Implementation and Evaluation of a Compassion Satisfaction Program

for Healthcare Providers of Children with Medical Complexity

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Abstract

Compassion fatigue, secondary traumatic stress, and burnout are forms of exhaustion that often take a toll on healthcare providers, evidenced by decreased performance, increased errors, absenteeism, depersonalization, increased employee turnover, decreased patient and staff satisfaction, poor coworker support, and substance abuse. These concepts are being discussed with increasing frequency, as they impact the attributes that compassion satisfaction has on the professional longevity of healthcare providers and their personal qualities of life and love. The purpose of the evidence-based quality improvement project was to evaluate the effectiveness of the implementation of a compassion satisfaction program in alleviating the risk of occurrence of compassion fatigue, secondary traumatic stress, and burnout. Fifty-five healthcare providers of children with medical complexity, in a pediatric long-term care unit and pediatric rehabilitation unit, participated in the pilot project. The study design for the project was a quasi-experimental design with a single group. The project piloted the implementation of a compassion satisfaction program, evaluated pre-and post-implementation rates of compassion satisfaction, burnout, and secondary traumatic stress, and resulted in favorable outcomes. The development and implementation of a formal compassion satisfaction program has the potential to provide support to healthcare providers, improve healthcare providers' quality of life and satisfaction with their chosen profession, mitigate the toll that caring takes on personal and professional lives, and ultimately improve patient safety, staff retention, patient satisfaction, and overall job performance.

*Keywords:* compassion satisfaction, compassion fatigue, burnout, secondary traumatic stress, secondary vicarious trauma, moral distress, pediatrics, healthcare provider, and children with medical complexity

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Compassion fatigue is a significant mental health concern and may be experienced by healthcare providers who recurrently engage with patients in distress (Ifrach & Miller, 2016; Lee, Veach, MacFarlane, & LeRoy, 2015). Compassion fatigue, the combination of secondary traumatic stress and burnout, influences patient safety, staff turnover, patient satisfaction, and job performance (Potter, Pion, & Gentry, 2015). Due to changes in technology, improved medical capability, and the growing rate of children with medical complexity, frontline caregivers are immersed in traumatic experiences and have an increased probability of being exposed to suffering and death (Huetsch & Green, 2016). While children with medical complexity represent less than 1% of all children, they account for nearly 40% of all child healthcare expenditure, which is expected to increase due to continued advances in medical and surgical care, such as management of complex congenital heart disease and extreme prematurity (Cohen & Patel, 2014; Schor, 2019). Changes in acuity of patients, combined with treatment intensity and duration, have altered the current healthcare environments in which pediatric caregivers work, exposing them to increasingly stressful situations with greater potential to impact emotional stress (Huetsch & Green, 2016). It has been suggested that burnout does not occur because healthcare providers care too much, but rather because they wall themselves off from love, nourishment, and human connectedness (McClendon, 2017).

### Economic, Policy, and Health System Significance

Compassion fatigue commonly occurs and affects all categories of healthcare providers around the world. Nurses in the United States have an estimated compassion fatigue rate of 16% to 39% with a burnout rate of 8% to 70% (Potter et al., 2015; Lyndon, 2016). The prevalence of

burnout experienced by physicians, nurse practitioners, and physician assistants is approximately 30% to 50% (Lyndon, 2016).  People who have compassion fatigue may experience a decline in health, personality changes, increased errors, changes in job performance, undesired effects in personal relationships, and a strong desire to leave the profession (Potter et al., 2013).  The long-term effects of compassion fatigue potentiate physical and mental health concerns which are positively correlated with increased use of prescribed and illicit drugs, alcohol, and tobacco (Potter et al., 2013).  Healthcare systems have an opportunity to support caregivers by enhancing the development of compassion satisfaction through both policy and organizational programming (Slocum-Gori, Hemsworth, Chan, Carson, & Kazanjian, 2011).

## Local Issue

Compassion fatigue has significant consequences for healthcare organizations' efforts in recruiting and retaining competent and caring healthcare providers (Potter et al., 2013). Sutherland (2017) discovered that nearly half of all nurses in the United States have considered leaving the profession due to feeling overwhelmed, absence of job satisfaction, disproportionate amount of paperwork and electronic healthcare records, and decreased time to care for patients. Pediatric nurses experience moderate to high levels of emotional exhaustion, progressive loss of energy and confidence, low levels of accomplishment, and depersonalization, reflected in negative attitudes towards colleagues and patients (Pradas-Hernández et al., 2018).  The association of compassion fatigue with working greater than 12 hours, night shifts, and dependent children at home supports the assumption that stress may be involved in the pathophysiology of compassion fatigue (Khan, Khan, & Bokhari, 2016).  Healthcare provider turnover rates for Iowa nursing facilities (skilled care, nursing home, long-term care, and post-acute care) revealed that total facility staff turnover averaged 53% while total nursing turnover

within a facility averaged 58% (Iowa Department of Human Services [IDHS], 2017).

