DNP, PMHNP-BC, CEO of Anderson Wellness Group



University of Arizona IRB
 845 N Park Ave., Suite 537A
 Tucson, AZ 85719
 Fax: 520-621-9810
VPR-IRB@arizona.edu

NOT HUMAN RESEARCH

September 28, 2022

Breanna Lundquist

Dear Breanna Lundquist:

On 9/28/2022, the IRB reviewed the following submission:

Type of Review:	Initial Study
Title:	MINDFULNESS-BASED INTERVENTIONS: COMBATting BURNOUT AND COMPASSION FATIGUE AMONG MENTAL HEALTH CAREGIVERS
Investigator:	Breanna Lundquist
IRB Submission ID:	STUDY00001942
Sponsor:	None
Prime Sponsor:	None
IND, IDE, or HDE:	None
Documents Reviewed:	<ul style="list-style-type: none"> • Advisor Attestation.pdf, Category: Other; • Disclosure/Consent Form, Category: Consent Form; • Educational Presentation, Category: Participant Material; • IRB Protocol, Category: IRB Protocol; • Recruitment Emails, Category: Recruitment Materials; • Site Authorization, Category: External Site Authorization; • Tests/Survey, Category: Data Collection Tool;

The IRB determined that the proposed activity is not research involving human subjects as defined by DHHS and FDA regulations.

IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these





University of Arizona IRB
845 N Park Ave., Suite 537A
Tucson, AZ 85719
Fax: 520-621-9810
VPR-IRB@arizona.edu

activities are research involving humans in which the organization is engaged, please submit a new request to the IRB for a determination. You can create a modification by clicking **Create Modification / CR** within the study.

All Covered Individuals must disclose all sponsored and non-sponsored Research Projects to the Office for Responsible Outside Interests (OROI) prior to Conducting Research if the individual is an Investigator. Please visit the [OROI](#) website for more information.

We value your feedback and would appreciate you taking the time to complete our survey about your experience with the IRB staff:

https://uarizona.co1.qualtrics.com/jfe/form/SV_chQ04WxNA06b42j.

If questions arise at any time during your study, please email the general IRB inbox at VPR-IRB@arizona.edu.



APPENDIX B:
CONSENT DOCUMENT (DISCLOSURE AND CONSENT FORM)

DISCLOSURE/CONSENT

The first question of the pretest will provide the following disclosure and consent:

“The purpose of this quality improvement (QI) project is to educate mental health caregivers on the symptoms and risk factors of compassion fatigue and burnout, while raising awareness about mindfulness-based interventions (MBIs) and how they can be used to combat these symptoms.

Participants will be asked to:

1. Complete a pretest.
2. Listen to a presentation.
3. Complete a posttest.
4. Complete a 2-week follow-up survey that will be sent out through email.

There are no known risks associated with participation. Benefits may include increased knowledge of prevention techniques for compassion fatigue & burnout and increased awareness of how to utilize MBIs. The findings from the current project will be used to identify barriers to implementation.

Participation is voluntary, and there will be no penalties for lack of participation or lack of completion. All responses will remain anonymous and results will be handled confidentially. By voluntarily selecting “I agree to participate” below, you are acknowledging that how this information will be used has been disclosed to you and consent to participate.

I agree to participate.

I do not wish to participate”

APPENDIX C:
RECRUITMENT MATERIAL (RECRUITMENT EMAILS)

RECRUITMENT MATERIAL

Email sent one week prior to intervention:

“Hello all Anderson Wellness Caregivers,

My name is Bre Lundquist, and I am a Doctoral Student at the University of Arizona in the Psychiatric Mental Health Nurse Practitioner program. I have been precepting with Vanessa and Sheenali. I am performing a quality improvement project with the intent to increase knowledge of compassion fatigue and burnout among mental health caregivers. I will be conducting a presentation on compassion fatigue and burnout, along with mindfulness-based interventions during the staff meeting on Wednesday, October 5th. There will be a brief pretest and posttest, and a 2-week follow-up survey on Wednesday, October 19th. The time commitment for participation is approximately 30-60 minutes. Your participation is completely voluntary and will not impact your work or status of employment. Your participation is greatly appreciated!

Hope to see you then!

Bre Lundquist”

Email to be sent two days prior to implementation:

“Hello all,

This is a friendly reminder that this coming Wednesday is the day I will be presenting my quality improvement project on mindfulness-based interventions during the staff meeting. If you choose to participate, please bring your phone to scan a QR code to access the survey.

See you soon!

