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Promoting Wellness with Medical-Surgical Nurses in an Urban Medical Center through Mindfulness-based Stress Reduction

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Promoting Wellness with Medical-Surgical Nurses in an Urban Medical Center through

Mindfulness-based Stress Reduction

A DNP Project Submitted to the
Graduate Faculty
of Jacksonville State University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Nursing Practice

By

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Abstract

Background: Due to their position on the forefront lines of the healthcare system, nurses are more likely to experience stress at work. Job-related stress can cause increased anxiety, emotional turmoil, depression, and other mental issues. Nurses commonly deal with elevated distress due to workload demands such as passing medication, checking for errors, ensuring patient safety, and charting—mindfulness-based stress reduction (MBSR) is a useful means of reducing psychological distress.

Purpose: The DNP project objectives were to reduce stress, encourage well-being, and show how effective an MBSR program works in a hospital setting. The aim is to reduce stress/improve wellness.

Methods: The primary intervention of this was the implementation of an MBSR program in a healthcare environment. Wellness was measured pre- and post-intervention using Mayo Clinic well-being surveys to gauge stress in the unit. The nursing staff engaged in MBSR activities over six weeks.

Results: Results from the Mayo Clinic surveys of nurses showed a clinically significant decline in stress reduction by 76%. The Objective data results of the pre-and post-intervention Mayo Clinic surveys of nurses did not show a statistically significant decrease.

Conclusion: MBSR techniques used during the in-service significantly increased the nursing staff's awareness concerning ways to reduce stress to promote well-being, even though there was no discernible reduction in stress among the nurses.

Keywords: mindfulness, stress reduction, mindfulness-based stress reduction, hospital, acute setting or inpatient or ward, stress reduction through mindfulness meditation in nursing, burnout; meditation

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Promoting Wellness with Medical Surgical Nurses in an Urban Medical Center through Mindfulness-based Stress Reduction

Nursing is a stressful profession due to a complex set of circumstances. For example, according to one study, nurses may be dissatisfied with their pay, job advancements, and nurse-physician relationships (Ahmadi et al., 2020). In addition, research shows that staff nurses in medical-surgical units had the highest percentage of occupational stress compared to nurses in intensive care units (ICU) (Phillips, 2020).

Occupational stress leads to various adverse health outcomes, both mental and physical; it also raises the risk of work injuries and absenteeism and is associated with much greater medical costs among highly stressed employees (Kachan et al., 2017c). Stress and work unhappiness were highest among nurses providing direct patient care in hospitals, and emotional exhaustion was reported by 30% of hospital nurses (White et al., 2019). Furthermore, nurses with a lower salary, a higher job position, a higher education level, and work overload have all been linked to higher levels of occupational stress (Mo et al., 2020). Therefore, mindfulness-based stress reduction (MBSR) programs are an excellent and beneficial activity for nurses who want to reduce stress and alleviate anxiety, hopelessness, and exhaustion while enhancing their lifestyles, career satisfaction, and overall well-being. (Ghawadra et al., 2019).

The Doctor of nursing practice (DNP) project aims to enhance staff nurses' well-being by implementing MBSR training to help nurses better manage their stress. Controlling job-related strain is vital for patient care and nurses' well-being. This writer will promote the well-being of nurses by exposing nurses to MBSR techniques while working in the hospital. The DNP project also aims to reduce stress among nurses.

Background

Research on stress reduction in nurses is ongoing. This author believes there is far more research on patient well-being than on nurses. However, nurses occupy a vital role in healthcare. The nursing staff has heavy workloads and other stress-related issues, including exhaustion and fatigue. Issues including job satisfaction, understaffing, and work overload could result in elevated stress levels that could harm employees' overall well-being (Almazan et al., 2019). Nurses around the nation experience high levels of stress. According to another survey, 35.1% (350) of Ta work in hospitals nationwide, indicating significant stress levels (Almazan et al., 2019).

Healthcare professionals impacted by work-related stress on a global scale is an ongoing issue (Tsegaw et al., 2022). The World Health Organization (WHO) cites additional risks for healthcare workers (HCWs) during this time in the situation report, such as increased workload, emotional stress, fatigue, work-related burnout, and psychological and physical abuse (World Health Organization, 2020). A study of 1257 Chinese healthcare professionals found that the prevalence of depression was 50.4%, anxiety was 44.6%, and emotional distress was 71.5%, with an increased risk for frontline staff who treat COVID-19 patients in Wuhan (Lai et al., 2020). The recent COVID-19 pandemic heightened the stress level of Alabama's nursing staff (Ali et al., 2020). Research on stress reduction in nurses is ongoing. The local urban medical center sent out employee surveys via email, assessing multiple issues such as job satisfaction and stress. The results revealed that over 400 nursing staff felt burnout, stress, fatigue, and mental anguish. The medical-surgical unit had the highest number of complaints of burnout and stress.

Needs Analysis

Due to several variables, nurses on the medical-surgical floor in hospitals experience

more stress than nurses in other job settings. Taking care of and talking with patients who are severely ill are two scenarios that nurses may encounter that are difficult (Almazan et al., 2019). Also, lifting and transferring patients, changing work schedules, and working longer hours could stress nurses (Almazan et al., 2019). Nurses may make clinical errors due to increased tension, anxiety, and stress, heightening their work-related stress.

As part of the Pulse on the Nation's Nurses Survey Series, the American Nurses Foundation published findings from a well-being survey of over 9,500 nurses (ANA, 2020). Of the reasons for leaving their jobs, 49% of nurses said workload affected their mental well-being, and 34% said inadequate staffing was an issue (ANA, 2020). Due to stress, the national average for nursing turnover rates ranges from 8.8% to 37.0%, based on geographic location and area of expertise (Haddad, 2023). According to the 2018 National Sample Survey of Registered Nurses, 38.7-43.6% of Alabama nurses surveyed considered leaving their jobs due to stress. Inadequate staffing increases nurses' stress levels, decreases job satisfaction, and negatively impacts retention rates (ANA, 2020).

Currently, the medical center is developing ways to reduce stress due to the results of the facility-wide employee survey. The medical-surgical unit persistently has staff shortages, higher nurse/patient ratios, and excessive call-offs. The medical center granted a letter of support to determine a gap in clinical practice (see Appendix A). In addition, the writer gave a pre-intervention survey by the Mayo Clinic Well-being Index (WBI) to licensed staff nurses to obtain data (see Appendix B). The survey consists of 9 stress-related questions. This writer distributed 29 surveys to all licensed staff nurses, and 16 replied in January 2023. According to the study, 89% of nurses showed moderate to high-risk stress. Participants cited understaffing, heavier workloads, underpay, and unsupported as reasons for increased tension. The unit

currently has 43 open nurse positions. Since the initial informal survey, there have been six new vacancies. The local percentages are significantly higher than the national and state percentages. Shortly after the survey, the writer gained approval from the Jacksonville State University (JSU) Institutional Review Board (IRB).

