

Reducing Compassion Fatigue in Rehabilitation Nurses Working at the Bedside

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Abstract

Compassion fatigue occurs when individuals who care for others suffer trauma and no longer have the ability to nurture others. When this happens to nurses, their ability to provide compassion and appropriate nursing care is reduced. This project worked to reduce compassion fatigue in nurses working at the bedside in a large rehabilitation hospital in New York. The sample which included 17 nurses demonstrated that interventions which were tested in oncology and emergency room settings can be applied to the rehabilitation setting and can significantly reduce the level of burnout and secondary traumatic stress which are both components of compassion fatigue. The validated ProQOL survey instrument was used to measure compassion fatigue at the start of the project and 6 weeks following the introduction of the interventions. Results of the project demonstrated that nurses were able to reduce their level of burnout following the interventions. The survey before the interventions demonstrated that 76% (n=13) of nurses had low levels of burnout prior to the interventions. Twenty four percent (n=4) had average levels of burnout. Following the 6-week intervention period, 88% (n=15) of nurses had low levels of burnout and 12% (n=2) had average levels of burnout. This project demonstrates that these low-cost simple interventions can be useful in reducing compassion fatigue in the rehabilitation setting.

Keywords: compassion fatigue, rehabilitation nurses, mindfulness meditation, knitting

Reducing Compassion Fatigue

Compassion fatigue occurs when individuals who care for others suffer trauma and no longer have the ability to nurture others (Nolte, Downing, Temane, & Hastings-Tolsma, 2017). When this happens to nurses, their ability to provide compassion and appropriate nursing care is reduced. This project worked to reduce compassion fatigue in nurses working at the bedside in a large rehabilitation hospital in New York by introducing interventions proven in other settings. Nurses had the opportunity to learn knitting and mindfulness meditation which have both been shown to reduce compassion fatigue in other settings. The validated ProQOL survey instrument was used to measure compassion fatigue at the start of the project and 6 weeks following the introduction of the interventions.

Background and Significance

The American Nurses Association (ANA) lists compassion as a central value of nursing in the ANA's Code of Ethics (ANA, 2015). Provision one of the code says "The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person" (ANA, 2015, p. v). Nurses are charged with providing compassionate and supportive care which alleviates suffering. The Merriam-Webster dictionary defines compassion as "sympathetic consciousness of others' distress, together with a desire to alleviate it" (Merriam-Webster, 2015, para.1). This desire to help is fundamental to providing comprehensive patient centered care. The help provided by the nurse includes treatments given and also the personal care provided. By investing in a relationship with the patient, the nurse seeks to improve the health and wellbeing of the individuals.

Compassion fatigue is defined as the "caregiver's cost of caring and results when caregivers are exposed to repeated interactions requiring high-level empathetic engagement with distressed clients" (Sorenson, Bolick, Wright & Hamilton, 2017, p. 457). By engaging patients at a personal level, nurses are more likely to provide compassionate care and be sensitive to the suffering of patients. As nurses experience a negative personal cost of caring, they may be more likely to be desensitized to suffering of future patients (Mooney, Fetter, Gross, Einehart, Lynch & Rogers, 2017). This reaction to suffering impedes the ability of the nurse to care for patients in a compassionate way.

Watson's Theory of Human Caring (2007) describes nursing's goal as to improve the patient's body, mind and spirit through compassionate caring. If nurses suffer compassion fatigue, they are unable to provide the compassionate care which is basic to their nursing responsibility. Watson's Caritas Processes (2008) describes the method for establishing the human to human connectedness which is needed to deliver compassion and caring to others. According to Watson's process, caregivers need to engage in an authentic caring relationship with patients. This caring motivates the nurse to treat the medical needs of the patient while addressing their needs for human connectedness. Nurses who suffer from compassion fatigue have an inability to nurture others and provide appropriate care (Nolte, Downing, Temane, & Hastings-Tolsma, 2017).

Many authors equate compassion fatigue to burnout but they are different (Boyle, 2015). Burnout results from stress within the workplace such as poor management, heavy patient loads, and lack of resources and teamwork. Physical and emotional exhaustion caused by the negative work environment result in the nurses developing lack of interest in people, poor work engagement, and negative feelings about themselves (Lachman, 2016). This phenomenon is burnout. Compassion fatigue is different because it results from stress within the personal relationships formed with patients and caregivers in the healthcare setting and develops out of

repeated exposure to the trauma and suffering of patients (Lachman, 2016). Nurses who are repeatedly exposed to suffering will develop compassion fatigue if they are unable to engage in protective behaviors. Nurses who are suffering from compassion fatigue are unable to provide a compassionate and empathetic response to patients when providing care. The negative effects on the care provider caused by compassion fatigue contribute to delivery of less-than-optimal care and an increase in medical errors (Hamilton, Tran, & Jamieson, 2016).

Within the healthcare system, nurses are the largest group of providers. They are challenged with providing care to an increasing complex group of patients and often must find ways to provide more care with less resources. Within the rehabilitation hospital setting, the complexity of patients has increased significantly as acute care hospitals work to discharge patients more quickly and as patient survive events which they would previously not have survived (Brown, Ashford, Williams, & Turner-Stokes, 2016). This has put an increasing burden on rehabilitation nurses while the resources to care for these patients have not changed much.

Compassion fatigue contributes to nurse turnover, patient complaints, and nurse satisfaction in the rehabilitation hospital. Within this rehabilitation hospital setting, complaints from patients have included phrases that are consistent with demonstrations of compassion fatigue such as reports of staff who are uncaring and nasty. Other possible indicators include nurses being heard complaining loudly about patients within earshot of them. Saying things like the patient is never satisfied and always wants more. Additionally, nurses at this hospital have self-reported feeling overwhelmed, unable to do their best, and report that sometimes it's hard to care. These behaviors are consistent with compassion fatigue.

Review of the literature did not identify any research of compassion fatigue in bedside nurses in a rehabilitation hospital. One poster was identified from the national Association of

Rehabilitation Nurses convention in 2017. The poster detailed a project conducted at Carolinas Rehabilitation Mount Holy located in North Carolina (Queen, 2017). The project sought to decrease the burden on nurses physical and emotional health by providing supportive discussions, education, and the creation of a serenity space. Unfortunately, there were no pre and post measurements to determine the effectiveness of the interventions.

Most research has focused on environments such as oncology, critical care, and trauma (Hamilton, Tran, Jamieson, 2016; Houck, 2014; Kelly & Lefton, 2017; Mooney, Fetter, Gross, Rinehart, Lynch, & Rogers, 2017; Neff Newitt, 2017; Sorenson, Bolick, Wright, & Hamilton, 2016). Strategies and interventions used within oncology and other settings will be adapted to the rehabilitation hospital setting. Based on the reports of staff behavior and self-reporting about their feelings, it is likely that some nurses at this hospital are suffering from compassion fatigue. The purpose of this project was to evaluate whether compassion fatigue exists within this hospital then implement and evaluate a comprehensive program to reduce compassion fatigue in rehabilitation nurses. The impact of the project may reduce the cost of healthcare if it leads to an increase in engagement and productivity while decreasing turnover of nursing staff. The nurses will benefit by learning strategies to prevent and overcome compassion fatigue. The rehabilitation patients will benefit by receiving more compassionate care from their bedside nurses.

Needs Assessment

Compassion fatigue affects individual nurses' health and wellness, nursing practice, and their decision to change employment (Sorenson, Bolick, Wright, & Hamilton, 2017). In addition to turnover, compassion fatigue can contribute to poor job satisfaction and a decreased ability to provide essential nursing care (Anderson & Gustavson, 2016). Nurses who care for traumatized

individuals can likely have painful intense responses to their experiences. If they do not process these emotions in a healthy way, then nurses can develop compassion fatigue (Schmidt & Haglund, 2017). This in turn reduces their ability of the nurses to care for their patients.

As compassion fatigue contributes to turnover it can significantly impact the cost of nursing care for an organization. The cost of replacing a health care professional can range from \$36,900 to \$57,300 and nurse turnover can cost the United States an estimated \$729 million per year (Sorenson, Bolick, Wright, & Hamilton, 2017). Within the acute rehabilitation hospital which is the focus of this study, turnover of nurses has been significant. In 2017 there was 18% annual turnover. In 2018 there was 21% annual turnover. Exit interviews have indicated that the work demands are more than the nurses anticipate and that the work is harder than expected. Nurses in exit interviews report being unable to meet the expectations of the patients and families. Recently, a new nurse on orientation quit the first day she was on the floor reporting that she was overwhelmed by the demands of the patients and their medical needs. This challenging environment likely creates compassion fatigue in nurses.

This constant turnover of nursing staffing leads to the additional expense on onboarding, orienting, and precepting of new nurses for a period of time ranging from six to 12 weeks. This onboarding expense costs the hospital an average of \$20,000 in salary as the hospital pays the new nurse and the primary nurse for six to 12 weeks before they can independently take a patient assignment.

Additionally, the organization incurs the expenses of running an orientation program twice a month each time for two weeks utilizing two nurse educators to run the program. The organization pays a nurse recruiter full time to screen and interview applicants, process their paperwork, and bring them to hire day. The organization currently has 90 full time nurses working at the bedside. If the organization was able to reduce turnover from 20% to 15%, they would be hiring 4 less nurses each year. If they were able to reduce turnover from 20% to 10%, they would be hiring 9 less nurses each year. Each newly hired nurse earns about \$80,000 per year. This improvement could save the hospital \$160,000 in the salary alone. When adding in the cost of benefits, the savings could be up to \$225,000.

The hospital uses the Press Ganey survey to measure patient satisfaction and focuses on two key elements of the survey: likelihood to recommend and the Personal Issues section of the survey which has been highly correlated with the likelihood to recommend score. The likelihood to recommend score in 2015 was 95.2, in 2016 it was 94.3, and in 2017 it was 93.6. Data for 2018 was not available at this time. The corresponding percentile ratings were 84th in 2015, 75th, in 2016, and 67th in 2017. These scores are headed in a negative direction.

Within the Personal Issues section, there are questions which relate to nursing care and are likely to be influenced by compassion fatigue including extent to which staff treated you with respect, staff sensitivity to the inconvenience that health problems and hospitalization can cause, staff concern for your questions and worries, extent to which staff gave you encouragement, and staff promptness in responding to your requests. These elements related to the nurse's ability to provide compassionate patient centered care and have scores significantly lower that the likelihood to recommend scores. In 2015 the personal issues score was 88.6. In 2016 the score was 86.7. In 2017 the score was 86.3. In terms of percentiles the scores have been decreasing from 54th percentile in 2015, to 27th in 2016, and 24th in 2017. Comments and grievances reported by patients support these scores and include nurses being rude, unsympathetic, and unwilling to help. These behaviors are typical of compassion fatigue (Sorenson, Bolick, Wright, & Hamilton, 2017).

There is also a consistently high rate of callouts among nurses at the DNP project site. In 2018, on average 7 nurses called out each week out of a total of about 40 shifts scheduled. Since call outs occur up to two hours prior to the start of the shift, this contributes to an increased need for staffing and creates a challenge of getting staff in place at the start of the shift. Not enough staff on the units is a factor in nurses having a negative experience and contributes to compassion fatigue and burnout.

Problem Statement

Rehabilitation nurses at this hospital are acting in ways and reporting feelings that make it likely that they are experiencing compassion fatigue. This project evaluated the level of compassion fatigue among the nursing staff. For the group of nurses experiencing compassion fatigue, this project worked to improve the understanding of the impact of a variety of interventions on rehabilitation nurses who work at the bedside. Therefore, the problem statement for this study is: For nurses in a rehabilitation hospital who are experiencing compassion fatigue (P), how does the implementation of compassion fatigue prevention interventions (I) compared to the current situation of no interventions (C) result in improvements in the nurses' compassion fatigue post intervention when compared to the measure pre intervention(O).