Bre Lundquist”

The two-week follow-up email:

“Hello everyone,

I wanted to thank everyone for their participation. For those who attended the presentation and completed the pretest and posttest, please take the time to complete the follow-up survey. Please take the time to complete it within 72 hours. It should take less than 10 minutes and can be accessed by scanning the following QR code:



Thank you again,

Bre Lundquist”

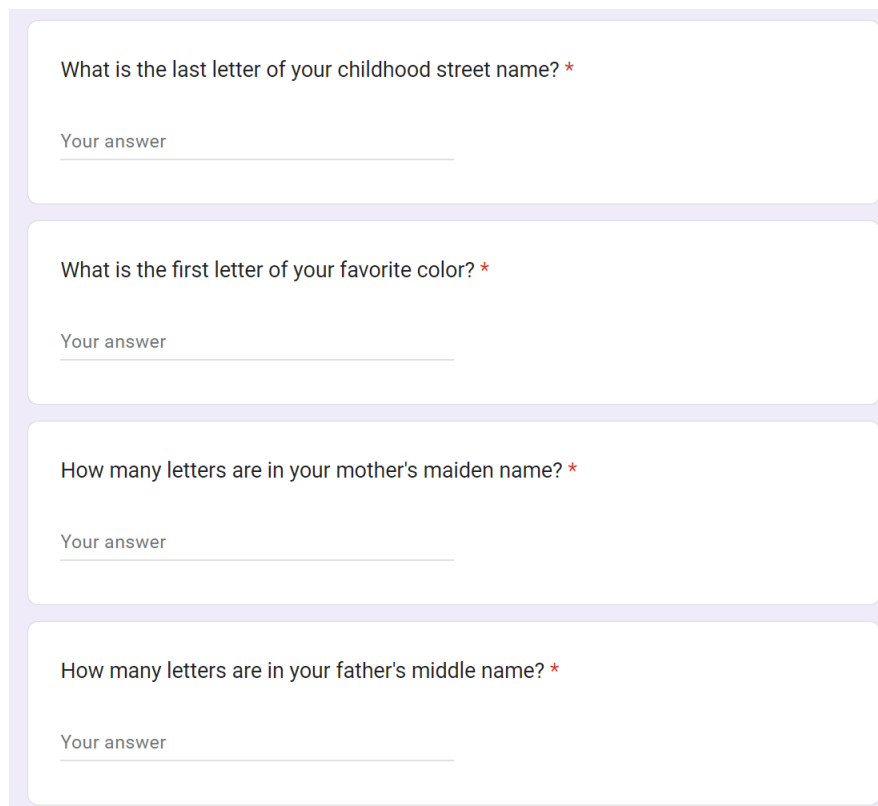
APPENDIX D:
EVALUATION INSTRUMENTS (PRETEST, POSTTEST AND FOLLOW-UP SURVEYS)

EVALUATION INSTRUMENTS

The URL for each test/survey was converted into a QR code through the following website:

<https://www.qr-code-generator.com/guides/how-to-create-a-qr-code/>

The following questions will be at the beginning of each test/survey in order to pair results anonymously.



What is the last letter of your childhood street name? *

Your answer _____

What is the first letter of your favorite color? *

Your answer _____

How many letters are in your mother's maiden name? *

Your answer _____

How many letters are in your father's middle name? *

Your answer _____

MBI Pre-Test

breanna.lundquist@gmail.com (not shared) [Switch account](#)

* Required

The purpose of this quality improvement (QI) project is to educate mental health caregivers on the symptoms and risk factors of compassion fatigue and burnout, while raising awareness about mindfulness-based interventions (MBIs) and how they can be used to combat these symptoms. Participants will be asked to:

1. Complete a pre-test.
2. Listen to a presentation.
3. Complete a post-test.
4. Complete a 2-week follow up survey that will be sent out through email.

There are no known risks associated with participation. Benefits may include increased knowledge on prevention techniques for compassion fatigue & burnout and increased awareness on how to utilize MBIs. This research will be used to identify barriers to implementation and guide further research to address findings.

Participation is voluntary and there will be no penalties for lack of participation or lack of completion. All responses will remain anonymous and results will be handled confidentially. Results will be reviewed by the University of Arizona Institutional Review Board.

By voluntarily selecting "I agree to participate" below, you are acknowledging that how this information will be used has been disclosed to you and consenting to participate.

I agree to participate.

I do not wish to participate.

Symptoms of Compassion Fatigue can present as: *

Numbness

Lack of Empathy

Indifference

Emotional Stress

Exhaustion

Symptoms of Burnout can present as: *

Depersonalization

Emotional Exhaustion

Low Levels of Personal Accomplishment

Requesting more Responsibilities

Avoidance

Which of these are risk factors for developing Compassion Fatigue? *

Participating in a type of job where empathy and emotional energy are used frequently.

Experiencing secondary trauma when listening to other's trauma or hardships.

Working less than 20 hours per week.

Feeling the pressure that may happen from trying to accommodate the needs of others in a high demand environment

Because I work in mental health services, it places me at a lower risk of developing compassion fatigue. *

True

False

It is estimated that the prevalence of burnout among mental health caregivers occurs at a rate up to ___%.