Due to various circumstances, including increased nurse/patient ratios, nurses are currently experiencing higher stress levels. Despite being a widespread trend, research has shown that MBSR can enable individuals to feel better physically, mentally, and emotionally. With reduced stress and anxiety and improved emotion regulation, mindfulness-based treatments have improved well-being and mental health (Sanilevici et al., 2021).

Problem Statement

According to Kakemam et al. (2019), nursing is a stressful occupation identified as an occupational problem across several countries. Registered nurse (RN) burnout is a genuine concern documented in many healthcare facilities. Burnout is a condition of mental anguish in which the person experiences mental and physical exhaustion from work, is unable to handle the challenges of their job, and cannot communicate effectively with others (Bakhamis et al., 2019). Stress has three significant effects on nurses: burnout, depression, and lateral violence. In addition, according to research, nurses with elevated levels of work stress were 80% more likely to have suffered from a major depressive episode the year before (Bakhamis et al., 2019). The DNP project provided an answer to the following question: For staff, medical-surgical nurses in an urban medical center (P), does the implementation of a mindfulness-based stress reduction education program (I) compared to no stress reduction program (C) promote wellness using the WBI (O) over six weeks (T)?

Aims and Objectives

The overarching aims of this project were to:

1. Examine the relationship between stress and the well-being of medical-surgical nurses in a hospital-based setting.

2. Examine whether the nurses' stress management capacity would be impacted by a brief resilience intervention that emphasized mindfulness-based stress reduction techniques within 60 days.

3. Improve well-being while reducing stress with nurses on the medical-surgical unit by utilizing MBSR techniques.

Review of Literature

The author used multiple databases to complete the literature search for this project. The writer used the following databases for exploring: OVID, PubMed, and CINAHL. The key terms used were as follows: mindfulness-based stress reduction, hospital, or acute setting or inpatient or ward, medical surgical nursing; stress reduction through mindfulness meditation in nursing, burnout; meditation; mindfulness; nursing; stress; stress reduction. The PubMed search yielded 1799 before narrowing the search down to the last five years. Once narrowed, there were 431 with 22 possible results from various combinations of words. The CINAHL database yielded 130 in the last five years. After comparable results from previous queries were all deleted, 84 articles helped support the DNP project. Abstracts determined which sources were appropriate for this review. The themes identified in the literature were the effects of stress, benefits of mindfulness activities, types of mindfulness activities, and tools for measuring wellness.

Effects of Stress

According to Samuel (2020), high-stress levels among nurses negatively impact

patient outcomes in the healthcare context. In addition, nurses who work in nonstandard capacities experience additional stress (ElKayal & Metwaly, 2022). Vahedian-Azimi et al. (2019) indicated that stress causes physical and psychiatric disorders, with 59% of nurses suffering from mental health conditions. Zhou et al. (2020b) expressed that clinical and non-clinical staff are also at risk of psychological distress due to being expected to work longer hours. Vintapatr (2022) argues that nurses must meet specific productivity and revenue goals in these corporate responsibilities. A mismatch between work needs and the employee's talents may lead to job stress, increased absenteeism, tardiness, and turnover, reducing organizational productivity and profitability (Samuel, 2020). In addition, Zhou et al. (2020) noted a higher rate of anxiety and depression among nurses who experience high-stress levels in their professional and personal lives.

According to Lindayani et al. (2020), there are a variety of well-documented detrimental emotional and physical effects of stress and maladaptive stress reactions. Damage to the digestive system, such as ulcers, irritable bowel syndrome, and ulcerative colitis, may result from prolonged exposure to stress (ElKayal & Metwaly, 2022; Strauss et al., 2021). This hormone, cortisol, also affects working memory and information processing. Meta-analyses have revealed a high prevalence of anxious and depressive symptoms among healthcare workers, particularly women, and nurses (Pan et al., 2020; Pappa et al., 2020). Maharaj et al. (2018) concluded that due to the demanding nature of work, most nurses are more likely to experience mental conditions like depression, anxiety, and stress.

Benefits of Mindfulness Activities

ElKayal et al. (2022) noted many positive effects of MBSR, including reduced stress and burnout. Research shows that participating in extended weeks of mindfulness-based

interventions benefits sleep and is associated with positive changes in perceived stress, anxiety, and mood (Li et al., 2018). Reducing anxiety and increasing calmness may help nurses make better decisions by heightening their awareness of their surroundings (ElKayal & Metwaly, 2022; Strauss et al., 2021; ElKayal et al., 2022). Noble et al. (2019) indicate that healthcare students studying medicine found that practicing mindfulness helped them feel happier and more present in their daily lives.

Nadeem et al. (2021) state that hospital administrators must take interventions for all nurses, regardless of their current working departments, such as moderate depression, anxiety, and stress among nurses. Mindfulness is an effective tool among the rest that may help ease this pressure, leading to increased productivity and contentment in the workplace (Silver et al., 2018; Strauss et al., 2021). Additionally, mindfulness training may help nurses respond more effectively to stressful situations in the future (Silver et al., 2018). Ali et al. (2019) report that nursing has a high risk of workplace stress due to demanding job requirements, such as workloads, health risks associated with direct patient contact, and administrative responsibilities. Interestingly, mindfulness has advantages for nurse managers, including improved concentration, insight, and wisdom.

MBSR improves health and happiness in many people (Silver et al., 2018). There were significant improvements in depressive symptoms observed in a meta-analysis of eleven research on the efficacy of mindfulness-based treatments for treating (Klein et al., 2020). Techniques for MBSR have been studied in clinical trials and have all been shown to improve mental and physical well-being, compared to a control group that did nothing (Loucks et al., 2019). Compared to other active therapies, MBSR's impact on physical well-being and life satisfaction is comparable, including social function (Klein et al., 2020).

Types of Mindfulness Activities

Lin et al. (2019) discovered that the most extensive research on mindfulness in the workplace evaluated online and in-person versions of each program, a control group, and a mindfulness-based intervention. MBSR teachings include breath awareness, body scanning, and mindful movement to help patients become more aware of internal and external stimuli, recognition of habitual thought processes, recognition of maladaptive responses to stressors so that the individuals can more easily choose their reactions with intention and awareness (Bandealy et al., 2021). Lu et al. (2019) found that high levels of mindfulness correlate with improved mental health outcomes for ICU nurses, and mindfulness moderates the association between perceived stress and mental health outcomes. All methods of administration were equally effective. Rice et al. (2019) discovered that those with elevated pressure or pain before training experienced reductions after MBSR training, whereas the lower initial levels did not.