Aims and Objectives

The aim of this project is to reduce compassion fatigue in rehabilitation nurses using strategies and interventions that have been successful in oncology and other health care settings.

There are four objectives of the project.

• Identify rehabilitation nurses who are experiencing compassion fatigue and offer them interventions to overcome compassion fatigue.

- Create and implement an educational program which describes compassion fatigue including the signs and symptoms and highlight ways to reduce compassion fatigue.
- Provide training in a variety of methods to reduce or prevent compassion fatigue including mindful meditation, knitting and creating a self-care plan and allow for six weeks of practice.
- Measure the effectiveness of the interventions by using the ProQOL survey pre and post interventions and by measuring the call outs of nurses who participated in the interventions when compared to non-participant nurses during the same time frame.

Review of the Literature

EBSCO was used to search the CINAHL and Academic Search Premier databases using the terms compassion fatigue and nurses. Results were limited to scholarly/peer reviewed and published between 2013 and 2018. This identified 341 items which were reviewed for relevance. Fifteen items were identified as most relevant. Using the terms compassion fatigue and nurses and rehabilitation hospital identified one result which was not relevant because it was about long-term home visits of patients. An additional search was conducted using the terms compassion fatigue and knitting and nurses which did not identify any new results. A search using the terms compassion fatigue and knitting within CINAHL and Academic Search Premier databases did not identify anything additional. A search of Google Scholar identified a supplementary article on the knitting intervention which was located in the British Journal of Occupational therapy. The search for relevant research also included the review of two doctoral thesis reports that were available at the Rutgers School of Nursing which included the term of "compassion fatigue" in the title. Additional support was provided by the nursing research librarian at Rutgers who used CINAHL and the terms "compassion fatigue" and nurse and patient outcomes to identify additional doctoral thesis reports from other universities. These documents were reviewed and the reference lists checked for relevance to the topics.

Occurrence of Compassion Fatigue

Charles Figley is credited with first identifying compassion fatigue during the 1980's when he realized that there was an impact on clinicians who were caring for individuals that had suffered trauma (Figley, 2005). Figley identified that you do not have to be a family member of someone who has suffered trauma to experience effects; you just have to be someone who cares deeply. Joinson (1992) coined the term compassion fatigue when studying emergency room nurses who were exhibiting symptoms of burnout and secondary traumatic stress. Sorenson, Bolick, Wright, and Hamilton (2017) organized the symptoms of compassion fatigue into behavioral, emotional, and physical changes. Within the behavioral realm this includes the inability to maintain empathy and objectivity, chronic lateness, substance abuse, eating disturbances and calling in sick to work. Someone with compassion fatigue can display emotions of a diminished sense of accomplishment, low self-esteem, numbness, apathy, depression, anger and irritability. The physical changes from compassion fatigue can include chronic fatigue, frequent headaches, gastrointestinal complaints, cardiac symptoms including tachycardia and chest pain, sleep disturbances, and anxiety. Not all individuals with compassion fatigue will display all of the potential impacts. Individuals may be more susceptible to specific

domain changes; however, the work environment that nurses experience contributes to their personal illness and lost work time (Horrigan, Lightfoot, Lariviere, & Jacklin, 2013).

Analysis of compassion fatigue also described the workplace as an "unbearable weight" on their shoulders (Nolte, Downing, Temaine, & Hastings-Tolsma, 2017, p. 4364) which can spillover and effect home life. Typical situations like dealing with sick kids or personal issues seem overwhelming to individuals suffering from compassion fatigue. Early research into compassion fatigue has focused on clinical specialties typically thought of as dealing with death and tragedy such as trauma and oncology (Mooney, Fetter, Gross, Rinehart, Lynch & Rogers, 2017).

Experiencing compassion fatigue is not limited to nurses. Physicians practicing in oncology have also reported suffering compassion fatigue associated with the guilt and disappointment of caring for patients with cancer who die while being treated (Neff Newitt, 2017). Joint Commission (2018) reports that up to 80% of surgeons recalled having at least one intraoperative adverse event within the past year which had a substantial emotional impact on their well-being including shame, sadness, and anxiety which drove them to need formal psychological counseling.

Comparison to Burnout and Secondary Trauma

The terms of compassion fatigue, burnout, and secondary trauma are used throughout the literature to describe the negative impact to healthcare providers resulting from the work and the environment. Stamm (2010) defines the healthcare worker's professional quality of life as being made up of two components: compassion satisfaction and compassion fatigue. Within compassion fatigue, are the two components of burnout and secondary trauma (Stamm, 2010). Within this model burnout is defined as the psychological and physiological responses to

prolonged emotional stressors (Kelly & Lefton, 2017). Secondary trauma results from repeated exposure to traumatic events in the patients they care for (Kelly & Lefton, 2017).

This difference between these three conditions has not consistently been applied throughout the literature. Hamilton, Tran, and Jamieson (2016) define compassion fatigue as emotional and physical exhaustion which impacts healthcare workers as a result of caring for patients. These researchers go on to say that burnout is chronic exhaustion as a result of the demands of daily life without linking it to the healthcare environment.

The Joint Commission (2018) tends to combine the ideas of compassion fatigue and burnout into the term second victim. In their issues brief published in January 2018, the Joint Commission describes the symptoms of being a second victim as difficulty sleeping, guilt and anxiety, burnout, depression, and suicidal ideation. They report that organizations typically try to help employees overcome this situation by utilizing an employee assistance program (EAP) or supportive counseling; however, this strategy fails to address the need for the organization to improve the work environment and provide healthcare workers with strategies to reduce the likelihood of becoming a second victim. By utilizing the definition of compassion fatigue which addresses both components of secondary trauma and burnout, healthcare workers can better focus prevention and interventions.

Measuring Compassion Fatigue

Stamm (2010) reports that the ProQOL instrument has good construct validity with over 200 published studies. The scale has been shown to have no statistical difference across gender, race, age group, income level, years at the current employer or years in the field. There are three subscales within the tool to measure compassion satisfaction and compassion fatigue which has two components of burnout and secondary traumatic stress. Compassion satisfaction is the

positive feelings and well-being which is derived from work. Burnout encompasses the hopeless feelings and negative feelings associated with the work environment. Secondary traumatic stress component of compassion fatigue includes the fear and anxiety that come from observing traumatic events.

Healthy Work Environment

The National Academies of Sciences, Engineering, and Medicine (NAM) (2019) report Taking Action Against Clinician Burnout - A Systems Approach to Professional Well-Being identifies that in order to provide the best care possible, care must be provided by a highly functioning clinical team. The recent adjustments to reimbursement have driven many practice changes and have increased workload, job demands, and system pressures for clinicians with negative impacts (NAM). Creating a positive healthy work environment which reduces burnout and improves professional well-being is essential to transforming healthcare work systems and improving care. This is a key goal of the National Academies of Science, Engineering, and Medicine as it seeks to improve the healthcare delivery system.

A healthy work environment reduces the risk for developing compassion fatigue. (Kelly & Todd, 2017). The American Association of Critical-care Nurses (AACN) (2016) established six standards for a healthy work environment which are linked to excellent nursing care and quality patient outcomes: (a) skilled communication, (b) true collaboration, (c) effective decision making, (d) appropriate staffing, (e) meaningful recognition, and (f) authentic leadership. Without these elements in the workplace, nurses are at high risk for developing compassion fatigue and burnout. Kelly and Todd (2017) conducted a single site cross sectional study with 105 nurses who worked in ICU units, to evaluate the correlation between the healthy work environment components and compassion fatigue. Using the ProQOL questionnaire tool, nurses

were evaluated for their level of compassion fatigue in the three sub-score areas of burnout, secondary trauma, and compassion satisfaction. Burnout was negatively correlated with all six healthy work environment standards meaning that if the health work environment elements were present then burnout was less likely. Compassion satisfaction was positively correlated with skilled communication, true collaboration, meaningful recognition, and authentic leadership.

An integrative review of compassion fatigue throughout a variety of provider roles was conducted by Sorenson, Bolick, Wright, and Hamilton (2016). In this review, 43 studies were included representing a variety of practice areas and types of workplace settings. Compassion fatigue was identified by physicians and nurses as a key reason for wanting to leave the profession and contributing to overall poor satisfaction with their work. Workplace factors contributing to compassion fatigue included particular job duties such as delivering bad news to patients and lack of managerial support.

A healthy work environment is one where people feel cared for and have more energy to provide care to others (Baggett, et al., 2016). This is the basis of preventing the development of compassion fatigue and burnout. In addition, this study showed that individuals who practice in healthy work environments with caring leadership have the additional benefit of the potential for improved retention and engagement. These environments treat individuals as a "whole person" (Baggett, et al., p. 816) who is appreciated for both personal and professional behaviors. The caring provided by leadership is both recognition and supportive and contributes to feeling valued and organizational loyalty. The positive influence of the leaders also helps individuals to help out their co-workers with gestures of caring acts between team members including offering to help one another or being concerned when individuals are sick or have sick family members. These positive attributes of the environment buffer negative experiences and reduce the likelihood of compassion fatigue.

Nurses Quality of Work Life

Nurses quality of work life is negatively impacted by workplace stressors and contributes to compassion fatigue. The quality of work life is the degree to which nurses are able to meet their personal needs while achieving the workplace goals (Horrigan, Lightfoot, Lariviere, & Jacklin, 2013). In their literature review of several recent studies, Horrigan, Lightfoot, Lariviere, and Jacklin (2013) report that nurses have fair to poor general and mental health which is associated with work stress, job strain, burnout, and injuries. Many studies report that nurses' health is poorer than the health of the general population as a result of the working conditions (Horrigan et al.). Predictors of nurses' health was influenced by staffing adequacy, nurse manager leadership, and interdisciplinary relationships. Nurses mental health was fair to poor and related to poor control over their practice, low respect, poor relationships among the care team and role overload. Studies within the report identify the impact of the poor quality of life for nurses as contributing to patient outcomes. This review links nurses' poor quality of work life with increased patient falls and hospital acquired infections.

The poor state of nurses' health is corroborated by the ANA Health Risk Appraisal Executive Summary Report (2016) which details that nurses 68% of nurses put their patients' health, safety, and wellness before their own. As a result of this sacrifice at work, nurses' overall quality of health is impacted by such things as working late or through breaks to accomplish their work and by having a significant level of risk for workplace stress. In the 2016 report which details a summary of 10,688 nurses' responses to the American Nurses Association Health Risk Appraisal survey, ANA explained that 82% of nurses report they have a significant level of risk

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for workplace stress. ANA (2016) identified workplace stress as a top work environmental health and safety risk for nurses. The workplace stress of nurses is a key risk factor for compassion fatigue. This report also highlighted the need for workplace programs to promote wellness, stress reduction and other nurse specific challenges in the workplace. The summary of the report reinforces that nurses can provide the best care to patients when they are functioning at their own peak wellness.

Nurse Retention

Recent evidence suggests that up to one in five nurses leave their employer within the first year of nursing (Kovner, Brewer, Fatehi, & Jun, 2014). Additionally, many nurses leave the profession of nursing altogether very early in their careers (Flinkman, Isopahkala-Bouret, & Salantera, 2013). Kelly, Runge, and Spencer (2015) identified that millennial generation nurses were more likely to experience high levels of compassion fatigue when compared to nurses in generation X or baby boomers. In their study, millennial nurses showed high levels of burnout and lower levels of compassion satisfaction when measured using the ProQOL survey instrument (Kelly, Runge, & Spencer, 2015).