23%

75%

67%

51%

When a person is experiencing burnout, it can impact their work by: *

Causing interpersonal tension with coworkers

Increasing their likelihood of making a mistake

Lowering patient satisfaction scores

Decreasing overall quality of care that is provided

Mindfulness Based Interventions are only good for mental health. *

True

False

The idea of mindfulness originated from: *

Buddhism

Jane Fonda

Judaism

Clara Barton

There has been research done that links performing daily mindfulness exercises with lower rates of burnout and compassion fatigue. *

True

False

Mindfulness exercises can only be done when you are in a calm environment with ample time to meditate. *

True

False

Mindfulness exercises can only be done when you are in a calm environment with ample time to meditate. * 1 point

True

False

Deep breathing techniques have been shown to have the ability to lower heart rate and decrease salivary cortisol levels. * 1 point

True

False

Essential oil aromatherapy can be used to complement deep breathing exercises or other mindfulness-based techniques. * 1 point

True

False

A mindfulness body scan is when you lay in a machine and it scans your mind and body. * 1 point

True

False

[Submit](#) Page 1 of 1 [Clear form](#)

MBI Post-Test

 breanna.lundquist@gmail.com (not shared) [Switch account](#) 

* Required

Symptoms of Compassion Fatigue can present as: *

- Numbness
- Lack of Empathy
- Exhaustion
- Emotional Stress
- Indifference

Symptoms of Burnout can present as: *

- Avoidance
- Emotional Exhaustion
- Low Levels of Personal Accomplishment
- Depersonalization
- Requesting more Responsibilities

Which of these are risk factors for developing Compassion Fatigue? *

- Experiencing secondary trauma when listening to other's trauma or hardships.
- Participating in a type of job where empathy and emotional energy are used frequently.
- Feeling the pressure that may happen from trying to accommodate the needs of others in a high demand setting.
- Working less than 20 hours per week.

Because I work in mental health services, it places me at a lower risk of developing compassion fatigue. *

- True
- False

It is estimated that the prevalence of burnout among mental health caregivers occurs at a rate up to __%. *

- 67%
- 51%
- 75%
- 23%

When a person is experiencing burnout, it can impact their work by: *

- Decreasing overall quality of care that is provided
- Lowering patient satisfaction scores
- Causing interpersonal tension with coworkers
- Increasing their likelihood of making a mistake

Mindfulness Based Interventions are only good for mental health. *

- True
- False

The idea of mindfulness originated from: *

- Buddhism
- Clara Barton
- Judaism
- Jane Fonda

There has been research done that links performing daily mindfulness exercises with lower rates of burnout and compassion fatigue. *

- True
- False

Mindfulness exercises can only be done when you are in a calm environment with ample time to meditate. *

- True
- False

Deep breathing techniques have been shown to have the ability to lower heart rate and decrease salivary cortisol levels. *

- True
- False

Deep breathing techniques have been shown to have the ability to lower heart rate and decrease salivary cortisol levels. *

- True
- False

Essential oil aromatherapy can be used to complement deep breathing exercises or other mindfulness based techniques. *

- True
- False

A mindfulness body scan is when you lay in a machine and it scans your mind and body. *

- True
- False

How likely are you to participate in MBIs in your day to day life? *

- 1 2 3 4 5
- Not Likely Very Likely

Submit

Clear form

Follow-Up Survey

 breanna.lundquist@gmail.com (not shared) [Switch account](#)



* Required

Did you participate in any MBIs since the presentation? *

Yes

No

If you participated in MBIs, how frequently did you use MBIs since the presentation?

Your answer

Please share what barriers you encountered that prevented participation or made it more difficult.

Your answer

Optional: If you did participate in MBIs, what benefits did you notice?

Your answer

Optional: Would you like to share any suggestions or ideas of how we could address the above barriers?

Your answer

Submit


Clear form

APPENDIX E:
PARTICIPANT MATERIAL (POWERPOINT PRESENTATION WITH NOTES)


Slide 1


Pre-Test

▲ ▲ ▲



Please take a moment to take this pre-test.

 THE UNIVERSITY OF ARIZONA
College of Nursing



Slide 2

▲ ▲ ▲

**Preventing Burnout and Compassion Fatigue
with Mindfulness-Based Interventions**

Breanna Lundquist, BSN, RN, PMHNP-DNP Student

 THE UNIVERSITY OF ARIZONA
College of Nursing



Slide 3

Introduction

Compassion Fatigue

- Loss of Empathy & Compassion
- Secondary Trauma
- How it can present:
 - Emotional stress
 - Lack of empathy
 - Exhaustion
 - Numbness
 - Indifference




Figure #1

Burnout

- Response to chronic stressors
- How it can present:
 - Emotional exhaustion
 - Depersonalization
 - Avoidance
 - Low levels of personal accomplishment

3

Loses the ability to empathize or feel compassion when caring for populations of people that have experienced trauma, suffering, or other hardships (Cavanagh et al, 2020). How it can present: Emotional stress, Lack of empathy, Exhaustion, Numbness, Indifference.

An individual's response to chronic interpersonal stressors that cause distressing symptoms and even cynicism (Ray et al, 2013). How it can present: Emotional exhaustion, Depersonalization, Avoidance, Low levels of personal accomplishment (O'Connor et al, 2018).