MBSR aims to strengthen people's ability to focus on the here and now without getting caught up in repetitive mental patterns (Penque, 2019b). A better understanding of oneself and the environment opens new avenues for action and adaptation (Silver et al., 2018). Querstret et al. (2020) linked mindfulness training to alterations in regions of the brain associated with affect regulation and the response to stressful impulses, which in turn affects physiological processes like breathing, heart rate, and immune function. Brain scans taken by participants in an MBSR program revealed changes in the concentration of grey matter in brain areas related to learning and memory functions, control of emotions, and view-taking (Guendelman et al., 2017).

Mindfulness Practices Used by Nurses

According to Van Dam et al. (2018), meditation and mindfulness are two of the most talked-about research topics in psychology, psychiatry, medicine, and neuroscience. Mindfulness

meditation has been shown to help nurses deal with stress and burnout and increase their emotional intelligence (Halm, 2017; Hilcove et al., 2021). Mindfully focusing on one's breath is another technique for reducing stress and restoring equilibrium (Hilcove et al., 2021). Mindfulness training helps nursing professionals deal with burnout and stress, work compassionately in demanding and stressful environments, cultivate greater self-kindness and self-care, improve their physical, psychosocial, and spiritual well-being, and improve self-actualization and the standard of care (Pan et al., 2019).

La Torre et al. (2020) argue that yoga and mindfulness effectively reduce stress and anxiety in healthcare workers, giving them more consciousness and the ability to manage stressful work requirements. For example, according to research, a group of nurses who practiced yoga for six weeks considerably decreased stress and burnout (Hilcove et al., 2021). The study indicated that tai chi increased nurses' well-being, flexibility, and balance (Hilcove et al., 2021).

Nurses may benefit from cultivating attitudes of appreciation and self-compassion. Samuel (2020) argues that self-compassion entails being kind and understanding to oneself, whereas gratitude practice involves expressing appreciation for items in one's life. A group of nurses reported feeling less stressed and experiencing more happiness after beginning a thankfulness practice (Victorson et al., 2019). Self-compassion was proven effective in lowering nurses' anxiety and raising their levels of work satisfaction.

Tools for Evaluating Wellness

The author used the WBI questionnaire to evaluate the stress levels of the nurses working on the DNP project. WBI is a valuable screening tool to categorize nurses' well-being and stress across various domains and pinpoint those whose distress levels may adversely impact patient care and retention rates. (Dyrbye et al., 2018). For example, the WBI can stratify nurse distress

(such as low quality of life [QOL], extreme tiredness, stress, and recent suicidal ideation) and well-being (high QOL) and identify those whose level of distress may adversely affect retention or work performance (Skrupky et al., 2020). There is a total of nine questions on the exam that measure this capability.

Baer (2019) discovered that the Five Facet Mindfulness Questionnaire (FFMQ) measures five dimensions of mindfulness and is scored independently of an expert's input. Thirty-nine questions on the exam aim to gauge these five dimensions of mindfulness and self-awareness. The Five Facet Mindfulness Questionnaire does more than evaluate our present state; it also gives a reliable estimate of the results we might expect from earlier efforts to cultivate awareness and acceptance (Baer, 2019). The creation of this questionnaire was crucial since it was one of the early methods to investigate the usefulness of mindfulness in dealing with practical challenges.

Baer (2019) also discovered that the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) is a famous self-report questionnaire that measures mindfulness as a process rather than a personality characteristic. It assesses how often one practices mindfulness in the present moment. In addition, the CAMS-R evaluates the stress levels of scientists and medical professionals (Baer, 2019). Researching the connection between mindfulness and emotion regulation, as well as the efficacy of mindfulness-based therapies for alleviating anxiety and depression, have used this method. It has also been used in clinical settings to assist doctors in evaluating their patients' awareness and monitoring any developments.

Some differences arise in using these tools, especially in the number of questions. They are also different in their intended purpose and their focus. While the CAMS-R measures mindfulness as a process (Baer, 2019), the WBI tool evaluates the nurses' stress levels and well-

being (Dyrbye et al., 2018). On the other hand, the FFMQ measures five different dimensions of mindfulness (Baer, 2019). These tools have been extensively used in research to investigate several dimensions of mindfulness and wellness. They all possess unique strengths and weaknesses when using them. For instance, CAMS-R may not be able to capture all the aspects of mindfulness when used. In addition, the FFMQ tool is time-consuming. The ability of WBI to quickly evaluate nurses for stress levels and well-being makes it more suitable to use.

Using the WBI, healthcare professionals may evaluate a patient's well-being quickly and reliably, pinpoint areas for more assistance, and create an all-encompassing treatment plan (Dyrbye et al., 2018; Skrupky et al., 2020). Other well-being evaluation methods are available, but the WBI stands out due to its emphasis on healthcare environments, user-friendliness, and all-encompassing approach to evaluating well-being (Dyrbye et al., 2018). Therefore, the author believes that this is an effective tool for assessing stress in healthcare professionals is the WBI.

The analysis reveals that additional study is required to realize the potential of the MBSR program and to improve and modernize it. It is appropriate to combine MBSR with other therapeutic methods like physical activity, different types of psychotherapy, or educational programs. According to Roemer et al. (2019), more than thirty years of studies indicate that extensive, thoughtfully, effective, and adequately assessed workplace health promotion (WHP) programs can reduce healthcare use and expenses; boost work efficiency; improve the well-being of staff members through factors like rest, exercise, and healthy eating; this affects affect value-on-investment metrics like job satisfaction and quality of work; and, in some cases, even increase productivity.

Stress levels among nurses impact them and patient outcomes. The WBI is quick and reliable in assessing the well-being of nurses. Several other tools of mindfulness well-being

among nurses are in use today. They include the Cognitive and Affective Mindfulness Scale–Revision and the Five Facet Mindfulness Questionnaire. Yoga, meditation, and tai chi are also effective remedies for stress reduction with nurses. Further research is needed to maximize the MBSR Program's potential and to refine and modernize it. It is appropriate to combine MBSR with other therapeutic methods like physical activity, types of psychotherapy, or education programs.

Theoretical Model

Roger's Diffusion Theory was used to guide the DNP project. Innovation the Knowledge-to-Action (KTA) Framework comprises two separate yet connected parts (Poot et al., 2018). The first stage looks at how to develop knowledge goods or tools, like an intervention or a therapeutic recommendation supported by evidence. The second phase directs the product's execution, including investigating implementation hurdles and enablers, any necessary customization, and assessing the implementation procedure (Poot et al., 2018). Knowledge is power and a key to success when implementing projects for staff members. Without knowledge, no project can be successful. Utilizing Roger's Diffusion on Innovation, the Knowledge-to-Action (KTA) Framework uses evidence to guide this two-step process in interventions or clinical guidelines.