Early in their professional work, nurses are not prepared to deal with the secondary trauma and emotional exhaustion which results from taking care of individuals who are experiencing intense suffering (Figley, 2005). This unexpected experience contributes to compassion fatigue and shows itself as nurse turnover, lost work days, poor judgment and taking safety risks. The cumulative effect of these stressors contributes to the abrupt onset of compassion fatigue (Sorenson, Bolick, Wright, & Hamilton, 2017).

Kelly and Lefton (2017) used a quantitative descriptive survey to evaluate compassion in 1,136 nurses throughout 24 hospitals. The elements of burnout which contribute to poor job

satisfaction included job stress and decreased job enjoyment. Although poor job satisfaction alone does not cause compassion fatigue, it plays a significant role in nurses considering whether to leave the profession (Kelly & Lefton, 2017) with up to 20% of nurses leaving their jobs within the first year and many recent graduates leaving the profession of nursing all together (Flinkman, Isopahkala-Bouret, & Salantera, 2013). Nurses from the millennial generation and those from younger generations have the highest levels of compassion fatigue driven by their higher levels of burnout and secondary traumatic stress along with reduced compassion satisfaction (Kelly, Runge, & Spencer, 2015). One component of professional life which Kelly and Lefton investigated as contributing to compassion satisfaction was meaningful professional recognition. Organizations with meaningful recognition tend to have a healthier work environment (Kelly & Todd, 2017); however, when Kelly and Lefton specifically evaluated the DAISY Award program, no significant difference in burnout or compassion satisfaction resulted from using this particular formal recognition program when compared to hospitals without a particular program. The DAISY Award is a program which recognizes nurses for clinical skill and compassion (Kelly & Lefton, 2017). In spite of this lack of significance of the DAISY program, meaningful recognition of all types contributes to reducing compassion fatigue (Kelly & Lefton, 2017).

Nurse Engagement

Engaged workers are involved, enthusiastic, and committed to their work and workplace (Gallup, 2017). Dempsey and Reilly (2016) evaluated elements in the Press Ganey's national nurse engagement survey which were identified as key drivers to nurse engagement including that the organization provides high quality care and services, employees are treated with respect, and liking the work they do. Caregivers want to leave work feeling they have treated their patients well and are satisfied with the job they did at the end of their shift (Dempsey & Reilly,

2016). When nurses leave work feeling defeated and overwhelmed, they are at risk for developing burnout and compassion fatigue. By increasing nurse engagement organizations can increase compassion satisfaction and reduce compassion fatigue (Henson, 2017).

Many of the things that contribute to compassion fatigue can also create an unfavorable work environment which can lead to disengagement. Blaming others, emotional outbursts, and mood lability can all be emotional consequences of compassion fatigue and contribute to a disengaged work environment (Adimando, 2018). By comparison social support, transformative leadership, and nurse engagement contribute to compassion satisfaction and overcome the tendency to exhibit compassion fatigue (Henson, 2017).

Compassion Fatigue in the Rehabilitation Setting

Queen (2017) provided the only rehabilitation hospital specific project. Unfortunately, this poster presentation identified the problem and proposed solutions without any measures of performance. No reliable tools were used to determine if the interventions were successful. Queen (2017) proposed that rehabilitation nurses may be at increased risk for compassion fatigue because patients at rehabilitation hospitals are typically there for longer lengths of stay and this additional time with individual patients allows for the nurses to form more personal relationships with patients. Within the rehabilitation hospital site of this proposed project, the average length of stay is 17 days. During this time, nurses and patients bond and develop personal relationships while the patient moves through their recovery. While this relationship can increase the personal reward for the clinicians, this can make the trauma of caring for very ill individuals particularly difficult.

Interpersonal relationships between nurses also support caring relationships with patients (Baggett et al., 2016). Limited support from managers and coworkers contributes to the work

stress and job challenges which has an impact on the nurses physical and mental health which contributes to compassion fatigue (Horrigan, Lightfoot, Lariviere, and Jacklin, 2013).

Patient Outcomes

Although compassion fatigue has been widely studied, quantitative research about the direct impacts on patient outcomes is scarce. Randomized controlled trials could not be identified through an extensive literature search. However, many well-respected organizations including ANA (2017a) and The Joint Commission (TJC) (2018) continue to identify the risk to health care providers in becoming a second victim of emotionally traumatizing events. TJC uses the term second victim to describe the individual who has suffered harm to their individual health and emotional well-being resulting in a negative impact to patients (2018).

Copanitsanou, Fotos, and Brokalaki (2017) identified 109 articles to evaluate the impact of compassion fatigue on nurses and patients. After closer review, 10 studies were appropriate for the topic. Five US studies were identified from 1999 through 2008. Nothing more recent was identified. Five studies from other countries were included spanning the years of 2008 to 2014. The only nurse sensitive patient outcome evaluated was the impact of compassion fatigue on patient satisfaction. In the majority of the studies (8), patient satisfaction was affected by the nurses' work environment. A minority of studies (2) showed that there was not a significant correlation between nurses' work environment and patients' satisfaction. Overall, the evidence reviewed showed that nurses who practiced in positive work environments had higher job satisfaction, lower burnout and lower intention to leave.

An unpublished doctoral dissertation conducted by a nursing student at the University of Miami (Anglade, 2014) attempted to evaluate the link between compassion fatigue, a culture of patient safety, and patient outcomes of falls, falls with injury, CAUTI, CLABSI and HAPU.

This single location study surveyed 127 nurses at a teaching hospital located in south Florida. The nurses were asked to complete the ProQOL survey along with the AHRQ Patient Safety Culture Survey (n.d.). This study did not identify an correlation to the patient outcomes and compassion fatigue of the nurses.

Evidence for the Interventions

Three specific interventions have been shown to be helpful in reducing compassion fatigue including self-care planning, meditation, and knitting (Houck, 2014; Sorenson, Bolick, Wright, & Hamilton, 2016; Riley, Corkhill, & Morris, 2013). These interventions were selected because of the support for their effectiveness and their ease of implementation. None have been previously tested in the rehabilitation hospital setting.

Self-care Planning.

Sorenson, Bolick, Wright, and Hamilton (2016) conducted an integrative review of 43 articles which addressed compassion fatigue and related concepts. This integrative review identified self-care as the most important preventive measure and helpful in reducing compassion fatigue. Self-care is finding a way to renew yourself on a regular basis and is necessary for the nurses' ability to creating emotional reserves needed for providing care to others (Mendes, 2017). Henry and Henry (2004) interviewed 29 nurses while writing a book *The Soul of a Caring Nurse* and identified that "self-caring begets caring" (Henry & Henry, 2004, para. 1) meaning that without caring for oneself you will be unable to care for others. A self-care plan is an individualized strategy for reducing stress and promoting health. It includes activities which can be spiritual, behavioral, or physical. In order to facilitate the development of a self-care plan, rehabilitation nurses will be taught about identifying compassion fatigue and interventions to prevent and cope with stressors to avoid compassion fatigue. Preventing compassion fatigue

requires individuals to balance care and compassion in practice. Holistic self-care includes practicing positive intentionality, focusing on possibilities and being present in the moment, and creating a self-care plan (Henry & Henry, 2004). Positive intentionality utilizes positive self-talk and offering gratitude to center an individual's thoughts. It can also be accomplished by choosing to redirect negative thoughts and search out positive things in the moment. Henson (2017) identified programs which are designed to strengthen resiliency and have been successful in decreasing the risk of developing compassion fatigue. These strategies will be important in developing a personal self-care plan. Some methods for building resilience include creating rituals to shed the professional role and return to the individual role such as changing clothes, putting on music, and putting away a stethoscope (Houck, 2014). Potter, Deshields, Berger, Clarke, Olson, and Chen (2013) evaluated the benefits of a five week program to teach resiliency which included teaching self-care and self-regulation when responding to stressful events in a small sample of 13 oncology nurses. Results from this small study demonstrated a significant improvement in Impact of Event Scale – Revised scores at three post intervention points in time.

Meditation.

Spiritual exercises such as prayer, meditation, and journaling can help protect nurses from the emotional effects of their work (Houck, 2014). Meditation can be an important selfcare strategy and will be included in the interventions being taught as part of this study. Mahon, Mee, Brett, and Dowling (2017) demonstrated that meditation can reduce nurses' stress and improve compassion. In their pilot study of 90 nurses, a mindfulness meditation was shown to reduce perceived stress and improve the nurses' ability to be compassionate after a 6 week intervention when measured using the Perceived Stress Scale 10 item survey tool (Mahon, Mee, Brett, & Dowling, 2017). Even a short meditation of less than 10 minutes could reduce nurses compassion fatigue and had statistically significant benefits of increasing compassion satisfaction, reducing burnout and reducing secondary trauma (Hevezi, 2016).

Knitting.

Riley, Corkhill, and Morris (2013) identified the intervention of knitting as being successful in combatting compassion fatigue in oncology nurses. Riley, Corkhill, and Morris describe the potential for knitting to create a space for contemplation and inducing a state of calm because of its repetitive qualities. Additionally, knitters report that knitting is a stress reliever and a way to unwind while providing a time to think through their problems and organize their thoughts (Riley, Corkhill & Morris, 2013). Anderson and Gustavson (2016) followed nurses at the MedStar Georgetown University Hospital Lombardi Cancer Center in Washington, DC who participated in a knitting program. These nurses were taught knitting and then encouraged to knit when on break or following stressful situations. Nurses in the Georgetown study demonstrated a significant reduction in their postintervention burnout scores as measured by the ProQOL instrument after participating in a knitting intervention for six weeks (Anderson & Gustavson, 2016).

Given that there is a paucity of literature on interventions used with nurses in the rehabilitation hospital setting, this DNP project will seek to systematically evaluate three specific interventions and will use the validated ProQOL instrument for assessment of success. This project will evaluate the baseline level of compassion fatigue by assessing the elements of compassion satisfaction, burnout, and secondary traumatic stress. The level of these elements can then be compared to the levels in nurses in other settings where compassion fatigue has traditionally been studied.

Theoretical Framework

In this project, the challenge of compassion fatigue will be addressed using the Knowledge to Action (KTA) model. First defined by Graham et al. (2006), the KTA model consists of two cycles where knowledge is updated and where it is applied to alternate settings (see Figure 1 for pictorial diagram of the model). The KTA application process includes identifying a problem, adapting new knowledge to the local setting, assessing any barriers to using the knowledge, tailoring interventions to the setting and delivering those interventions, monitoring the use of the knowledge, evaluating outcomes, and working to sustain the new practices (Dang & Dearholt, 2018). This is the part of the model which was applied to this performance improvement project. This application relies on adapting knowledge and research which has already been tested in alternate settings.

Bjrok et al. (2013) applied the KTA model to evaluate the effectiveness of academic nursing curriculum to teach nursing skills. In their study the knowledge was first created using various methods to teach nursing skills to the students and then the knowledge was adapted and applied through the action cycle which allowed the nursing students to demonstrate use of the knowledge in skills laboratories.

Stacey, Skrutkowski, Carley, Kolari, Shaw, and Ballantyne (2015) used the KTA model to guide their study of how nurses working remote to the patients could learn to guide oncology patients in their symptom management. The primary application of the model was in the action cycle whereby the nurses perception about their competency and abilities to support patients was measured before and after workshops which taught them how to remotely guide patients in symptom management.

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Markle-Reid et al. (2018) used the KTA model to guide their study of identifying interventions which can support individuals with two or more chronic health conditions and their caregivers. The KTA model was used for both the development of interventions as described in the KTA knowledge creation phase as well as the implementation and evaluation of interventions in the KTA action cycle. During the knowledge creation phase, individuals and their caregivers were evaluated for the impacts of their multiple comorbidities on their well being and quality of life. Using this assessment knowledge, appropriate interventions were implemented and evaluated to address a variety of chronic conditions including vascular disease, diabetes, dementia, and Alzheimer's disease.