Slide 4

Susceptibility & Severity

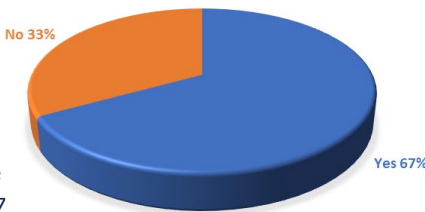
Susceptibility & Risk Factors

- Working in mental health
 - Up to **67%**
 - Empathy & emotional energy
 - Patient population
- Accommodation for High Demand
 - Highest amount of adults experiencing any mental illness
 - Highest number of adults with serious thoughts of suicide
 - Suicide: Leading cause of death in Utah youth ages 10-17

Severity

- Increased risk for making mistakes when providing care
- Lower patient satisfaction
- Worsening mental health & interpersonal relationships with coworkers

MENTAL HEALTH CAREGIVERS EXPERIENCING BURNOUT (JOHNSON ET AL, 2018)



Response	Percentage
Yes	67%
No	33%

What can we do to prevent this?

4

Susceptibility and Risk Factors

- Working in mental health
- Estimated that up to **67%** are experiencing burnout
- Work environment where empathy and emotional energy are used frequently.
- Our patient population with varying backgrounds, experiences, and traumas; increasing our risk for secondary trauma

High demand state/area places pressure to accommodate

- Utah has the highest prevalence of adults experiencing any mental illness (26.86%) in the entire United States (19.86%) (Reinert et al, 2021).
- Highest prevalence of adults experiencing serious thoughts of suicide (6.19%) in the entire United States (4.58%). Held this spot since 2012.

- Suicide is the leading cause of death in Utah youth ages 10-17 (UDH, 2021). Which increases our risk for experiencing secondary trauma.

Severity

- Burnout has been linked to an increased risk for making mistakes when providing care and lower patient satisfaction (Johnson et al, 2018).
- Can also lead to deteriorations in our own mental health, interpersonal relationships with coworkers, and impact our ability to provide the highest quality of care to patients.

Slide 5

Mindfulness Based Interventions

What is Mindfulness?

- Originated from Buddhism
- Moment-to-moment awareness
- Focused breathing, body scan, aromatherapy, and meditation.
- Anywhere and can be incorporated into any timeframe

In the Evidence

- Enhances mood, stress, anxiety, burnout, and compassion fatigue.
- Protective factor to lower the frequency and severity
- Improvements in overall level of empathy.
- Enriched relationships, hopefulness, and overall mental and physical wellbeing.




Figure #2

5

What is Mindfulness?


- The idea of mindfulness originated from Buddhism and is described as, “a moment-to-moment awareness that is cultivated by purposefully paying attention to the present moment, with a nonjudging, non-striving attitude of acceptance” (Sharma & Rush, 2014).

- Examples of mindfulness-based interventions: Focused deep breathing, body scanning, aromatherapy, and meditation.
- Mindfulness based interventions can be performed anywhere, in whatever amount of time fits in your schedule if prioritized.

In the Evidence

- Mindfulness has a large amount of support in current literature.
- Systematic review done by Turgoose & Maddox (2017) identifies the participation in mindfulness-based interventions as a protective factor to prevent the frequency and severity of compassion fatigue in mental health professionals.
- Systematic review by Lamothe et al (2016) that included 39 studies found that participating in mindfulness-based interventions has been linked to improvements in mood, stress, anxiety, burnout, and compassion fatigue.
- A randomized control study by Barbosa et al (2013) even associated mindfulness-based interventions with improvements in overall level of empathy.
- Qualitative data demonstrated that participating in mindfulness-based interventions improved interpersonal relationships, hopefulness, and overall mental and physical well-being (Crowder & Sears, 2017)
- Meta-analysis by Khoury et al (2015) that included 29 studies (2668 “healthy” individuals), found that participating in MBIs had the greatest impact on lowering stress levels; a moderate impact on anxiety, depression, distress, and quality of life; and a small impact on burnout.

Slide 6: Slides 6&7 will be utilized as a printed handout for participants.



The Body Scan

How it Works

- The Body Scan is a specific intervention that has been proven in multiple studies to lower anxiety and stress levels (Kropp & Sedmeier, 2019 & Call et al, 2014)
- It works as a type of grounding technique, to enhance one's ability to bring full attention to the present moment. It allows acknowledgement of pleasant or unpleasant feelings or sensation, objectively.
- As our attention drifts and we practice re-focusing it to the present, over and over, we are training stress resilience pathways in our brain. Activity is increased in the regulatory pathways located in the prefrontal cortex, and activity is decreased in the reactivity pathways that trigger our body's alarm system (Creswell et al, 2019).