Methodology

The DNP project took place in an inpatient medical-surgical unit with 28 beds that care for general medical patients. The organization's mission is to care for those "who shall have borne the battle" and for their families, and caregivers (Frequently Asked Questions (FAQ) | VA Birmingham Health Care | Veterans Affairs, 2022). There are 313 total beds in the hospital, including four intensive care units, which accommodate all the veterans from various military

branches. The company employs a wide range of office employees in addition to medical specialists such as physicians, physician assistants, advanced practice registered nurses, registered nurses, licensed professional nurses, certified nursing assistants, laboratory staff, clinical pharmacists, and pharmacy technicians.

The DNP student was given a letter of support to survey and collect data through already established credentials and professional relationships. The DNP project intended to reduce stress, promote wellness in the hospital setting, and demonstrate the efficacy of implementing an MBSR program. This project's primary intervention was implementing an MBSR program in a hospital setting. The writer distributed pre-intervention questionnaires to assess stress in the unit. Before attending an education session on a new mindfulness-based stress reduction program to trial in the medical nursing unit, the principal investigator (PI) obtained a presurvey. Outcomes were measured using post-intervention Mayo Clinic well-being surveys.

Plan-Do-Study-Act (PDSA) cycle is a widely used quality improvement methodology applied to this project. PDSA is a continuous improvement framework that helps organizations implement and refine changes systematically (Crowfoot & Prasad, 2017; Taylor et al., 2014). Plan, Do, Study, and Act is the four stages that represent the components of the PDSA cycle.

In the Plan phase, the project team identifies a problem, sets goals, defines the process, and develops a plan for implementing the change. In this quality improvement project, the problem is the high-stress level among nursing staff, and the goal is to reduce stress and improve well-being (Rapport et al., 2022). The process involved implementing MBSR exercises. The project team developed a plan for implementing the activities and collecting data before and after the intervention.

The Do stage entails carrying out the project and implementing change (Crowfoot & Prasad, 2017). In this quality improvement project, the nursing staff received in-service education on mindfulness-based stress reduction techniques and observed while implementing exercises for proper procedure. In the Study stage, the project team analyzed the data collected to assess the effectiveness of the intervention. Pre- and post-intervention Mayo Clinic well-being surveys were administered to nursing staff in this quality improvement project to evaluate the impact of based on MBSR activities on their psychological stress and well-being. The Act stage involved utilizing the study results to refine the intervention and change the process (Collins et al., 2021). In this quality improvement project, the project team interviewed nursing staff to discuss feedback and make necessary adjustments to the MBSR exercises.

Data Collection

The pre-and post-intervention Mayo Clinic well-being surveys were used to gather all the data, including all the nurses' replies to stress-related items. Baseline data were collected (before the start of the intervention) and directly after the intervention. The following stress measures were collected for comparison purposes:

- Perceived Stress Scale (PSS): A 10-item individual report that measures perceived stress.

- Maslach Burnout Inventory (MBI): A 22-item self-report measure of burnout in three domains: emotional exhaustion, depersonalization, and personal accomplishment (Rotstein et al., 2019).

- Job Satisfaction Survey (JSS): A 36-item self-report measure.

- Five Facet Mindfulness Questionnaire (FFMQ): A 39-item self-report measure of mindfulness.

- World Health Organization-Five Well-Being Index (WHO-5): A 5-item self-

  report measure of overall well-being.

Data Analysis

Descriptive statistics of the population consisted of gender, shift worked, and

employment status. Of the 16 participants, 88% were women, and 12% were men (see Table 1).

There were 14 full-time workers and two part-time (see Table 2). The DNP project involved nine

day-shift nurses and seven night-shift nurses (see Table 3). This writer chose the paired t-tests to

compare pre-and post-intervention scores on the outcome measures. Effect sizes were calculated

to determine the magnitude of change in each outcome measure. Linear regression analysis was

conducted to explore the relationship between mindfulness changes and other outcome measures.

Setting

The DNP project was carried out at an urban medical facility. The medical-surgical unit

cares for all veterans, from young to geriatric patients. Pneumonia, stroke, and fractures are just a

few of the many ailments and wounds that are treated in this unit. The unit typically has between

30 and 56 patients on a day-to-day day basis.

Population

The target population includes licensed nurses working in the medical-surgical unit. The

RNs and licensed practical nurses (LPNs) work the day and night shifts on the team. Research

shows that medical-surgical unit nurses had the highest percentage of job-related stress.

Therefore, educating and demonstrating the importance of stress reduction techniques is critical.

Inclusion/Exclusion Criteria for the Population

The criteria for inclusion and exclusion were based on licensed nursing staff. The

included staff nurses that participated were full-time and part-time employees. Exclusion criteria

were Pro Re Nata (PRN) licensed nurses, nursing assistants, and the Principal Investigators (PI). Also, all unlicensed staff members were excluded.

Recruitment

Nurses from the hospital's medical-surgical unit who met the inclusion criteria were asked if they would participate and, if they did decide to participate, were given a consent form. The PI orally presented the project to prospective volunteers, adhering to a documented script to guarantee that each participant heard the exact information (see Appendix C). Participants were made aware that participating in the project was voluntary, and the method was well explained. There were refreshments, goodie bags, and instructional materials available.

Consent

Before the project intervention, all study participants consented (see Appendix D). It was highlighted that the only goal of this student-led project was to spread awareness of MBSR techniques throughout the hospital to reduce stress and promote well-being. The medical director and the facility's chief executive officer (CEO) authority were not involved in the DNP project, nor did the PI oversee it. All participants' confidentiality was appreciated, and it was reaffirmed that the PI would keep all personally identifying information acquired confidential.

Design

The DNP student conducted an in-service to educate the nursing staff about MBSR and how to perform the techniques. Based on the CDC's "Prevalence of Mindfulness Practices in the US Workforce: National Health Interview Survey." The educational session was held in the nurse break room during lunch breaks and lasted approximately 30 minutes. Participants spent three days a week with the PI and two days learning five mindfulness-based stress reduction techniques for 10-15 minutes each. The discussion portion was held at the end for participants to

share their experiences and discuss if MBSR techniques were helpful. Weekly sessions spread out to include the following methods: 5 minutes of guided meditation, Mindfulness stretching, Mindfulness breathing, Focus mindfulness, and Awareness mindfulness. The materials were obtained from the websites: MBSR: 25 Mindfulness-Based Stress Reduction Exercises and Courses. The information covered various MBSR techniques and how to use them correctly. The Mayo Clinic well-being survey was used before MBSR, and it will be used 30 days after implementation and at 60 days again to assess stress reduction outcomes.

Data Review Process

The nursing staff on the medical-surgical unit was queried for anonymous personal information. No specific details on age, race, or sexual orientation were required or gathered. To maintain confidentiality throughout the DNP project presentation, healthcare professionals were identified by numbers rather than names. The only people with access to the data were the PI and the statistician. Data was kept on a USB flash drive and will be deleted to meet facility policy after being held by the PI for less than three years.