The KTA model is an appropriate model for this project because it uses existing knowledge but tailors it and applies it to the rehabilitation hospital setting. This performance improvement project used the KTA model similarly to the studies of Bjrok et al. (2013), Stacey, Skrutkowski, Carley, Kolari, Shaw, and Ballantyne (2015), and Markle-Reid et al. (2018). The knowledge creation aspect of the model was used as the research done in other populations was tailored to the rehabilitation nurse. The knowledge action phase of the model included the adaptation of interventions from a variety of sources allowing the preferences of the users to contribute and solving a real problem (Espinoza & Cabieses, 2015) of compassion fatigue in an untested setting.

Barriers to use included the challenges of implementing the evidence-based interventions into this setting. Getting nurses to see the value of participating in the project was a challenge. Nurse buy-in and interest in the interventions was also an obstacle. There was some difficulty in finding a teacher for the knitting program who could offer education for both shifts of nurses. Many nurses were not familiar with the concept of compassion fatigue and the role self-care plays in avoiding or managing compassion fatigue. Some nurses had difficulty committing to the project which will include a pre and post survey and the interventional activities.

Methodology

Setting

The project took place at a large acute rehabilitation hospital with a maximum census of 150 patients. The rehabilitation hospital has provided care for over 100 years. Throughout this time, the hospital has been a navy hospital, provided care to individuals needing respite, and most recently provided acute rehabilitation services. The hospital's patients have a range of conditions including spinal cord injury, traumatic brain injury, stroke, and cancer. Patients needing rehabilitation following lung and organ transplants, knee and hip replacements, and general debility are also provided services. The average length of stay at the hospital is 17 days and the average daily census is 134 patients spread over five nursing units.

The hospital provides 24 hour a day physician coverage and patients must participate in 15 hours a week of physical therapy, occupational therapy, and speech therapy as required for their recovery. Being licensed as an acute rehabilitation hospital means that a majority of patients must be discharged to home and not to another level of care.

Study Population

The rehabilitation nurses employed at the hospital were encouraged to participate in the study and to take the ProQOL evaluation with the goal of identifying 30 nurses who have average or high levels compassion fatigue as determined by their ProQOL scores. Because there is no harm in participating, even nurses who do not have compassion fatigue will be allowed to participate; however, the goal was to have 30 rehabilitation nurses with average or high levels of compassion fatigue agree to take part in both the pre and post surveys and commit to the

educational program as well as an intervention during the six-week implementation phase of the project. On a daily basis there are typically 30 nurses working in the hospital on two 12-hour shifts caring for about 134 patients. A total of 92 full time nurses are employed at this facility. It was anticipated that 30 nurses would be willing to participate in this study. The nurses in the population range in age from 23 years to 75 years old and represent a variety of ethnic groups including minorities found in the local population. Ideally, the sample of nurses spans the generations and education backgrounds; however, this is a convenience sample of nurses employed at the hospital so such stratification may not be possible. Nurses were screened to determine if they are currently knitting any projects and this will be taken into account when determining the outcomes of the interventions. No special risk populations such as children, prisoners, disabled persons were included with the exception of pregnant women who are working as nurses. Pregnant nurses were not excluded from the study.

Subject Recruitment

Individual nurses who practice at the hospital were invited to participate by word of mouth. The goal was to identify nurses who were willing to participate in a quality improvement project which sought to reduce compassion fatigue in rehabilitation nurses. Potential subjects were told that they would only be identified by a number, not their name and there are no potential consequences for participating, not participating, being successful or unsuccessful with the recommended interventions. A token \$10 gift card was offered for individuals completing the program including the two surveys and attendance at the educational programs. Participants were advised that they could withdraw or stop participating at any time.

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Consent Procedures

Informed consent was obtained from participants by the principal investigator. The consent forms were stored in a locked cabinet. Subject confidentiality and privacy were maintained by using de-identified tables of results and maintaining the key of name to identifier in a locked file cabinet which will be destroyed at the conclusion of the study.

Risks/Harms

The study participants were not be subject to any physical, mental, or emotional risks as a result of participation in this study. There are no definite benefits from the study and participating in the interventions.

Subject Costs and Compensation

The subjects did not incur any costs as a result of participation. Supplies for the knitting intervention were donated. The mindfulness app is available for free. Education about compassion fatigue was provided free of charge. Participants who participate in the pre and post surveys along with attending the educational programs received a token \$10 gift card.

Study Interventions

This study attempted to answer whether interventions of mindfulness meditation, knitting, and self-care education are useful to bedside nurses working at a rehabilitation hospital in order to reduce compassion fatigue. These three interventions have been shown to provide a benefit for improving compassion fatigue in other studies. Knitting was shown to improve subscores of the compassion fatigue measure by reducing burnout while increasing compassion satisfaction (Anderson & Gustavson, 2016). Three interventions were provided to the nurses. Self-care education demonstrated a positive impact of compassion fatigue (Schmidt & Haglund, 2017). Education was provided following the American Nurses Association Health Nurse Healthy Nation information (2017). The five domains of education included physical activity, nutrition, rest, safety and quality of life. Each of these educational domains were addressed in a live setting using a powerpoint presentation and handouts so nurses were also advised about best evidence-based interventions for wellness. The educational sessions were offered over a two-week period and took about one hour to deliver each time. Multiple sessions were provided to allow for nurses to attend during their lunch break. This helped facilitate participation.

Mindfulness meditation has been shown to positively impact compassion fatigue and improve resiliency among nurses (Schmidt & Hagland, 2017). Mindfulness practices were taught using the Compassionate Body Scan of Kristin Neff (n.d.). Dr. Neff is a doctor of psychology who has written books and taught mindfulness and meditation throughout the world. This mindfulness meditation method is easy to use, takes about 20 minutes, and can be downloaded to a variety of devices. The goal was to have participants perform either the knitting or meditation practice three times a week during the six-week intervention phase of the study.

Knitting was taught by an experienced knitter. The goal was to complete a small square which could potentially be assembled to build a baby quilt which can be donated to a charity group after the conclusion of the DNP project. The nurses were encouraged to knit during breaks and when feeling stressed. They were instructed not to make the creation process burdensome and overwhelming, but to think of it as an activity which is helping others. Additionally, the nurses were encouraged to help each other in the learning process of knitting.

Outcome Measures

Nurses level of compassion fatigue was identified by taking the ProQOL Compassion Satisfaction and Compassion Fatigue Version 5 (2009) survey in a paper format. The survey is a 30 item self-report of items on a 1 to 5 scale where one is never and 5 is very often. Subscale scores for compassion satisfaction, burnout, and secondary traumatic stress were calculated according to the 2010 Concise ProQOL Manual (Stamm, 2010). Administration of the survey typically took less than 15 minutes and was given following consent, but prior to any education on the topic.

A pre and posttest of the compassion fatigue educational program determined if the program successfully taught the importance of self-care. It also evaluated the understanding of how to develop a self-care plan. If the educational program did not meet the goals, then additional education would have been provided to the nurses.

Following the six-week intervention period, the ProQOL survey was repeated to determine if the interventions were successful in reducing compassion fatigue. The outcome measure of nurse call outs was also be measured. Call outs by nurses who participate in the study was compared to their call out rate for the 6 weeks prior to the study. The number of call outs was tracked using the traditional attendance tracking reports which are generated daily. The time period measured will be the time from the start of interventions to the end of the intervention period.

Project Timeline

The project took about 14 weeks. During weeks one and two, nurses who were willing to take part in the project were identified. These nurses completed the pre-intervention survey using the ProQOL instrument to evaluate their compassion fatigue before any interventions were done. At this time, demographic data was collected on the nurses including age cohort, years of experience working as a bedside nurse, and gender. Following completion of the ProQOL, an educational program was implemented for the nurse participants. In weeks three and four education was provided to the nurses. In weeks 5-11 nurses participated in a variety of

interventions directed at reducing and strengthening their resilience to compassion fatigue. These included meditation, development of a self-care plan, and knitting. The nurses determined which interventions they were interested in and were asked to participate in a 6 week trial of those interventions. At the end of the six weeks at around week 12, the nurses were invited to complete the post intervention ProQOL survey. At this time, the nurses were asked to provide a report of how often they practiced the intervention. The final weeks of the project were for data analysis and report writing.

Resources Needed

There were no additional costs associated with the project outside of those which normally occur within the nursing department. Knitting needles and yarn were donated for the project. There were no costs associated with the use of the ProQOL instrument or the needed training on mindfulness meditation. No additional salary for the principal investigator was provided.

Evaluation Plan

Nurses participated in taking the ProQOL Compassion Satisfaction and Compassion Fatigue Version 5 (2009) survey before and after the interventions to determine if the program and subsequent interventions made an improvement in their compassion fatigue. The statistical design used was a paired t test using an alpha level of 0.05 to determine if there is a difference between scores before and after the intervention as long as the data is normally distributed. If the data were not normally distributed, then a Wilcoxon Rank Sum analysis would have been performed. The ProQOL instrument allows for three subscores to be determined for compassion satisfaction, burnout, and secondary traumatic stress. Each of these scores were compared before and after the intervention using the paired t test analysis. The rate of call outs was also compared using a crosstabs Chi square with the Fisher-Exact test with an alpha level of .05 and SPSS v25 to determine if nurses who participated in the interventions were less likely to call out during the 6-week intervention phase as compared with the previous 6-week period of time.

Data Analysis, Maintenance, and Security

The statistical design used was a paired t test analysis with an alpha level of 0.05 using the Excel Analysis Pack to compare survey results and call outs before and after the 6 week intervention period. To ensure security of the data the consent forms were stored in a locked cabinet. Subject confidentiality and privacy were maintained by using de-identified tables of results and maintaining the key of name to identifier in a locked file cabinet which was destroyed at the conclusion of data analysis for the project.

Results

Demographics

A total of 17 nurses participated in this project. The population of nurses who participated in the study were predominantly female (n=16), belonging to Generation X (36-50 years old) (n=7) and educated at the Bachelor's degree level (n=10) (Table 1). Participants were from five nursing units and the majority worked days (n=16). Additionally, most participants had greater than 6 years of experience (n=14) with 39% of the participants having greater than 15 years of experience. One nurse read the consent form and chose not to participate.

ProQOL Survey Results

The ProQOL Professional Quality of Life survey measures three sub scores for compassion satisfaction, burnout, and secondary traumatic stress. The survey scores evaluate each item as being high level (survey scores: 42 or more), average level (survey scores: 23 to

41), or low level (survey scores: 22 or less). Tests for normality Shapiro-Wilk and Kolomogorov-Smirnov demonstrated that the dataset, even though small was approximately normal (Table 2). Compassion satisfaction is a measure of the pleasure you derive from doing your work. Higher scores represent a greater satisfaction with your colleagues in the workplace, your contribution to the profession, or to the greater good of society. The higher the scores the more positive the individual is about their professional life. Results of the pre-intervention survey indicated that 47% (n=8) nurses who took the ProQOL test prior to the interventions had a high level of compassion satisfaction with a raw score of 42 or more. Over half of the sample (n=9; 53%) had average levels of compassion satisfaction prior to the interventions with a survey score of 23 to 41. No nurses had a low level of compassion satisfaction prior to the interventions with a survey score less than 23. After the 6 week intervention period, 53% (n=9) of nurses had high levels of compassion satisfaction. Less than half (n=8; 47%) of nurses had average levels of compassion satisfaction. No nurses had low levels of compassion satisfaction after the intervention period (Table 3). However, some nurses did move from high to average levels of compassion satisfaction while some others went from average to high levels of compassion satisfaction.