Figure #3

Instructions:

1. Start by sitting in a comfortable position. You may close your eyes or keep them open, whichever is more helpful to focus.
2. Now, bring your attention to your breathing and chest movements. Notice anything that is touching your body, such as the chair or your feet on the floor, the texture of your clothing. You can spend as much time as you'd like experiencing these feelings.
3. Take an intentional deep breath, and refocus your attention to a location of your body. It can be helpful to go in an order when beginning, such as head to toe, or toes to head. The objective of this activity is to fully explore each sensation you notice, before releasing those observations and refocusing on the next area, without any judgement.
 1. Sensations may include temperature, pressure, tingling, buzzing, tightness, relaxation, or anything else you may notice. You may also observe a lack of sensations.
4. At some point, you'll notice that your attention has wandered. This is okay. With practice you can train it to stay for longer periods of time. Each time you notice this, gently direct your attention back to the sensation you were previously exploring. Continue this until you have completed your body scan.
5. After completing each area of the body, take a few moments to extend your attention to notice feelings in your entire body.
6. Lastly, open your eyes if they have been closed and transition mindfully into your next task.

6

Slide 7

Focused Deep Breathing

How it Works

- Deep Breathing can be done in many different ways to get the same benefits! A study by Perciavalle et al (2017) examined 12 different breathing techniques. All were found to have a significant impact on improving mood disturbance, lessening stress levels, lowering heart rate, and lowering salivary cortisol levels.
- This also creates similar brain training effects as the body scan technique; enhancing our stress resilience pathways. Some research suggests that this impact on stress pathways is what also helps with the physical symptoms caused by the "fight or flight" reaction; calming our peripheral sympathetic nervous system and the hypothalamic-pituitary-adrenal systems (Creswell et al, 2019).
- Essential oils could be added to complement this technique if desired. The use of essential oils for aromatherapy can affect neurotransmitters in our brain like dopamine, GABA, and serotonin. The exact mechanism of action is still unclear. Some more specific benefits by scent: Cinnamon (antidepressant and anxiolytic), Rosemary (memory enhancer), Peppermint (Cognitive function), Lemongrass (anxiolytic) (Soares et al, 2021).




Figure #4

Instructions

1. Find a relaxed and comfortable position with your back upright, but not tight. You may utilize an essential oil to enhance this exercise if desired. Place the hands in the resting position, and place the tongue on the roof of your mouth.
2. Start with some deep breaths. Inhale through your nose for 3 seconds while trying to expand every area of your lungs. Hold your breath for 2 seconds. Exhale through your mouth for 4 seconds. This timing can be adjusted based on what feels comfortable to you.
3. As you feel your body calming, transition into focused breathing. Observe each breath without trying to adjust it. Notice the rhythm of each breath and how your chest expands as you breath in, how the air feels as it flows into your lungs. Sensations could be felt in the nostrils, throat, chest, or abdomen. Do you notice the breath in any other areas of the body? If you're using an essential oil, does that cause any different sensations or feelings in your body?
4. You may find your mind wandering, that's okay. Acknowledge that your mind wandered without judgement, and redirect your attention to your breath to resume your focused breathing.
5. Continue this for as long as you'd like. When you are ready to return to your day, pause to let yourself perform a full body scan. Notice sensations, feelings, and emotions you are feeling with objectivity.
6. Lastly, open your eyes if they have been closed and transition mindfully into your next task.

7



Figure #5

Slide 8

Conclusion



Figure #6

Barriers

- Time
- Desire
- Comfort
- Location



Figure #7

Benefits

- For patients: Improved patient satisfaction and overall quality of care. Lower risk of mistakes as burnout symptom become better controlled.
- For yourself: Lower levels of compassion fatigue, burnout, and stress; while increasing overall **satisfaction with life** and **self-compassion**.

Barriers

- These mindfulness-based interventions were selected with the various time constraints a busy schedule presents in mind.
- If you have the desire to practice these, but notice any barriers, please share them in the 2-week follow up survey.

Benefits: There are a plethora of evidence-based outcomes for incorporating mindfulness-based interventions into your daily life.

- For your patient: Improved patient satisfaction and overall quality of care. Lower risk of mistakes as burnout symptom become better controlled.
- For yourself: Lower levels of compassion fatigue, burnout, and stress; while increasing overall *satisfaction with life* and *self-compassion* (Duarte & Pinto-Gouveia, 2016).

Slide 9

Post-Test



Thank you for your participation!
Please take a moment to take this post-test.



Slide 10

References

Barbosa, P., Raymond, G., Zlotnick, C., Wilk, J., Toomey III, R., & Mitchell III, J. (2013). Mindfulness-based stress reduction training is associated with greater empathy and reduced anxiety for graduate healthcare students. *Education for health*, 26(1), 9.