Additionally, the average nursing facility turnover rate was 63% for certified nursing assistants,

54% for registered nurses, 48% for licensed practical nurses, 39% for directors of nursing, 29%

for administrators, 22% for social services, and 1% for medical directors (IDHS, 2017). These

statistics may be alarming, but it could also signify an appeal for help as healthcare providers are

suffering, both personally and professionally.

## Diversity Considerations

Diversity may be expressed by the age, ethnicity, race, gender, and cultural differences of

environments and teams. The evidence-based practice project was implemented at the pediatric

care facility's inpatient units because of the variety of children served, caregivers, roles, teams it

could impact, and the environment of continuous care that is provided to children with medical

complexity. The project did not discriminate against any one religion, race, culture, or gender.

All team members from the inpatient units, regardless of their role, length of hours or shifts

worked, or tenure, were invited to participate in the pilot project.

## Problem Statement

Healthcare providers of children with medical complexity need support as they provide

care to this population of children and their families, while often neglecting to care for

themselves. Compassion fatigue is unique to helping professionals and often considered the

emotional cost of caring for others (Slocum-Gori et al., 2011). Most healthcare providers report

moderate to high levels of stress in their roles (Kelly & Lefton, 2017) which impacts the levels of

compassion fatigue and compassion satisfaction expressed by this population. Healthcare

providers who experience high rates of burnout and secondary traumatic stress, paired with low

levels of compassion satisfaction, are at the greatest risk for developing compassion fatigue

(Huetsch & Green, 2016).  Compassion satisfaction, the positive feeling that emerges when caregivers assist others, can offset the deleterious effects of compassion fatigue and burnout (Pehlivan & Güner, 2018).  The development of a formal compassion satisfaction program could provide support to pediatric healthcare providers and mitigate the toll that caring takes on their personal and professional lives.

## Intended Improvement with Purpose

The pilot project evaluated the effectiveness of implementing a compassion satisfaction program for improving rates of compassion satisfcation, secondary traumatic stress, and burnout. The intended improvement was to increase rates of compassion satisfaction and decrease rates of burnout and secondary traumatic stress, which collectively represent compassion fatigue.  The implementation of a formal compassion satisfaction program has potential to provide support to healthcare providers, improve their quality of life and satisfaction with their chosen profession, and ultimately improve patient safety, staff turnover and retention, patient satisfaction, and overall job performance.

## Facilitators and Barriers

Major facilitators for the success of the evidence-based practice intervention included the student investigator's professional preceptor, support from team members at the project site, and relatively low costs associated with the implementation of the pilot project.  The student investigator's professional preceptor and mentor currently serves as the pediatric care facility's Chief Executive Officer, but she previously practiced medicine as both a neonatologist and palliative care and hospice physician.  She experienced compassion fatigue and burnout within those roles and now enthusiastically promotes self-care and compassion satisfaction for all caregivers.  The healthcare providers involved in the implementation of the pilot project were

supportive throughout the intervention.  Potential barriers to the success of the project included insufficient enrollment rates, lack of participation from healthcare providers, time constraints, and competing commitments.  The project had favorable sustainability during the intervention secondary to low expenses and the student investigator's leadership role within the organization.

## Inquiry

In healthcare providers of children with medical complexity, does the implementation of a compassion satisfaction program compared to no compassion satisfaction program improve the rates of occurrence for compassion satisfaction, burnout, and secondary traumatic stress during the subsequent three months at a pediatric care facility?

## Literature Search Strategies

A literature search was completed and included the databases of Cumulative Index to Nursing and Allied Health Literature (CINAHL), Ovid, Medline, Science Direct, PsychInfo, Cochrane, and PubMed.  Additionally, search engines were utilized through the University of Missouri-Kansas City Health Sciences Library and Google Scholar.  Keywords for the search included compassion satisfaction, compassion fatigue, burnout, secondary traumatic stress, secondary vicarious trauma, moral distress, pediatrics, healthcare provider, and children with medical complexity (see Appendix A for Definitions of Terms).  The search resulted in a final total of 20 studies that were reviewed in preparation for the evidence-based quality improvement project synthesis of evidence (see Appendix B for PRISMA).  Of these studies, none met criteria for Evidence Level I or Evidence Level II; two met criteria for Evidence Level III (two quantitative systematic reviews); five met criteria for Evidence Level IV (cross-sectional, two cross-sectional comparative, cross-sectional and correlational, and descriptive correlational cross-sectional studies); six met criteria for Evidence Level V (metasynthesis, scoping review,

qualitative systematic review, two systematic reviews of quantitative descriptive studies, and

integrative literature review); six met criteria for Evidence Level VI (two quantitative descriptive

studies, two single qualitative studies, descriptive quantitative study, descriptive exploratory

study); and one met criteria for Evidence Level VII (anecdotal opinion of authority), based on

the Melnyk Rating System for the Hierarchy of Evidence (Melnyk & Fineout-Overholt, 2019).