A paired t test analysis was conducted to determine if the means of the compassion satisfaction scores were statistically equal before and after the interventions with an a priori alpha level of 95%. Results of the t test (Table 4) indicate that the means of the compassion satisfaction scores before and after were not statistically different at an a priori alpha level of 0.05, indicating at least a 95% level of confidence. The t value of 0.70 was not greater than the critical t for a two tailed test of 2.12. Therefore, the means before and after the interventions
were not statistically different and the interventions did not increase the level of compassion satisfaction among the 17 participant nurses.

Burnout is one of the measures of compassion fatigue. It is associated with feelings of worthlessness and despair. People who suffer burnout have the feeling that they are not able to make a difference, or you have a very high workload, or you have a non-supportive work environment. Higher scores (42 and above) represent a greater dissatisfaction with your colleagues in the workplace, your contribution to the profession, or to the greater good of society. Low burnout scores (22 or less) generally indicate positive feelings about your work environment and your contribution at work. Results of the pre-intervention survey indicated that no nurses had high levels of burnout. Less than a quarter (n = 4; 24%) of nurses who took the ProQOL test prior to the interventions had an average level of burnout with a raw score of 23 to 41. The majority of the nurses (n = 13; 76%) had low levels of burnout prior to the interventions with a raw score of less than 23. After the 6-week intervention period, 12% (n = 2) of nurses had average levels of burnout. No nurses had high levels of burnout after the intervention period (Table 5).

A paired t test analysis was conducted to determine if the means of the burnout scores were statistically equal before and after the interventions with an alpha level of 0.05. Results of the t test (Table 6) indicate that the means of the burnout scores before and after were statistically significant with an alpha level of 0.05. The t value of 2.81 was greater than the critical t for a two tailed test of 2.12. Therefore, the means before the interventions were statistically significantly higher than they were after and the interventions did reduce the level of burnout among the nurses (Table 6).

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Secondary traumatic stress is second contributory component to compassion fatigue. It is a result of observing traumatic events that happen to others. This exposure can result in individuals having feelings of being afraid, having images of the event pop into your mind, or avoiding things that remind you of the traumatic event. Higher survey scores (42 or more) represent a greater impact to yourself as a result of witnessing traumatic events in others. Low secondary traumatic stress survey scores (22 or less) generally indicate less negative results as a result of what you have witnessed when caring for others in the healthcare setting. Results of the pre-intervention survey indicated that no nurses had high levels of secondary traumatic stress. A few of the nurses (n=5; 29%) who took the ProQOL test prior to the interventions had an average level of secondary traumatic stress with a survey score of 23 to 41. Most of the nurses (n = 12; 71%) had low levels of secondary traumatic stress prior to the interventions with a raw score of 22 or less. After the 6-week intervention period, 24% (n = 4) of nurses had average levels of secondary traumatic stress. After the intervention, one more nurse (n = 13; 76%)perceived a low level of secondary traumatic stress. No nurses had high levels of secondary traumatic stress after the intervention period (Table 7).

A paired t test analysis was conducted to determine if the means of the secondary traumatic stress scores were statistically equal before and after the interventions with an a priori 0.05 level. Results of the t test (Table 8) indicate that the means of the secondary traumatic stress scores before and after were statistically significant at an alpha level of 0.05. The t value of 2.52 was greater than the critical t for a two tailed test of 2.12. Therefore, the means before and after the interventions were statistically significant and the interventions likely reduced the level of secondary traumatic stress among the nurses.

Callouts were not positively impacted by the compassion fatigue reducing interventions. Prior to the interventions, 5 nurses called out during the 6-week period prior out of a total of 11 shifts (Table 9). During the 6-week post intervention phase, the participants called out for a total of 9 shifts. This difference was not statistically significant when using the paired t test (Table 10). In the NAM (2019) report, the impact of burnout on clinicians and the personal toll it takes was well documented. Although this small sample did not demonstrate an impact on callouts, given the NAM research which reported increased absenteeism in nurses with burnout, it is likely that a positive reduction in burnout would over time contribute to fewer callouts due to a reduction in stress at work and the accompanying improvement in professional well-being.

Discussion

This quality improvement project demonstrated that rehabilitation nurses can also suffer compassion fatigue. Although previous research had focused on nurses in oncology and emergency settings (Hamilton, Tran, & Jamieson, 2016; Anderson & Gustavson, 2016), rehabilitation nurses are now seeing patients who are very ill and need extensive care (Centers for Medicare and Medicaid Services, n.d.; Association of Rehabilitation Nurses, n.d.). Additionally, the average length of stay in rehabilitation is 17 days. Throughout this time, nurses become attached to their patients and develop relationships with them and their families. These relationships rely on nurses being able to deliver compassionate care so it's reasonable to expect that these longer-term relationships make rehabilitation nurses more susceptible to compassion fatigue. Of the nurses who were willing to participate, 47% (n=8) had high levels of compassion satisfaction to start with, which likely had a protective effect. That said, although there were some changes in the group, there might have been a greater impact of the interventions, had they been more severly affected by burnout and secondary traumatic stress beforehand. Results for

the rehab nurses before the interventions were more positive than the results of a study which included ICU and oncology nurses where 34% of nurses reported high levels of compassion satisfaction (Mooney, Fetter, Gross, Rinehart, Lynch & Rogers, 2017). In this same study of oncology and ICU nurses, 66% exhibited average levels of burnout and 34% exhibited low levels of burnout. Pre-intervention, the rehab nurses had lower rates of burnout with 24% exhibiting average levels of burnout and 76% having low levels of burnout. Comparisons for secondary traumatic stress were not available in this report.

As previously described, this project used the Knowledge to Action (KTA) framework which takes strategies used in different nursing settings such as oncology and emergency medicine and provides a framework for using the same strategies in a different setting: i.e., with rehabilitation nurses. The KTA framework then requires evaluating the outcomes and working to sustain the positive improvements in practices (Dang & Dearholt, 2018). By using low cost interventions of self-care planning, meditation, and knitting, nurses were able to improve their compassion fatigue with both the elements of burnout and secondary traumatic stress which improved their professional quality of life as measured by the ProQOL survey (Tables 6 & 8). This is consistent with the results from similar studies using these interventions in other settings. As with most nurse educational programs, gathering staff to participate given the various work schedules was difficult; however, a discussion of the importance of quality improvement projects along with the potential to learn about self-care, meditation, and knitting was enough to attract 17 nurses to the project. The nurses were encouraged to consider using any or all of the three interventions presented. As a result, the benefits of a particular intervention were not identified.

Understanding the risks for compassion fatigue among this population of nurses is important to reducing compassion fatigue and providing prevention strategies. A critically important aspect of compassion fatigue is the resulting decreases in the quality of patient care and the increased likelihood of sick calls although it could not be replicated in this study. By reducing the number of nurses suffering from compassion fatigue, patients are likely to incur fewer medical errors (Haelle, 2018). This realization of the impact on self and others needs to be incorporated into ongoing education as a way to reduce the risk of harm to patients.

Implications for Hospital Policy

Nursing leaders need to commit to prevention of compassion fatigue because of its impact on the nurses' quality of life, the effect on the quality of patient care, and the influence on call outs and nurse retention (Kelly & Todd, 2017). This project was limited by the fact that 16 of the 17 participant nurses were from the day shift. Nurses who work nights could likely benefit from the interventions provided in this study. As a way to expand the benefits to the night nurses, training sessions similar to those offered during the day will be expanded to be offered during the night shift.

Providing frequent education and incorporating training on compassion fatigue and helpful interventions should be provided on a regular basis as part of maintaining a healthy work environment. Compassion fatigue is adding to the nursing profession's challenges with retaining new graduate nurses and is contributing to the nearly 20% of nurses who leave the profession within the first year (Kelly & Todd, 2017). By incorporating effective interventions into onboarding, throughout the first year of practice, and as part of annual competencies, this New York hospital hopes to reduce turnover and increase retention of new nurses.

Implications for Quality and Safety

(2019) reports that nurses burnout scores can be correlated with their publicly reported outcomes

such as surgical site infections and urinary catheter infections. This quality improvement project evaluated the current level of compassion fatigue in nurses at a large rehabilitation hospital and found that some of nurses who took the ProQOL pre-intervention test were positive for both burnout and secondary traumatic stress. As previously described, patients had higher levels of satisfaction with their care in hospitals where nurses had less compassion fatigue and a more positive work environment (Kelly & Todd, 2017). This increase in satisfaction was attributed to the better care provided by the nurses. Additionally, while many safety interventions are expensive such as adding video monitoring on patient units or smart beds which have expanded fall prevention features, the interventions used to reduce compassion fatigue are inexpensive. The interventions of self-care, knitting, and meditation worked to increase safety by reducing errors made by staff who suffer from compassion fatigue (Haelle, 2018) and also worked to increase satisfaction of patients by improving the quality of care provided.

Implications for Education

Nurses who practice in rehabilitation hospitals need to be aware of the risks of compassion fatigue and how it can negatively impact patient care. Education about compassion fatigue prevention and improvement should be provided on a routine basis for nurses as part of annual competency training in order to improve patient satisfaction, quality of care, and the nurses' quality of life. Key elements which need to be included in the education are the concept and strategies for self-care, as well as interventions of meditation and knitting.

Within the self-care training, there is the importance of making the nurse's health and well-being a priority. Nurses need to recognize that their work as a caregiver puts them at high risk for compassion fatigue. They must develop a plan and strategies for managing the stresses of caregiving and ways to escape for a few minutes when the stress gets particularly high (Mendes, 2017). Mindfulness meditation has been shown to protect against stressors at work and at home (Mahon, Mee, Brett, & Dowling, 2017). This technique can easily be taught and practiced with various applications available on smart phones or through downloads.

Training in meditation could easily be offered by existing recreational therapists. Meditation is currently offered within the hospital to patients and their caregivers as a way of coping with the challenges of illness and recovery. Offering educational programs for staff throughout the year would require planning but is well within the capabilities of existing organizational staff. Teaching knitting is slightly more difficult. For the purposes of this project, a friend of the principal investigator volunteered to teach knitting. Ten nurses participated in the knitting lessons offered twice a day over two days. An alternative trainer would need to be identified if training was going to be provided at various times throughout the year.

Economic Implications

Nurse turnover can cost the United States and estimated \$729 million each year with the range of costs for replacing a nurse ranging from \$36,900 to \$57,300 (Sorenson, Bolick, Wright, & Hamilton, 2017). This project used approximately an hour of training for each of the three interventions. If self-care education was mandatory as part of an annual competency day, this would cost on average \$50 per nurse to pay for the nurse to attend. The costs of the educational materials are negligible. For a staff of 90 nurses, the overall cost would be \$4500 annually which is significantly less than the cost of onboarding one nurse for 12 weeks at a cost of about \$20,000. This investment in nurse education is expected to save significantly more annually if the turnover rate can be reduced by 5%. If five fewer nurses leave their jobs, this will save conservatively about \$100,000. When nurses take sick days, other nurses are paid overtime to fill in the shifts. By reducing the call out rate by two shifts per week for the staff of 92 nurses,

the weekly savings in overtime pay could be \$1800 per week and \$96,000 annually in overtime savings.

Savings generated by improved care are harder to measure. Nurses who do not suffer compassion fatigue provide care with fewer errors (Haelle, 2018). These errors can include medication omissions or errors, development of infections and pressure ulcers, or just poor assessment and delivery of care. Avoiding these negative events has a positive economic benefit for the hospital although the specifics are hard to determine.