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Figure 1. <https://www.shutterstock.com/search/burnout>

Figure 2. <https://uhs.umich.edu/mindfulness>

Figure 3. <https://thriveglobal.com/stories/3-ways-meditation-can-catapult-your-career/>

Figure 4. <https://social.hays.com/2020/10/04/hays-journal-19-how-meditation-benefit-career-megan-jones-bell-headspace/>

Figure 5. <https://www.verywellhealth.com/aromatherapy-for-sleep-89673>

Figure 6. https://cdn.autonomous.ai/static/upload/images/common/upload/20210424/Simple-Ways-to-Relax-At-Work--De-stress-Effectively_2ede3f03cc8.jpg

Figure 7. <https://www.autonomous.ai/ourblog/ways-to-relax-at-work-de-stress-effectively>

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APPENDIX F:
PROJECT TIMELINE

Anticipated Completion Dates	Pre-Implementation	Implementation	Evaluation
September 21, 2022	Defend Proposal		
September 26-29, 2022	Present Project for approval to IRB		
September 29, 2022		Send initial recruitment email After IRB approval	
October 3, 2022		Send reminder email	
October 5, 2022			Administer Pretest
October 5, 2022		Project Presentation on MBIs	
October 5, 2022			Administer Posttest
October 19, 2022			Administer Post-Implementation Survey through Email
October 19- 27, 2022			Analyze Data
October 28, 2022			Complete Final Paper
November 18, 2022			Complete Final Defense and Provide Results to Implementation Site

APPENDIX G:
LITERATURE REVIEW GRID

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Appraisal of Quality	Main Outcomes of Findings	Support for and or Link to Project
Barbosa et al., 2013	Mindfulness-based stress reduction training is associated with greater empathy and reduced anxiety for graduate healthcare students	Randomized control study	This study included 28 graduate students; 13 completed the intervention, 15 were controls. Demographics had good variability outside of gender; 26/28 participants were female. Effectiveness was measured by screening tools for empathy and burnout. Overall good quality.	Participating in MBIs significantly decreased anxiety from baseline at week 8 intervention completion and continued to decrease at week 11; the 3 week follow up. Empathy initially improved at week 8 intervention completion, then declined at week 11. No significant differences were measured in burnout between control group and intervention group. Recommendations: MBI training should be implemented to reduce anxiety and increase empathy in healthcare students.	Using MBIs can decrease stress and increase empathy, which could benefit quality of life for mental health caregivers.
Call et al., 2014	Effectiveness of brief mindfulness techniques in reducing symptoms of anxiety and stress	Randomized control study	91 female undergraduate students were placed in an intervention group and a control group. Intervention group participated in 45min MBI sessions 3x/week.	Intervention group had statistically significant improvements in anxiety and stress. Body Scan and Hatha yoga were both techniques used to gain results.	Body Scan MBI could be utilized in my project to improve stress and anxiety levels among caregivers.
Cavanagh et al., 2020	Compassion fatigue in healthcare providers: a systematic review and meta-analysis.	A systematic review and meta-analysis.	A thorough review and analysis was performed. Very good quality. 1224 records were	Compassion fatigue is present throughout all types of practitioners. Certain professional	Mental health caregivers experience a substantial amount of secondary trauma and

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			<p>screened, 113 were assessed for eligibility and quality, 71 were included.</p> <p>The meta-analysis portion was completed in 28 of the studies to assess accuracy of the Professional Quality of Life (ProQOL) screening tool. This tool is a self-reporting way to measure compassion fatigue/satisfaction, burnout, and secondary trauma.</p>	<p>variables and demographics is inconsistent.</p> <p>Compassion fatigue is triggered by continual use of empathy and emotional energy, exposure to secondary trauma, and work environment.</p> <p>The meta-analysis found that the ProQOL pooled mean scores produced narrow confidence intervals.</p> <p>Recommendations: Future research should be directed towards developing educational programs to decrease the severity and vast prevalence of compassion fatigue.</p>	<p>are continually using empathy and emotional energy while interacting with patients.</p> <p>MBIs can act as a way to increase empathy, which will theoretically, aid in decreasing compassion fatigue.</p>
Crowder & Sears, 2017	Building resilience in social workers: an exploratory study on the impacts of a mindfulness-based intervention	A mixed-methods, non-randomized control, exploratory study.	N=14 social workers. 7 participated in the intervention, 7 were controls. Levels of resilience and burnout were measured after using MBIs and qualitative data was gathered. The limited participants and not being randomized may impact results and quality.	The intervention group showed significant improvement compassion satisfaction and burnout. At week 26 (13weeks post intervention) burnout levels were increasing. The control group showed improvements in burnout at the end of the 13-week intervention, but no	More improvements were seen with the implementation group. The qualitative data is helpful to list further benefits one may experience when participating in MBIs.

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Appraisal of Quality	Main Outcomes of Findings	Support for and or Link to Project
				<p>other significant results were identified. Qualitative data showed that participating in MBIs improved their interpersonal relationships, improved hopefulness, and improved overall mental and physical well-being.</p>	
Duarte & Pinto-Gouveia, 2016	Effectiveness of a mindfulness-based intervention on oncology nurses' burnout and compassion fatigue symptoms: a non-randomized study.	A non-randomized study.	N=93; 45 in the implementation group and 48 in the control group. Participants were able to choose which group they were included in due to varying shift schedules and time constraints. This could impact results due to participants already possessing the desire to try MBIs.	<p>Results of this study showed that participating in MBIs significantly lowered levels of compassion fatigue, burnout, and stress. It also increased satisfaction with life and self-compassion. The control group did not show significant changes in any measured area. MBIs are effective at reducing burnout and overall mental health of oncology nurses. MBIs help to reduce levels of compassion fatigue.</p>	This study included which MBIs they utilized that produced positive results. Although this is directed towards oncology nurses, there are similarities when experiencing secondary trauma and empathy.
Khoury et al., 2015	Mindfulness-based stress reduction for healthy individuals: a meta-analysis	A meta-analysis	A screening was done of 447 studies and narrowed down to include 29 studies. This included results from	Results suggest that participating in MBIs had the greatest impact on lowering stress, moderate impact on	It is important to acknowledge that MBIs can improve various aspects of life for