Risks and Benefits

All active participating healthcare professionals faced only a minor amount of potential risk related to privacy and security. The PI secured all survey results and presented affirmation that participation would not impact their employment status, thereby reducing any risk relating to anonymity and survey replies. Benefits to the health care professionals included MBSR education, program awareness, and a broader understanding of how to complete MBSR techniques.

The DNP project complied with all moral requirements necessary to safeguard the involved healthcare professionals. The project, first and foremost, adhered to the non-

maleficence and benevolence principles by functioning in the participants' best interests while trying to minimize or deter injury. The idea of autonomy was upheld by respecting the individual's independence in participating in the DNP project.

Compensation

During their in-service sessions, all healthcare professionals received goodie bags and supplementary educational materials. Participants were not given any monetary compensation during the DNP project. The goodie bags were provided as an appreciation gift from the PI.

Timeline

The DNP project starts to finish spans from December to March 2023. Project drafting, site proposal, and approval were from December to January 2023. The IRB for the project was approved in December 2021 (see Appendix E). The course requirement CITI training certificate was completed before the project's development (see Appendix F). Pre-intervention Mayo Clinic well-being surveys were initiated from December to January 2023. The participants who chose to participate in the DNP project received educational in-service in January 2023. Invention and planning took place between January to March 2023. Participants were given post-intervention surveys in March 2023. The DNP project manuscript began in January through June 2023. The DNP project presentation was in July 2023.

Budget and Resources

The DNP project budget and resources were well under the expected budget and only required very few materials to fulfill the budget. The anticipated budget was around $300 in expenditures. Resources included printing educational materials, pre- and post-interventional surveys, candy, goody bags, and ink pens for staff. The total budget spent on materials was $150.

Evaluation Plan

Statistic Considerations

The paired t-test method was used since the sample size was too small to check for the statistical significance of the DNP project. The paired t-test is a way to determine if the mean difference between two measurements is zero. The t-test made organizing, summarizing, and compressing all data simple. Microsoft Excel® spreadsheet was used to compute data in graphs. The pre-and post-project Mayo Clinic well-being surveys were used to gather all the data, including all the nurses' replies to stress-related items. The surveys were then submitted to a statistician to allow for a formal analysis of the data. The statistician reviewed all the nurses' pre- and post-questionnaires.

The WBI is a validated tool that measures stress, resilience, and well-being (Baer, 2019). It consists of nine questions that assess mood, stress, stability, and well-being. The results of the surveys will be sent to a statistician for a formal analysis. Descriptive statistics were used to describe the data.

Data Maintenance and Security

No identifiable information was used or included, such as names, ages, sex, etc., for this project. Staff members were identified throughout the project by number to maintain anonymity. The only people with access to the data were the PI and the statistician. Data was retained on a USB flash drive and will be deleted in accordance with facility policy after being kept by the PI for less than three years.

Results

Results of Data Analysis

The author passed out pre-and post-intervention Mayo Clinic well-being surveys to the

nurses on the medical-surgical unit. Upon completing the DNP project, the pre-and post-intervention Mayo Clinic well-being surveys were divided to analyze and synthesize the data. The surveys were kept with the PI in a folder to maintain confidentiality. The statistician was given all the compiled data for analysis. A paired t-test was used to calculate the p-values. Results of the paired-t test indicated no statistical significance between the pre-test ($M = 5.1$, $SD = 2.1$) and post-test ($M = 4.2$, $SD = 3.4$), $t(13) = 0.9$, $p = .371$. Likewise, the results of the non-stratified data paired t-test indicated no statistical significance between the pre-test ($M = 4.3$, $SD = 3.1$) and post-test ($M = 3.9$, $SD = 3.4$), $t(15) = 0.3$, $p = .761$.

The Mayo Clinic well-being survey results range from –2 (lowest risk) to 9 (highest risk). The data from the 16 participants were entered into Microsoft Excel® and separated by gender, employment status, and shift worked. Microsoft Excel® was also used to calculate the p-value of the test. The two-tailored comparative t-test was the author's preferred test for analyzing the results of the Mayo Clinic well-being surveys before and after the intervention. The significance level of 0.05 was employed to evaluate whether there was a distinction between the outcomes.

According to the Mayo Clinic's pre-intervention survey on well-being, 89% of nurses had moderate to high-stress levels. The Mayo Clinic's post-intervention well-being survey revealed that 76% of the nurses had moderate to high-stress levels. The pair t-test results did not show any reduction or statistical significance. However, the reduction was considered clinically significant.

Discussion

Stress is a significant issue among nursing staff. Occupational burnout associated with workplace stressor is a common occurrence among nurses, who often must deal with trauma, suffering, and high workloads, particularly during emergencies like COVID-19 (Prasad et al., 2021). The quality of patient care, staff retention, and job satisfaction can all suffer from mental

exhaustion. Nursing staff encounters high demands and long hours, which can lead to burnout and high-stress levels. Yet, they hold a critical role in the healthcare system, providing essential patient care, advocating for their needs, and serving as a crucial link between patients and other healthcare providers (Ripp et al., 2020; Green & Kinchen, 2021). Mindfulness practices have improved individuals' physical, emotional, and mental well-being. By promoting mindfulness, nursing staff can learn to manage stress, develop emotional resilience, and experience greater satisfaction in work and social settings.

Implications for Clinical Practice

The project's aims were unsuccessful because many nurses needed to finish their homework assignments and follow the project's guidelines. However, although more studies are required, the results are significant for nursing instruction and practice. In addition, this project can add to the body of research demonstrating how applying MBSR principles in a hospital setting can reduce stress while enhancing well-being when guidelines are followed.

Implications for Healthcare Policy

Hospitals must adhere to quality standards, but there is always room for growth regarding employee stress management. A recent concept analysis of mindfulness criticized that it remains underdeveloped in the field and emphasized its relevance to nurses' well-being and holistic nursing practices (Janssen et al., 2020). Programs designed to improve the well-being of healthcare professionals, such as stress management courses, may help foster self-care and improve patient safety (Janssen et al., 2020).

Implications for Quality/Safety

Safe and high-quality care are expectations in healthcare. Stress and burnout are harmful to safety and quality. In addition, they significantly influence the standard of care nurses provide.

Reducing stress and promoting well-being are the main goals of MBRS implementation. This project demonstrated a small but clinically significant reduction in stress. Maintaining and implementing the program across the board could improve mental well-being and reduce stress.

Implications for Education

Implementing mindfulness-based stress reduction techniques can have implications for education. Nurses can be trained on these techniques during their education and training programs to help them manage stress throughout their careers. Additionally, ongoing education and support can be provided to help nurses maintain these skills and reduce stress in the workplace.

Limitations

This project for quality control had a few restrictions. First, the project occurred in an urban medical facility, which might differ from other practice environments. Due to staffing challenges and the inability to correlate meaningfully with nurses employed on an as-needed (PRN) basis, the sample size of survey respondents was minimal. Finally, the project's implementation took place for six weeks, with pre-, initial-, and post-surveys. A more extended study period involving numerous workers from various units will offer a more reliable data sample for comparison, better reflecting the facility's stress reduction rates. Multiple nurses from other units filling in callouts may also influence the results.