Sustainability

Sustainability of the commitment to prevent and mitigate compassion fatigue relies on the nursing leadership's acceptance of the benefits of the interventions. Self-care has become more widely accepted in the general community as having value in improving health both physical and mental. The NAM (2019) report reinforces the importance of self-care strategies, such as getting regular sleep, exercise, hobbies, spending time with family or friends and engaging in recreation as being associated with lower risks of burnout. As the importance of self-care is recognized by the healthcare community, participation in educational offerings at the hospital are likely to be well attended. A key element of self-care is around mental health and management of stressors. Educational programs which help staff at such a basic level should be sustainable if leadership continues to focus on the benefits to nurses' and the patients they care for. Additionally, if the organization has economic benefits in the form of reducing turnover then it is likely that others outside of the nursing realm will be interested in continuing these programs.

Sustainability of self-care interventions within a palliative care team were tested by Orellana-Rios et al. (2017) and shown to be maintained for a period of time after the training. It was unclear how sharing the education across the team promoted a commitment to sticking with the plan. In the case of using self-care within this NY hospital, training should be expanded to all caregivers not only nurses. Interventions which prevent compassion fatigue can be implemented easily and at a low cost. Additionally, the training helps develop a shared language and understanding around self-care that may help the team sustain the benefits over longer periods of time.

Plans for Future Scholarship

The project results will be formally shared with the Rutgers nursing community through the DNP poster day. A similar poster presentation is currently being submitted to the Association of Rehabilitation Nurses national meeting to be held in November 2020. Additionally, results will be shared in the New York hospital's nursing community through a newsletter article which is distributed to nursing department members monthly. Plans to incorporate self-care and meditation into annual competencies will also be shared with nursing staff members.

Additional interest within the nursing department is in evaluating the non-licensed nursing personnel for their level of compassion fatigue and then offering the interventions as appropriate. Although these caregivers have less formal education, their role in providing hands on care is usually greater than nurses in the rehabilitation hospital setting which may also place them at higher risk. Providing important self-care education and meditation training to nursing assistants will help to recognize their importance in providing care and value as members of the care team.

There is interest among the medical leadership at this rehabilitation hospital to determine whether residents could benefit from the education and training provided to the nurses in this study. This NY hospital currently has a significant number of medical residents. During this

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past year, the residents have struggled to find a consistent role within the medical team. Their assignment changes at various times throughout the year in order to expose them to the various responsibilities of hospital physiatrist physicians. The educational offerings in self-care and meditation could easily be incorporated into their weekly educational programing.

This rehabilitation hospital is part of a 14-hospital system. Chief Nursing Officers within the system frequently share projects and ideas. The results of this performance improvement project would likely be of interest to this group and could easily be shared in a 1-hour format based on the poster presentations. Additionally, the principal investigator attends quarterly quality collaborative meetings within the health system. The results of this study would likely be of interest to this group.

Conclusion

Compassion fatigue occurs when individuals who care for others suffer trauma and no longer have the ability to nurture others. When this happens to nurses, their ability to provide compassion and appropriate nursing care are reduced. Compassion fatigue has a negative impact on the nurses providing the care and the patients they care for. This performance improvement project was developed with the goal of identifying nurses working in a large rehabilitation hospital in New York who have compassion fatigue and offering them the opportunity to participate in interventions which could reduce compassion fatigue.

The nurses were provided with an educational program to raise awareness of the risks of compassion fatigue and learn strategies to combat this problem. Additionally, the nurses had the opportunity to learn knitting and mindfulness meditation which have both been shown to reduce compassion fatigue in other settings. The validated ProQOL survey instrument was used to measure compassion fatigue at the start of the project and 6 weeks following the introduction of

the interventions. Results of the study indicated that the interventions are successful in significantly reducing compassion fatigue for many of the individuals who participated. The impact of these three low cost interventions has the potential to save the organization significant money if it contributes to reduced callouts and turnover. This benefit will help the training to become a standard part of annual training for members of the nursing department. By helping to develop a healthy work environment for the staff, the patients and the organization can both benefit.

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Conceptual Model

Lost in Knowledge Translation



Figure 1. Knowledge to Action Model first developed by Graham et al. (2006) describes how knowledge is transferred into use.

COMPASSION FATIGUE

Table 1

Participant Demographics

Measure	Count	Percentage
Nursing unit:		
1North	2	13%
1East	5	31%
1West	1	6%
2East	6	38%
2West	2	13%
Shift worked:		
7am-7pm	16	94%
7pm-7am	1	6%
Highest level of nursing education:		
Diploma	1	6%
Associates Degree	4	24%
BSN	10	59%
MSN	2	12%
DNP	0	0%
Gender identified as:		
Male	1	6%
Female	16	94%
Age group identified as:		
Millennial (21-35 years)	5	29%
Generation X (36-50 years)	7	41%
Baby Boomers (51-68 years)	5	29%
Veterans (69+ years)	0	0%
Years working as a bedside nurse:		
0-2 years	2	12%
3-5 years	1	6%
6-10 years	6	35%
11-15 years	1	6%
More than 15 years	7	41%

COMPASSION FATIGUE

Table 2

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Score CS	.161	17	$.200^{*}$.920	17	.149
Post Score CS	.119	17	.200*	.960	17	.640
Pre Burnout	.135	17	$.200^{*}$.950	17	.464
Post Burnout	.166	17	$.200^{*}$.956	17	.557
Pre STS	.127	17	$.200^{*}$.963	17	.692
Post STS	.140	17	$.200^{*}$.946	17	.392

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3

Compassion Satisfaction – Pre and Post

Participant	Pre Score	Pre Level	Post Score	Post Level
1	35	Average	3/	Average
2	33 48	High	50	High
3	34	Average	34	Average
4	48	High	46	High
5	39	Average	41	Average
6	41	Average	43	High
7	37	Average	44	High
8	39	Average	47	High
9	46	High	49	High
10	38	Average	41	Average
11	48	High	44	High
12	35	Average	40	Average
13	39	Average	36	Average
14	42	High	37	Average
15	45	High	45	High
16	44	High	41	Average
17	46	High	43	High

Paired T Test Pre and Post Compassion Satisfaction Comparison of Means

	Pre Comp Sat	Post Comp Sat
Mean	42.05882353	41.41176471
Variance	23.05882353	23.63235294
Observations	17	17
Pearson Correlation	0.686980963	
Hypothesized Mean Difference	0	
df	16	
t Stat	0.697797628	
P(T<=t) one-tail	0.247660142	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.495320284	
t Critical two-tail	2.119905299	

Table 5

Burnout – Pre and Post

Participant	Pre Score	Pre Level	Post Score	Post Level
1	24	Average	24	Average
2	19	Low	19	Low
3	22	Low	24	Average
4	13	Low	14	Low
5	21	Low	20	Low
6	21	Low	16	Low
7	21	Low	20	Low
8	23	Average	20	Low
9	15	Low	12	Low
10	25	Average	21	Low
11	18	Low	17	Low
12	23	Average	21	Low
13	18	Low	18	Low
14	21	Low	20	Low
15	19	Low	16	Low
16	20	Low	21	Low
17	20	Low	18	Low

Paired T Test Pre and Post Burnout Comparison of Means

		Post
	Pre Burnout	Burnout
Mean	20.17647059	18.88235
Variance	9.404411765	10.23529
Observations	17	17
Pearson Correlation	0.817654555	
Hypothesized Mean Difference	0	
df	16	
t Stat	2.813929709	
P(T<=t) one-tail	0.006238731	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.012477461	
t Critical two-tail	2.119905299	

Table 7

Secondary Traumatic Stress – Pre and Post

Participant	Pre Score	Pre Level	Post Score	Post Level
1	24	Average	23	Average
2	16	Low	15	Low
3	19	Low	18	Low
4	14	Low	17	Low
5	25	Average	26	Average
6	22	Low	16	Low
7	24	Average	16	Low
8	21	Low	18	Low
9	16	Low	14	Low
10	22	Low	15	Low
11	19	Low	19	Low
12	22	Low	17	Low
13	19	Low	21	Low
14	30	Average	24	Average
15	19	Low	19	Low
16	24	Average	21	Low
17	21	Low	23	Average
				2

	Pre STS	Post STS
Mean	21	18.94118
Variance	15.125	12.43382
Observations	17	17
Pearson Correlation	0.5924795	
Hypothesized Mean Difference	0	
df	16	
t Stat	2.524264561	
P(T<=t) one-tail	0.011272467	
t Critical one-tail	1.745883676	
$P(T \le t)$ two-tail	0.022544933	
t Critical two-tail	2.119905299	

Table 9

Participant Callout Days – Pre and Post

Participant	6 weeks Prior	6 week Intervention
1	0	0
2	0	3
3	0	0
4	0	0
5	2	0
6	0	0
7	2	1
8	1	1
9	5	0
10	0	0
11	0	1
12	0	0
13	0	0
14	0	0
15	0	1
16	0	0
17	1	2

	Pre	Post
	Intervention	Intervention
Mean	0.647058824	0.529411765
Variance	1.742647059	0.764705882
Observations	17	17
Pearson Correlation	-0.098728117	
Hypothesized Mean		
Difference	0	
df	16	
t Stat	0.29329423	
P(T<=t) one-tail	0.386533624	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.773067247	
t Critical two-tail	2.119905299	

Paired T Test Results Participant Callout Days – Pre and Post

Appendices

- A. ProQOL survey
- B. Demographics Form
- C. Table of Evidence
- D. DNP Team Signature Sheet
- E. IRB Documents (Consent, Final Approval)

PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL)

COMPASSION SATISFACTION AND COMPASSION FATIGUE

(PROQOL) VERSION 5 (2009)

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

I=Never	2=Rarely	3=Sometimes	4=Often	5=Very Often

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

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YOUR SCORES ON THE PROQOL: PROFESSIONAL QUALITY OF LIFE SCREENING

Based on your responses, place your personal scores below. If you have any concerns, you should discuss them with a physical or mental health care professional.

Compassion Satisfaction

Compassion satisfaction is about the pleasure you derive from being able to do your work well. For example, you may feel like it is a pleasure to help others through your work. You may feel positively about your colleagues or your ability to contribute to the work setting or even the greater good of society. Higher scores on this scale represent a greater satisfaction related to your ability to be an effective caregiver in your job.

The average score is 50 (SD 10; alpha scale reliability .88). About 25% of people score higher than 57 and about 25% of people score below 43. If you are in the higher range, you probably derive a good deal of professional satisfaction from your position. If your scores are below 40, you may either find problems with your job, or there may be some other reason—for example, you might derive your satisfaction from activities other than your job.

Burnout_

Most people have an intuitive idea of what burnout is. From the research perspective, burnout is one of the elements of Compassion Fatigue (CF). It is associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively. These negative feelings usually have a gradual onset. They can reflect the feeling that your efforts make no difference, or they can be associated with a very high workload or a non-supportive work environment. Higher scores on this scale mean that you are at higher risk for burnout.

The average score on the burnout scale is 50 (SD 10; alpha scale reliability .75). About 25% of people score above 57 and about 25% of people score below 43. If your score is below 43, this probably reflects positive feelings about your ability to be effective in your work. If you score above 57 you may wish to think about what at work makes you feel like you are not effective in your position. Your score may reflect your mood; perhaps you were having a "bad day" or are in need of some time off. If the high score persists or if it is reflective of other worries, it may be a cause for concern.

Secondary Traumatic Stress_

The second component of Compassion Fatigue (CF) is secondary traumatic stress (STS). It is about your work related, secondary exposure to extremely or traumatically stressful events. Developing problems due to exposure to other's trauma is somewhat rare but does happen to many people who care for those who have experienced extremely or traumatically stressful events. For example, you may repeatedly hear stories about the traumatic things that happen to other people, commonly called Vicarious Traumatization. If your work puts you directly in the path of danger, for example, field work in a war or area of civil violence, this is not secondary exposure; your exposure is primary. However, if you are exposed to others' traumatic events as a result of your work, for example, as a therapist or an emergency worker, this is secondary exposure. The symptoms of STS are usually rapid in onset and associated with a particular event. They may include being afraid, having difficulty sleeping, having images of the upsetting event pop into your mind, or avoiding things that remind you of the event.