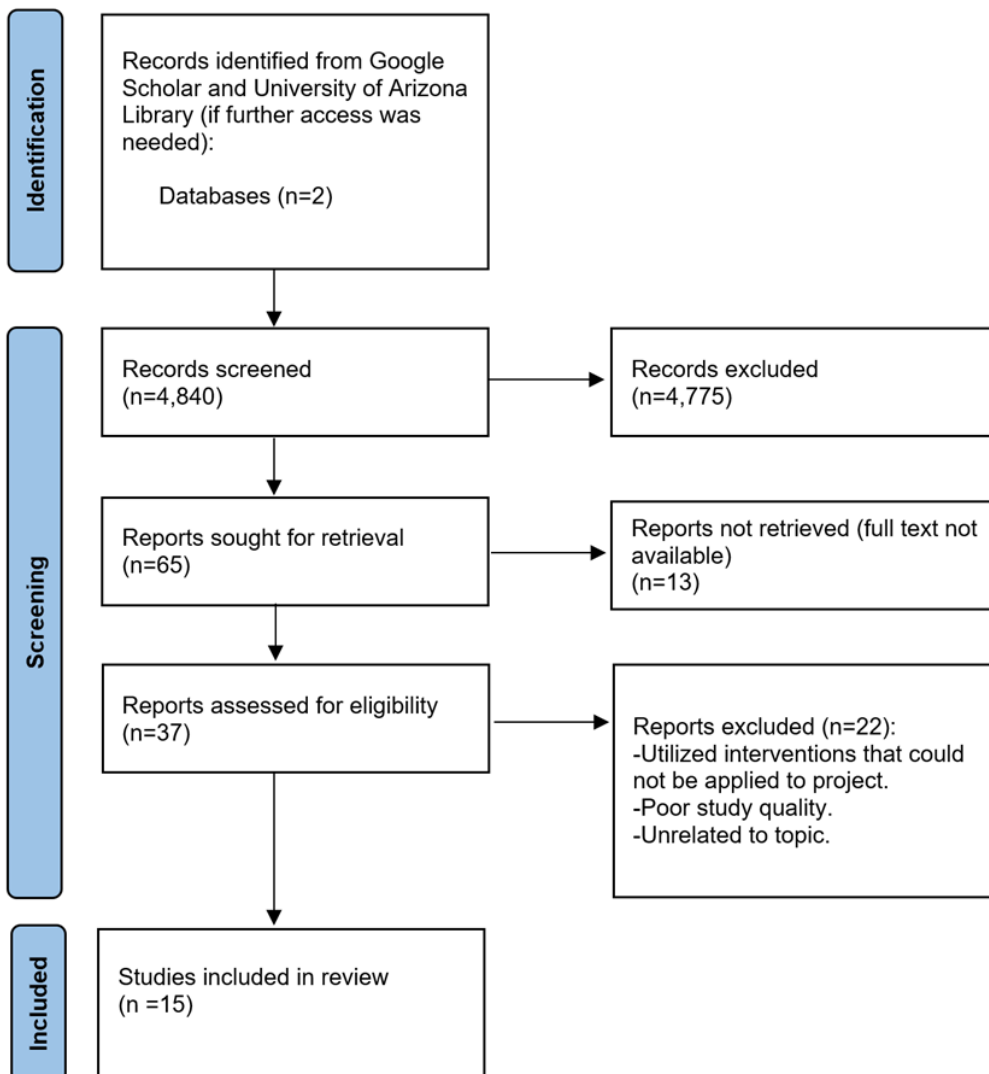
Pub. Year; Author's Last Name	Title of Publication	Type of Study	Appraisal of Quality	Main Outcomes of Findings	Support for and or Link to Project
			2668 individuals. Their method to eliminate bias was thorough. This is a high-quality study.	anxiety, depression, distress, and quality of life, and small impacts on burnout among "healthy" individuals.	"healthy" people in general.
Kropp & Sedlmeier, 2019	What makes mindfulness-based interventions effective? An examination of common components.	Randomized	56 participants completed the intervention.	There were no statistically significant results found between different types of MBIs. Body scan technique showed some greater effects than the breathing exercise and loving-kindness meditation showed greater improvement in concentration. Body scan, loving-kindness meditation, and breathing meditation were compared interventions.	This provides further evidence of utilizing the body scan technique.
Lamothe et al., 2016	Outcomes of MBSR or MBSR-based interventions in health care providers: a systematic review with a focus on empathy and emotional competencies.	A systematic review	Review, quality, risk of bias (Cochrane's Collaboration Tool), and selection was performed by separate qualified individuals. 39 studies were incorporated. High-quality study.	Evidence supports MBIs as being effective in healthcare professionals for reduction in burnout, stress, anxiety, and depression. There was no clinically significant association for increase in empathy or emotional competencies. Recommendations: More research needs to	Although this study was targeted at healthcare professionals, it supports the project intention of decreasing burnout with MBIs.