Additional restrictions include recruiting the exact number of individuals I initially planned. In addition, managing the nurses who worked various shifts part-time and full-time proved challenging. Daily workload difficulties, social support, incomplete homework, and a more conventional and intense MBSR program are examples of non-work-related variables. According to Lin et al. (2019), despite the training program being streamlined from traditional

MBSR, 20% of the intervention group (n = 11) did not complete the weekly sessions, and many of them did not complete the homework as requested due to a lack of time (according to reports of learning experiences); this noncompliance reduces the efficiency of the intervention to some extent. Lastly, a few participants were out due to sickness, vacation times, and military leave may have altered the results.

Dissemination

The findings of this quality improvement project have been disseminated using the three Ps: poster, presentation, and paper. On July 13, 2023, the university held its annual virtual DNP dissemination day, where a brief discussion and a poster display for the DNP Project were presented. In addition, individuals in the project and the organization's executive leadership were granted full access to the project's findings. Furthermore, Jacksonville State University's Digital Commons repository is where the DNP manuscript resides.

Sustainability

Mindfulness-based stress reduction techniques are sustainable for practice. These techniques can be incorporated into daily routines and do not require any special equipment or resources. Mindfulness-based stress reduction exercises can be practiced individually or in groups, making them a cost-effective and accessible intervention for reducing stress among nursing staff (Reich et al., 2017; An et al., 2022). Research has shown that mindfulness-based stress reduction techniques can improve healthcare workers' stress, well-being, and job satisfaction. Reich et al. (2017) find that post-treatment MBSR involvement effectively reduces stress and related intervention in quality of life.

Plans for Future Scholarship

The DNP project and a wealth of other literature on stress reduction using MBSR in the

hospital setting are both available for review. However, this study only illustrates the need for additional research to support the findings. The MBSR program should be implemented throughout the medical center in future studies. The inclusion criteria can be broadened to include other specialties and job titles. Future developments may expand the program to more facilities around the world.

Conclusion

The DNP project was launched to promote well-being by reducing stress in nurses using evidence-based research on MBSR. MBSR programs have been investigated in both hospitals and outpatient settings. As a result, the program is quickly gaining traction. According to Islam et al. (2022), the rapid rise of mindfulness programs in professional environments reflects a synthesis of humanistic, spiritual, and managerial interpretations. Therefore, implementing MBSR programs is necessary to reduce workplace stress, particularly among nurses.

The author thinks the program will eventually impact everyone looking for stress-reduction techniques as word of its existence spreads to other facilities. More in-depth research is required to demonstrate the effects of implementing the MBSR program into clinical practice. The MBSR program's implementation is critical for practice change at the DNP project site.

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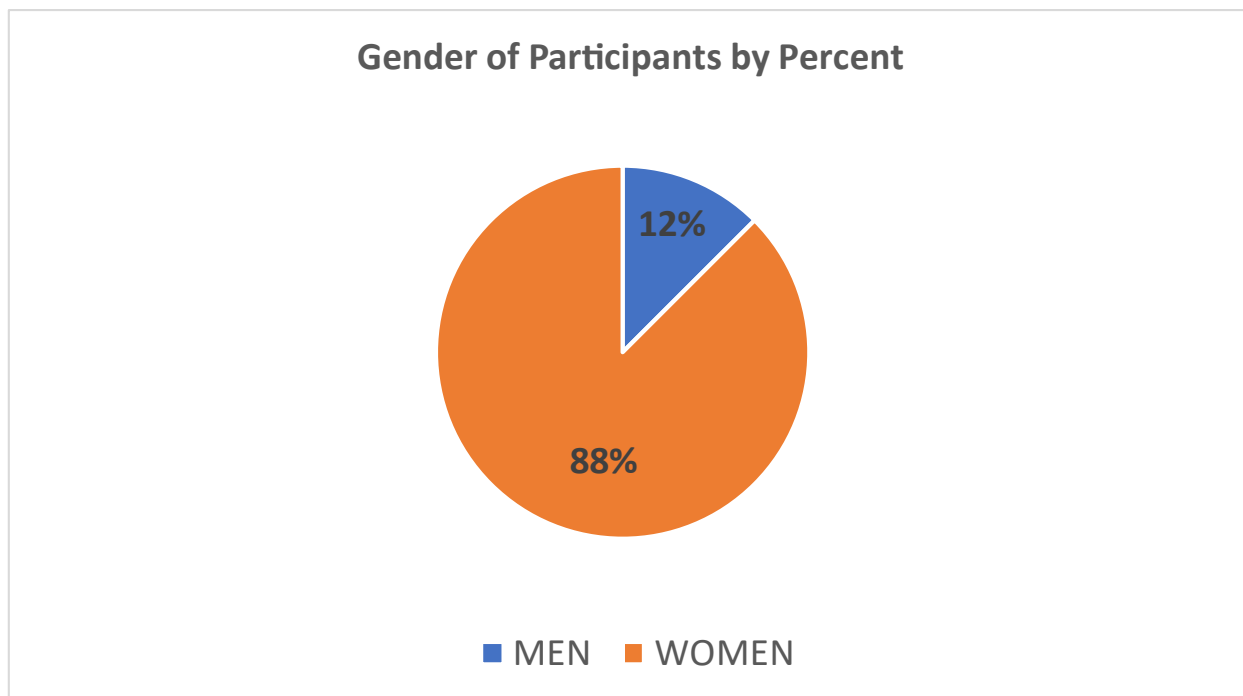
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Table 1