The average score on this scale is 50 (SD 10; alpha scale reliability .81). About 25% of people score below 43 and about 25% of people score above 57. If your score is above 57, you may want to take some time to think about what at work may be frightening to you or if there is some other reason for the elevated score. While higher scores do not mean that you do have a problem, they are an indication that you may want to examine how you feel about your work and your work environment. You may wish to discuss this with your supervisor, a colleague, or a health care professional.

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WHAT IS MY SCORE AND WHAT DOES IT MEAN?

In this section, you will score your test so you understand the interpretation for you. To find your score on each section, total the questions listed on the left and then find your score in the table on the right of the section.

Compassion Satisfaction Scale

Copy your rating on each of these questions on to this table and add them up. When you have added then up you can find your score on the table to the right.	3 6 12 16 18 20.	The sum of my Compassion Satisfaction questions is	So My Score Equals	And my Compassion Satisfaction level is
	22 24.	22 or less	43 or less	Low
	27 30.	Between 23 and 41	Around 50	Average
	Total:	42 or more	57 or more	High

Burnout Scale

On the burnout scale you will need to take an extra step. Starred items are "reverse scored." If you scored the item 1, write a 5 beside it. The reason we ask you to reverse the scores is because scientifically the measure works better when these questions are asked in a positive way though they can tell us more about their negative form. For example, question 1. "I am happy" tells us more about

You	Change	the effects				
Wrote	to	of helping				
	5	when you				
2	4	are <i>not</i>				
3	3	happy so				
4	2	you reverse				
5	I	the score				

1.	-	
*4.	=	
8.	 _	
10.	 _	
*15.	 =	
*17.	 =	
19.	 _	
21.		
26.	 _	
*29.	=	

=

*1

The sum of my Burnout Questions is	So my score equals	And my Burnout level is
22 or less	43 or less	Low
Between 23 and 41	Around 50	Average
42 or more	57 or more	High

Total: _

Secondary Traumatic Stress Scale

Just like you did on Compassion 2. ____ Satisfaction, copy your rating on each of 5. ____ these questions on to this table and add 7. them up. When you have added then up 9. ____ you can find your score on the table to н. ___ the right. 13. ____

2 5 7 9 11 13	The sum of my Secondary Trauma questions is	So My Score Equals	And my Secondary Traumatic Stress level is
14 23	22 or less	43 or less	Low
25 28	Between 23 and 41	Around 50	Average
Total:	42 or more	57 or more	High

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Demographics Questionnaire

ID#______ 1. Nursing Unit: Unit 1N Unit 1E Unit 1W Unit 2E Unit 2W 2. Shift worked: 7am – 7pm Jppp to 7am 3. Highest Nursing Education Level: Associates Degree BSN MSN DNP

- Gender, Identified as : Male Female
- Age Group: Millennial (21-35 years);.... Generation X (36-50 years);

- 6. Years Working as a Bedside Nurse:
- 0-2 years
- 3-5 years
- 6-10 years
- 11-15 years

More than 15 years

 Do you know how to knit? Yes No If yes, Are you currently knitting any project? Yes No If yes, How often do you currently knit?

Table of Evidence

Healthy Work Environment

Article #	Author & Date	Evidence Type	Sample, Sample Size,	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
1	Kelly, L., and Todd, M. (2017).	Mixed method	N=105 survey responses	The 6 Healthy Work Environment components predict burnout and that meaningful recognition and authentic leadership predict compassion satisfaction.	The Healthy Work Environment Assessment and compassion fatigue measured by the Professional Quality of Life [ProQOL] instrument	Does not differentiate between compassion fatigue, burnout and secondary traumatic stress	Level II, High quality; A
2	Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016).	Systematic review	43 studies which met the survey criteria were used out of 307 identified. Studies were excluded if they did not contain original research or were	Self-care was reported to be the most significant preventive measure health care workers could take to protect themselves from developing compassion fatigue. Additionally findings of the study include the presentation of significance, risk	Measures vary by study.	Grading of individual studies did not follow an established method of evaluation.	Level III, Good Quality; B

Compassion Fatigue Interventions

Article	Author & Date	Evidence	Sample, Sample	Study findings that	Observable	Limitations	Evidence
#		Туре	Size, Setting	help answer the	Measures		Level &
				EBP Question			Quality
3	Anderson,	Mixed	N=39 survey	A significant	Respondents	Small sample	Level II,
	L.W, and	methods	responses from	change was	reported	size	High
	Gustavson,		nurses on two	observed from the	items on the		quality;
	C.U. (2016).		inpatient units;	preintervention	ProQual		A
			Validated	burnout scores	tool which		
			ProQual	with nurses	indicated		
			instrument used	reporting the	compassion		
				highest burnout	fatigue		
				preintervention had	_		
				the biggest			
				decrease in burnout			
				scores after the			
				intervention			
4	Henry, J.D.	Opinion of	Interviewed 29	Recommended	Interview	Non-scientific	Level V;
	and Henry,	nationally	nurses in various	strategies for self-	outcomes	method of	Good
	L.S. (2004).	recognized	specialties and	care which help		interviewing	quality;
		experts	locations while	avoid compassion			В
			gathering	fatigue and			
			conclusions for	burnout including			
			book	building upon your			
				strengths, practice			
				positive			
				intentionality,			
				focus on			

COMPASSION FATIGUE

				possibilities not			
				problems, anchor			
				yourself in the			
				present, and create			
				a self-care plan			
5	Henson, J. S.	Literature	Review of 6	Interventions to	Literature	Literature	Level V,
	(2017).	Review	studies on	support healthy	review with	review of 6	High
			compassion	work environments	conclusions	studies was not	quality A
			fatigue	and development	provided in	exhaustive.	
				of nurses' self-	a table		
				coping skills may			
				help maintain			
				compassion and			
				caring as well as			
				promote well-			
				being. Strategies to			
				support nurses'			
				self-care and self-			
				compassion and			
				decrease stress			
				include			
				autonomous			
				practice, training			
				on self-coping			
				skills,			
				transformational			
				leadership,			
				teamwork, and			
				peer support			
6	Houck, D.	Case study	N = 34 oncology	Education	None	Pilot study, no	Level V,
	(2014)		nurses took part	provided. Nurses		validated	Low
			in educational	qualitative reports		instrument used	quality;
			program			to determine	C

				summarized after		impact of	
7	Vlain C I	Dilat atu d-	N 10 and 10	Compagaion	DrecOOI	Dilat attraler	L avel II
/	Klein, C. J.,	Pilot study,	N=18 survey	Compassion	ProQUL	Pilot study,	Level II,
	Riggenbach-	mixed-	responses from	satisfaction can	instrument	small sample	Good
	Hays, J. J.,	methods	physicians,	increase when	used to	size	quality;
	Sollenberger,		nurses, and	clinicians utilize	measure		В
	L. M., Harney,		counselors	self-care practices	compassion		
	D. M., &				Tatigue		
	McGarvey, J.						
0	S. (2018)	Casa starlar	Currenting of a	Deine erren ef the	Den ent freue	Denerat france	L
8	Mendes, A.	Case study	Creation of a	Being aware of the	Report from	Report from	Level v,
	(2017)		watson room	risk of compassion	one unit	one unit	LOW
			on one unit to	fatigue and making	manager	manager.	quality;
			provide a stress-	it a priority to			C
			free zone for	engage in activities			
			nurses.	that help you			
				decompress and			
				renew your energy			
				is essential.			
9	Neff Newitt,	Opinion of	Discussion of	Make a plan for	Discussion	Discussion of	Level V,
	V. (2017)	nationally	experience while	stress management	of topics	one physician's	High
		recognized	working as a	and self care	from various	experiences	quality;
		expert	trauma physician	before compassion	experts.	with	А
		based on	and general	fatigue becomes		compassion	
		experiential	recommendations	entrenched.		fatigue	
		evidence	for self-care				
10	Nolte, A. G.,	Meta-	Six databases	Shortage of staff	Various	Dissertations	Level I,
	Downing, C.,	synthesis	were search and 9	and difficulty of	measures	and theses were	High
	Temane, A., &		articles identified	the workload and	presented for	not included.	quality;
	Hastings-		to evaluate the	feeling a lack of	different	Similarly,	А
	Tolsma, M.		quality of	managerial support	articles	works which	
	(2017)		qualitative work	contribute to	including	may have used	
1			on compassion	nurses developing		compassion	

			fatigue; Sample sizes of studies ranged from N=5 to N=75 nurses	compassion fatigue. Working as a team helped prevent compassion fatigue. Also effective were self care exercise, spirituality, and learning about the importance of self care. Nurses need help developing a personal plan to prevent compassion	ProQOL, interviews,	fatigue interchangeably with other terms such as vicarious traumatization may have been missed. Sample sizes ranged from N=5 to N=75 nurses	
11	Riley, J., Corkhill, B., & Morris, C. (2013).	Mixed methods	N=survey responses from 3545 knitters; online community survey; Over 31 countries represented however 59% from Canada and US. 31% from United Kingdom	fatigue. Knitting has significant psychological and social benefits which can contribute to wellbeing and quality of life.	Respondents rated their moods and feelings using a 5,7 or 10 point scale and were given open free- text boxes to add additional information	Self-reporting of feelings of relaxation, stress relief, creativity, and higher cognitive functioning; younger age group participated with online questionnaire and survey	Level III, Good quality; B

12	Queen, B.	Case study	Presented project	Top tier results for	Team	One unit and	Level V,
	(October,		to address	nursing team	member	one manager in	Good
	2017).		compassion	member	engagement	this case study.	quality;
			fatigue in one	engagement and	scores and	No validated	В
			rehabilitation	record low	turnover	survey tool	
			setting.	turnover were	scores.	used to	
				achieved on this		demonstrate	
				unit following the		before and after	
				presentation of a		success.	
				caregiver			
				education day,			
				creation of a			
				serenity room, and			
				designation of			
				compassion			
				champions.			
13	Schmidt, M.,	Case study	N=1 nurses	Defines the three	Report from	One nurse's	Level V,
	& Haglund, K.		experience with	domains of	one nurse	experience with	Good
	(2017).		Personal	compassion fatigue		personal	quality;
			reflective debrief	as physical,		reflective	В
				psychological, and		debrief	
				behavioral.			
				Evidence from			
				other research			
				prevented for			
				meditation,			
				reflection, and			
				debrief			
				interventions			
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Nurses Quality of Life

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Ouestion	Observable Measures	Limitations	Evidence Level & Ouality
14	Horrigan, J.M., Lightfoot, N.E., Lariviere, M.A.S., and Jacklin, K. (2013)	Literature Review	Review of 12 articles on nurse quality of life	Nurses have poorer health status compared to the general population ant nurses' health outcomes are associated with the nurses' work and work environments. Nurses quality of work life (QOWL) impacts the quality of care and health outcomes for patients.	Literature review with conclusions provided and original data table analysis provided.	Not all the studies used the same outcome measures or instruments.	Level V, High quality, A
15	Mooney, C., Fetter, K., Gross, B. W., Rinehart, C., Lynch, C., & Rogers, F. B. (2017).	Single study	N = 86 nurses from ICU and oncology units in Pennsylvania	Male nurses exhibited significantly higher compassion satisfaction and significantly lower burn out and compassion fatigue than female nurses.	Used the validated ProQOL tool.	No analysis by age. Only by unit	Level II, High quality; A

Nurse Retention

Article	Author & Date	Evidence	Sample,	Study findings that	Observable	Limitations	Evidence
#		Туре	Sample Size,	help answer the EBP	Measures		Level &
			Setting	Question			Quality
16	Baggett, M.,	Mixed	N=35 survey	Caring leadership	Respondents	Small sample	Level III,
	Giambattista,	methods	responses from	behaviors have the	completed	size, open	Good

	L., Lobbestael,		nurses on one	potential to improve	questionnaire	ended	quality;
	L., Pfeiffer, J.,		unit of a	retention,	of 4 open	question	B
	Madani, C.,		medical center	engagement, the	ended	analysis	
	Modir, R.,			healing environment	questions	•	
	Davidson, J. E.			and the capacity for	-		
	(2016).			caring for others			
17	Kelly, L. A. and	Quantitative	Survey of	Millennial nurses or	ProQOL	Low response	Level 1,
	Lefton, C.	study	1136 nurses	younger generation	analysis	rate and	High
	(2017).		using the	nurses have the	using tests of	survey	quality,
			validated	highest level of	significance.	responder	А
			ProQOL	compassion fatigue.		bias. Only	
			instrument to	Forty percent of		evaluating	
			evaluate	nurses in the sample		one form of	
			compassion	reported having		meaningful	
			fatigue	considered leaving		recognition	
				the profession with		(DAISY	
				31% having		award).	
				considered leaving in			
				the past year.			
				Meaningful			
				recognition is a			
				significant predictor			
				of decreased burnout			
				and higher			
				compassion			
				satisfaction.			
				Meaningful			
				recognition can			
				influence a healthy			
				work environment,			
				but other factors may			
				be more likely to			
				influence outcomes.			