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Appraisal of Quality	Main Outcomes of Findings	Support for and or Link to Project
				be done to target which interventions may be linked to better outcomes.	
Lee et al., 2017	The effects of aromatherapy essential oil inhalation on stress, sleep quality and immunity in healthy adults: randomized controlled trial.	Randomized control trial.	60 individuals in a general hospital were separated into a control group (n=30) and intervention group (n=30). The baseline characteristics and variables of the participants were evaluated and showed appropriate ratio between groups, decreasing risk of skewed results.	The intervention group had lower perceived stress and depression, and higher sleep quality. There was no clinically significant change in autonomic nervous system activation, A1c levels, or immune status.	The oil blend of lemon, eucalyptus, tea tree, and peppermint mixed in a 4:2:2:1 ratio, may be effective at improving stress levels if incorporated into MBIs.
Perciavalle et al., 2017	The role of deep breathing on stress	Randomized control study	38 healthy adult student subjects were included between the ages of 18-28; 19 in the control group, 19 in the intervention group. Objective and subjective data was evaluated.	12 different deep breathing techniques were utilized and showed to have a significant impact on improving mood disturbance, lessening stress levels, lowering heart rate, lowering salivary cortisol levels. No significant changes were seen in the control group.	A deep breathing technique will be included as one of the MBIs presented.
Ray et al., 2013	Compassion satisfaction, compassion fatigue, work life conditions, and burnout among	Non-experimental, cross-sectional review	Data and surveys were gathered and analyzed from 169 frontline mental health care professionals (FMHPs).	Lower levels of compassion fatigue, higher levels of compassion satisfaction, and higher	MBIs could be a potential strategy to improve mental health of caregivers. We will address barriers found

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	frontline mental health care professionals.		These included FMHPs in nursing, social work, psychology, psychiatry, case managers, and other mental health workers. The large sample size, literature review, method and data analysis, were done thoroughly. Good quality.	overall levels of “degree of fit” in 6 workplace categories (workload, control, reward, community, values, fairness) were able to predict lower risk for burnout among FMHPs. Recommendations: Develop strategies to improve the mental health of FMHPs in order to lower the prevalence of burnout and compassion fatigue.	at implementation site for future improvement.
Sharma & Rush, 2014	Mindfulness-based stress reduction as a stress management intervention for healthy individuals: a systematic review.	A systematic review.	304 articles were examined and 17 were chosen that met the needed criteria. The literature review was detail oriented and included important variables.	16/17 studies demonstrated improvements in aspects related to anxiety and stress reduction.	MBIs have evidence backing their effectiveness at stress reduction.
Soares et al., 2021	Exploring pharmacological mechanisms of essential oils on the central nervous system.	Exploratory research	156 studies were included in this review. Extensive information was gathered and reviewed. Good quality.	Essential oils appear to have effects on dopamine, GABA, and serotonin systems. Mechanism of action is still unclear. Research gets much more specific based on each type of oil. Cinnamon (antidepressant and anxiolytic), Rosemary (memory enhancer),	This further specifies which oil one could utilize if chosen to incorporate into an MBI.

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Appraisal of Quality	Main Outcomes of Findings	Support for and or Link to Project
				Peppermint (Cognitive function), Lemongrass (anxiolytic).	
Soto-Vásquez & Alvarado-García, 2017	Aromatherapy with two essential oils from Satureja genre and mindfulness meditation to reduce anxiety in humans.	Randomized control trial.	108 participants were divided into 6 groups, 5 intervention groups (mindfulness, essential oil #1, essential oil #2, mindfulness and essential oil #1, mindfulness and essential oil #2), and 1 control group.	There was a statistically significant decrease in anxiety of all experimental groups ($p < 0.005$). The change was even more significant when mindfulness and aromatherapy were combined. Percentages of change showed reductions of anxiety variable ranging between 20% and 47%.	Aromatherapy can be used to complement MBIs in order to enhance positive change in anxiety.
Turgoose & Maddox, 2017	Predictors of compassion fatigue in mental health professionals: a narrative review.	A narrative review.	A thorough review and discussion of 32 studies. All contained different variables linked to compassion fatigue.	Mindfulness can be used as a protective factor and has been linked to lower levels of compassion fatigue. More longitudinal studies are needed to accurately identify the root cause of compassion fatigue and improve the specificity of protective factors.	This provides more research that supports the impact MBIs can have on improving compassion fatigue among mental health caregivers specifically.

APPENDIX H:
OTHER DOCUMENTS AS APPLICABLE TO THE PROJECT (PRISMA FLOW DIAGRAM
OF LITERATURE SEARCH)



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