DNP Project Descriptive Statistic Graph Gender

Table 2

DNP Project Descriptive Statistic Graph Employment Status

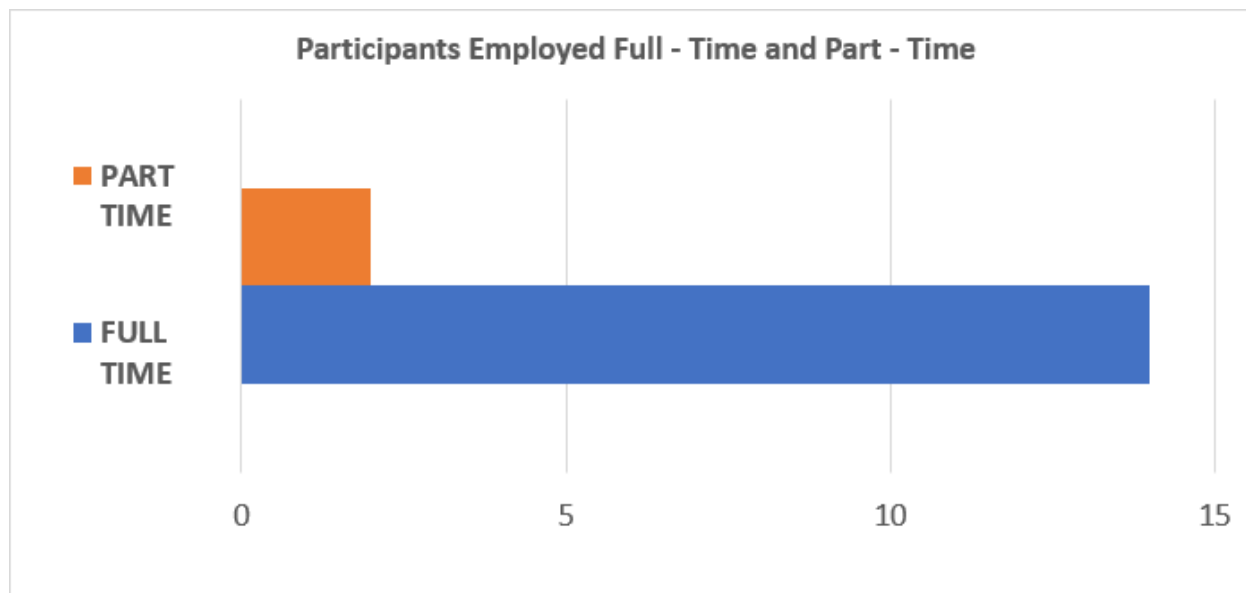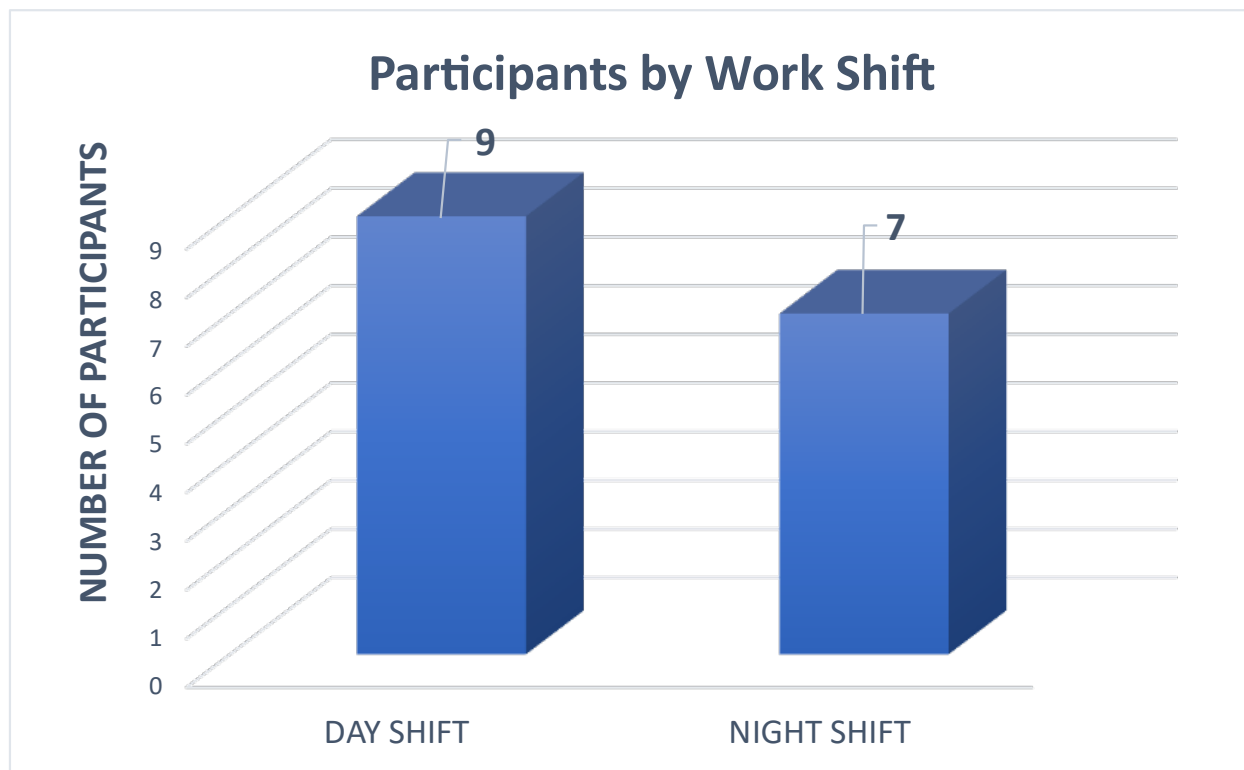Participants Employed Full - Time and Part - Time

Table 3

DNP Project Descriptive Statistic Graph Work Shift

Appendix A

Letter of Support

**Department of
Veterans Affairs**

Memorandum

Date: 3/17/2022

From: Shanita Parchman-Wright, RN Subj:

        Letter of Support

To: Shemeka Arrington and Jacksonville State University

Thru: Shemeka Arrington

To whom it may concern,

"I give Shemeka Arrington support and permission to implement a well-being stress reduction project on the 5 Main medical-surgical unit at the Birmingham VA Medical Center." If you have any questions or concerns, please feel free to contact me.

Sincerely,

/J   JJ◆I   /<JV

Shanita Parchman-Wright, RN
5 Main Nurse Manager Birmingham VA
Medical Center 700 19th Street South
Birmingham, AL 35233
Office: 205-933-8101 ext. 335749
Cell: 205-307-8710

Appendix B

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Appendix C

Script for Licensed Nurses on the Medical-Surgical Unit

Hello ladies and gentlemen, I'm Shemeka Leonard a DNP student at Jacksonville State University working on a project titled Promoting Wellness with Medical-Surgical Nurses in an Urban Medical Center through Mindfulness-based Stress Reduction (MBSR). If you choose to participate there will be a voluntary informed consent to sign. The consent form will contain the description of the study, the aim of the study, the length of time, and the benefits of the study. Participation is voluntary and early withdrawal or cessation is allowable without untoward effects. This study is strictly confidential and only I and the statistician will have access to your survey information. The Birmingham VA Medical Center will not see your information.

Once the consent is signed you will have an opportunity to participate in the in-service to gain a brief description of the project details. There will be an initial survey prior to the implementation of the project. The next survey will be conducted thirty days later, followed by another at 60 days to assess stress reduction outcomes. I welcome all to participate.

<u>Script for those who decide to participate and sign the consent form</u>

Thank you for choosing to participate in this project to promote well-being by reducing stress by utilizing MBSR techniques. Nursing is a stressful profession due to a complex set of circumstances. According to one study, nurses may be unsatisfied with their pay, job advancements, and nurse-physician relationships (LIAO, 2020). Research shows that nurses in medical-surgical units had the highest percentage of occupational stress, followed by nurses in intensive care units(LIAO, 2020).