18

19

			Participation in the DAISY program did not have a significant impact on scores.			
Kelly, L., Runge, J., & Spencer, C. (2015)	Quantitative study	Survey of 491 direct care providers using the ProQOL	Burnout and lack of meaningful recognition contribute to dissatisfaction. Millennials are most at risk. Baby boomer generation more likely to have compassion satisfaction.	Anova evaluation of significance of ProQOL survey results	Little discussion of patient outcomes. Encourages use of DAISY award as meaningful recognition.	
Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2017).	Literature review	Updated concept analysis of compassion fatigue.	Identified clearly in a table the symptoms of compassion fatigue. Confirms the use of the terms secondary traumatic stress (STS) is equal to compassion fatigue. Identified the	Summary of 25 articles addressing compassion fatigue	Includes a case study. Did not directly report measures provided in literature which was reviewed.	Level II, High quality; A

relationship between turnover and the

compassion fatigue phenomenon.

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Nurse Engagement

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
20	Dempsey, C. & Reilly, B.A.	Experiential and non- research evidence	N/A	The study describes the role of compassion and connected compassionate care and engagement as developed by Press Ganey.	Clinician report of initiatives to drive compassionate connected care	No statistically significant data.	Level V, good quality; B
21	White, M., Butterworth, T., & Wells, J. S. G. (2017). Productive	Quasi- experimental, longitudinal cohort design (with an experimental test outcome, using a matched control group)	N=253 nurses	This study demonstrates that the Productive Ward lean program does not necessarily improve care in every instance and that many factors influence this. Compared to a control group it does, however, show encouraging signs that it may engage	Utrecht Work Engagement Scale questionnaire (UWES-17)	No statistically significant relationships between 'engagement' and direct patient care were established.	Level I, High quality; A

	ward-based		
	teams, thus		
	creating some of		
	the conditions		
	and capacity in		
	which		
	compassion and		
	quality can		
	flourish		

Patient Outcomes

Article	Author & Date	Evidence	Sample,	Study findings that	Observable	Limitations	Evidence
#		Туре	Sample Size,	help answer the	Measures		Level &
			Setting	EBP Question			Quality
22	Anglade, D.	Correlational	N = 127 nurses	Survey of patient	AHRQ	Doctoral thesis,	Level II;
	(2014)	experimental	in teaching	safety culture and	Culture of	not peer	High
		study	hospital located	Compassion fatigue	Patient	reviewed.	Quality;
			in S. Florida	were not correlated to	Safety		В
				nurse sensitive	Survey		
				indicators	evaluated for		
					correlation		
					with NDNQI		
					nurse		
					sensitive		
					indicators		
					(falls, falls		
					with injury,		
					HAPU,		
					CAUTI,		
					CLABSI)		
					and ProQOL		
					scores for		
					burnout,		
					compassion		

					fatigue and compassion satisfaction		
23	Copanitsanou, P., Fotos, N., & Brokalaki, H. (2017)	Systematic review of quasi- experimental studies	N varies from 90 to 6494 patients; N varies from 92 to 9698 nurses	Nurses stress, burnout and satisfaction contributes to patient satisfaction and other outcomes	Varies from patient satisfaction scores to nurse satisfaction scores	Variety of settings and some older studies	Level II, Good quality; B
24	Dempsey, C., & Reilly, B. A. (2016).	Opinion of a nationally recognized expert / organization	2015 Press- Ganey Survey results N >200,000 nurses nationally	Nurse engagement with the organization and the profession reduces compassion fatigue, burnout, and turnover while improving teamwork, the patient experience, and organizational outcomes across multiple measures: clinically (fewer hospital acquired conditions), operationally (staffing and efficiency), culturally (positive work environment and empowerment), and behaviorally (ability to connect	2015 Press Ganey nurse engagement scores. National results may not equal individual local results.	Scores from one year.	Level V, High quality; A

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				with patients and colleagues).			
25	Haelle, T., (2018)	Cross- sectional observational study	American Medical Association Physician Masterfile survey N=6695 physician responses	Significant association between burnout, fatigue, and suicidal ideation with medical errors.	Survey was not a validated tool	Unvalidated survey, physicians	Level II, Good quality; B
26	Hamilton, S., Tran, V., & Jamieson, J. (2016)	Non- experimental	N/A	Compassion fatigue has impact on cost of care, medical errors, and breakdown in communication all of which impact patients	N/A	Not experimental	Level III, Good quality; B
27	The Joint Commission. (2018)	Position Statement	Survey of 1,755 physicians outside the US found that most had been involved in a serious safety event and most admitted to experiencing second victim effects.	Use of the term second victim. Even when resources are available, many barriers exist to staff utilizing Employee assistance programs (EAPs) or other supportive services. A strong clinician support program is essential to a strong	References provided. A few specific surveys were cited.	Did not address nurses experiences directly. Focus on physician experiences and data.	Level IV, High quality; A

	patient safety		
	culture.		



DOCUMENTATION OF INFORMED CONSENT

Introduction

You are being asked to participate in a research study called Reducing Compassion Fatigue in Rehabilitation Nurses Working at the Bedside. Your participation is voluntary -- it is up to you whether you would like to participate. It is fine to say "no" now or at any time after you have started the study, your decision will not affect any of your rights, benefits or employment/standing.

The researcher in charge of this project is called the The Institutional Review Board (IRB) of the "Principal Investigator." Her name is Valerie Vermiglio-Kohn You can reach Valerie at:

For questions about the research study, or if you believe you have an injury, contact the Principal Investigator or the IRB.

has approved this research study. The INB # is in the

stamp in the upper right hand corner. If you have questions regarding your rights as a research subject you may contact the IRB

Why is this study being done?

The significance of this study is to identify whether rehabilitation nurses have compassion fatigue as they care for a more complex mix of patients and whether it can be reduced. Compassion fatigue is defined as the emotional cost of caring which displays itself as elements of burnout and secondary traumatic stress. Compassion fatigue has a significant impact on the caregiver's quality of life and the quality of care they provide to their patients. The purpose of the study is to: Determine if rehabilitation nurses working at the bedside suffer compassion fatigue and if interventions are useful in overcoming compassion fatigue.

Why am I being asked to participate?

You are being asked to participate in this study because you are a rehabilitation nurse and you are at risk for compassion fatigue because of your work with complex patients. Rehabilitation nurses working at this facility are being asked to take part in this study. Rehabilitation nurses who do not have compassion fatigue as measured by the ProQOL instrument will not be included in the intervention phase of the study.

What will happen if I participate in the study?

If you take part in this study, you will be asked to attend one session for a survey and education program which will take from one to two hours total. You will be asked to complete an initial survey of the ProQOL instrument. This instrument includes 30 items and asks you to indicate whether you have been experiencing things during the last 30 days such as feeling connected to others and feeling worn out. You score the items on a scale of 1=Never to 5=Very often.

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Demographics information (including age cohort, years of experience working as a bedside nurse, and gender) will be collected. After the survey, you may be asked to participate in an educational program to raise awareness of the risks of compassion fatigue and strategies to combat this problem. You will also be offered additional interventions including meditation/mindfulness and education/development of a self-care plan, and knitting classes of your choosing. These interventions will be offered at this same session. You are not required to participate in all three educational offerings in order to participate in the study. If you agree to participate in the meditation or knitting activities, your session will last an additional hour and you will be asked to practice the skills learned for 6 weeks. After completion of the six weeks, you will be asked to repeat the ProQOL survey. Your time in the study will take about 1 hour to complete the survey and participate in the educational program. An additional hour may be required to complete the other interventional learning for meditation and knitting. Call outs will be tracked from the start of the interventions to the end of the intervention period. Following the 6 week time for interventions a follow up survey will be given which takes about 30 minutes to complete.

No individual's compassion fatigue results will be shared with supervisors at the hospital.

Those who choose not to participate or are excluded from the study following the first ProQOL survey will be given general educational written information about compassion fatigue and directed to additional resources about compassion fatigue.

How many people will take part in the research study?

You will be one of about 30 people who will be participating in this study.

Confidentiality

Every effort will be made to protect your privacy and confidentiality by assigning a number key to your survey questionnaires rather than using your name. Your key number will be kept in a table locked in the Principal Investigator's office until data collection is complete. After data collection is complete, the key will be destroyed.

Information Banking (Future Use and Storage)

Information about you will be kept as long as required by regulations and institutional policy, but will not be used for future studies.

Will I be paid for being in this research study?

You will not receive any payment or other compensation for taking part in this study.

Will it cost me anything to participate in this study?

There will be no cost to you to participate in the study.

Are there any risks to me?

We do not think there are any physical risks related to participating in this research study which are greater to those encountered in daily activities of living.

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A risk of taking part in this study is the possibility of a loss of confidentiality or privacy. Loss of privacy means having your personal information shared with someone who is not on the study team and was not supposed to see or know about your information. The study team plans to protect your privacy – see the Confidentiality section above for details.

Questionnaire

You may feel uncomfortable answering questions about compassion fatigue. You can choose not to answer questions that make you feel uncomfortable.

Are there possible benefits to me?

You may or may not receive personal, direct benefit from taking part in this study. The possible benefits of taking part in this study include those changes which result from adding self-care to your normal routine.

We hope you will participate because the study will generate important information about compassion fatigue in rehabilitation nurses.

What choices do I have other than participating in this study?

You can refuse to participate in the study.

Are there any consequences to me if I decide to stop participating in this study?

No. If you decide to take part, you are free to stop participating at any time without giving a reason.

To revoke (take back) your consent, you must contact the Principal Investigator in writing at the address on page 1 of this form. However, you may first call or speak to the Principal Investigator and she will stop collecting new information about you. If you take back your consent, you will not be allowed to continue to participate in this research study.

CONSENT TO PARTICIPATE

I have read the consent form and I understand that it is up to me whether or not I participate. I know enough about the purpose, methods, risks and benefits of the research study to decide that I want to take part in it. I understand that I am not waiving any of my legal rights by signing this informed consent document. I will be given a signed copy of this consent form.

Printed name of participant	Signature of participant	Date
Printed name of the person conducting the consent process	Signature	Date

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