According to an extensive analysis of national survey data, stress, and work unhappiness were highest among nurses providing direct patient care in hospitals, and emotional exhaustion was experienced by 30% of hospital nurses (White, 2019). Furthermore, a lower salary, a higher job position, a higher education level, and work overload have all been linked to higher levels of occupational stress (LIAO, 2020). Currently, the medical center is developing ways to reduce stress.

Implementing a mindfulness-based stress reduction program (MBSR) will help reduce stress and improve wellness. A growing body of research findings indicates that mindfulness training, even in adapted/brief versions of the original MBSR program, is a promising and helpful intervention for reducing stress, anxiety, depression, burnout, increasing job satisfaction, quality of life, and well-being among nurses (Ghawadra et al., 2019). Furthermore, workplace mindfulness interventions focus on improving decision-making, productivity, resilience, interpersonal communication, organizational connections, perspective-taking, and self-care by reducing stress and increasing workplace functioning.

We will begin with an in-service to educate you all about MBSR and how to perform the techniques. There will also be a discussion portion at the end to share your experiences and discuss the effects of the MBSR techniques provided. There will be weekly sessions spread out to include the following techniques:

- 5 minutes of guided meditation
- Mindfulness stretching

- Mindfulness breathing
- Focus mindfulness
- Awareness mindfulness

The typical number of sessions for MBSR interventions will be eight weekly sessions plus home practice (Demarzo et al., 2017). You will be encouraged to do daily 5-10-minute work and at-home mindfulness practice techniques. They will also be given mindfulness-awareness techniques to practice during times of intense stress. All my materials will come from the following websites below:

- MBSR: 25 Mindfulness-Based Stress Reduction Exercises and Courses (positivepsychology.com)
- https://pckar39011.wixsite.com/mindfulgym-nurse

- The CDC website will be used as well for additional educational purposes.
    - https://www.cdc.gov/pcd/issues/2017/16_0034.htm
        - Mindfulness_Final.pdf (washington.edu)
            - Home - Jon Kabat-Zinn
        - Online MBSR/Mindfulness (Free) (palousemindfulness.com)
  `

- Smartphone apps have mindfulness practices that may be helpful, such as Headspace, Simply Being, or The Mindfulness App.

Appendix D

Participant Consent Form

TITLE OF STUDY: Promoting Wellness with Medical-Surgical Nurses in an Urban Medical Center through Mindfulness-based Stress Reduction

Principal Investigator: Shemeka Leonard FNP-C, PMHNP-BC

This consent form is part of an informed consent process for a DNP student project, and it will provide information that will help you decide whether you wish to volunteer for this project. It will help you to understand what the study is about and what will happen during the project.

If you have questions at any time during the project, you should feel free to ask them and should expect to be given answers that you understand entirely.

After all your questions have been answered, you may complete the attached survey and participate in the educational session if you still wish to participate in the project.
You are not giving up any of your legal rights by volunteering for this research project.

Why is this project being done?
This project aims to improve nurse well-being by implementing mindfulness-based stress reduction education to help nurses better manage their stress. Controlling clinical work stress is critical for patient care and nurses' health, and long-term employment. This project plans to promote the well-being of nurses by exposing nurses to mindfulness-based stress reduction techniques while working in the hospital. This project also plans to reduce stress among nurses. The project will run for two months.

What will you be asked to do if you take part in this project?
You will be tasked to participate in educational sessions in the nurse break room for 10-15 minutes during your lunch break. You will learn five different mindfulness-based stress reduction techniques that you will be asked to utilize for 10-15 minutes three days a week while at work with the PI and two days a week on your own time while not at work. You will be asked to complete a second survey taken one month after the protocol has begun. The final survey will be taken 60 days from the program's start.

What are the risks or discomforts you might experience if you take part in this DNP project?
No expected harm can occur from participating in this study. This project has no influence or involvement from upper management, and participation is voluntary. Upper management will be excused from participation and not provided any information regarding survey results or nurse participation in this project.

Participation in this project is of no cost to you.

(Page 1 of 2 – DNP Project Consent)

How will information about you be kept private or confidential?

All efforts will be made to keep your personal information in your research record confidential, but total confidentiality cannot be guaranteed. Only a randomized ID code will be placed on your survey without the addition of any other personal identifiers. Surveys will remain within the medical nursing unit, and information will not be removed from the premises until all identifiable information is removed.

What will happen if you do not wish to participate in the project or if you later decide not to stay in the project?

Participation in this project is voluntary. Suppose you do not want to enter the project or decide to stop participating. You may choose not to participate, or you may change your mind at any time. In that case, your relationship with the project staff will not change, and you may do so without penalty and without loss of benefits to which you are otherwise entitled.

You may also withdraw your consent for the use of data already collected about you, but you must do this in writing to Shemeka Arrington at sleonard1@stu.jsu.edu

Who can you call if you have any questions?

If you have any questions about taking part in this project, you can call the principal investigator:

Shemeka Leonard, FNP-C, PMHNP-BC

Birmingham VA Medical Center

Medical Surgical Unit

700 19th Street South

Birmingham, Alabama 35233

(205) 777-1236

(Page 2 of 3 –DNP Project Consent)

AGREEMENT TO PARTICIPATE

1. Subject consent:

I have read this entire form, or it has been read to me, and I believe I understand what has been discussed. All of my questions about this form or this study have been answered. I agree to take part in this research study.

Subject Name:_____

Subject Signature:_____ Date:_____

2. Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the study's complete contents, including all of the information contained in this consent form. All questions of the research subject and those of their parent or legally authorized representative have been accurately answered.

Investigator/Person Obtaining Consent (printed name):_____

Signature:_____ Date: _____

Appendix E

JSU IRB Approval Letter

INSTITUTIONAL REVIEW BOARD
JACKSONVILLE STATE UNIVERSITY

Institutional Review Board for the Protection of Human Subjects in Research
249 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

April 25, 2022

Shemeka Arrington
Jacksonville State University
Jacksonville, AL 36265

Dear Shemeka:

Your project "Promoting wellness with Medical-Surgical Nurses in an Urban Medical Center through Mindfulness-based Stress Reduction" 04252022 has been granted exemption by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB). If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

Lynn Garner
Associate Human Protections Administrator, Institutional Review Board

Appendix F

CITI Training Certificate

Completion Date 26-Sep-2021
Expiration Date 25-Sep-2024
Record ID 45306655

This is to certify that:

Shemeka Arrington

Has completed the following CITI Program course:

Social and Behavioral Responsible Conduct of Research
(Curriculum Group)
Social and Behavioral Responsible Conduct of Research
(Course Learner Group)
1 - RCR
(Stage)

Not valid for renewal of certification through CME.

Under requirements set by:

Jacksonville State University

Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w304e6ff5-900a-40ab-8f36-e9dad5e7fae8-45306655