<div align="center">**Evidence by Themes**</div>

The integrative literature review identified topics of evidence that assisted in determining

the four major themes of the synthesis of evidence: (a) compassion fatigue, a significant mental

health concern for healthcare providers, (b) development of compassion fatigue resiliency

training programs, (c) increasing volume and acuity of children with medical complexity, and (d)

burnout of healthcare professionals and provider shortages (see Appendix C for Synthesis of

Evidence Table).

**Compassion Fatigue, a Significant Mental Health Concern for Healthcare Providers**

Compassion fatigue is the combination of secondary traumatic stress and burnout, which

influences patient safety, turnover, patient satisfaction, and job performance (Potter et al., 2015).

According to Sorenson, Bolick, Wright, and Hamilton (2016), compassion fatigue may be

challenging to delineate from related concepts, such as burnout, because many of these terms

have established interrelated meanings over time.  Compassion fatigue may be experienced by

healthcare providers who repeatedly engage with patients in distress (Ifrach & Miller, 2016; Lee

et al., 2015).  Healthcare providers' aspiration to genuinely care is often greater than what their

innermost reserves can provide, leaving them to develop compassion fatigue and spiral into

burnout, which are stereotypically treated as inevitable vulnerabilities in healthcare (McClendon,

2017).  Sorenson et al. (2016) recognized that advanced practice registered nurses, respiratory

therapists, physical therapists, and occupational therapists have been noticeably absent from recent literature published on compassion fatigue and compassion satisfaction.

Caring is a core element in the healthcare provider-patient relationship; however, healthcare providers have an increased risk for experiencing compassion fatigue because of the caring they provide. Higher emotional intelligence and emotional management scores have been associated with decreased incidences of compassion fatigue (Sorenson et al., 2016). Long-term effects of compassion fatigue can create psychological distress that manifests in the forms of anxiety and depression (Barnett & Ruiz, 2018). Although occupational psychosocial stressors have been linked to poor physical, mental, and emotional health, the exploration of compassion fatigue in such a relationship is a relatively new concept (Cocker & Joss, 2016).

**Development of Compassion Fatigue Resiliency Training Programs**

Despite the substantial consideration given to measuring the prevalence of compassion fatigue, there is minimal evidence regarding effective interventions intended to reduce compassion fatigue (Cocker & Joss, 2016). Literature reviews have provided confirmation of the need to implement strategies that prevent, identify, and mitigate compassion fatigue in healthcare providers (Nolte, Downing, Temane, & Hastings-Tolsma, 2017). Nurses who have feelings of pathogenic guilt may have compromised well-being, which could be tackled in coaching programs aimed at averting or treating burnout and compassion fatigue (Duarte & Pinto-Gouveia, 2017). Enhancement of compassion satisfaction has been identified as a potential targeted intervention (Weintraub, Geithner, & Waldman, 2016). Huetsch and Green (2016) indicated that there was not statistically significant difference between Magnet and non-Magnet hospitals' interventions to reduce emotional stress. Interventions aimed at improving self-esteem and reducing negative feelings have been positively correlated with minimizing the effects of

psychological distress (Barnett & Ruiz, 2018). Huetsch and Green (2016) advised that further focus be placed on compassion fatigue prevention training for healthcare providers and leadership awareness and recognition of stress.

Self-compassion, which developed fundamentally from the incorporation of Buddhist concepts into Western psychological methodologies in the 1990s, may be enhanced through reflective practices, such as mindfulness, meditation, self-kindness, and self-care (Sinclair, Kondejewski, Raffin-Bouchal, King-Shier, & Singh, 2017; Walker & Mann, 2016). Mindfulness, an awareness of what is happening in the moment, is a technique that has successfully been used to deal with the stressors of modern healthcare (Walker & Mann, 2016). It has also been proposed that all helping professionals need a therapeutic outlet, such as art therapy, to relieve unfavorable symptoms related to compassion fatigue (Ifrach & Miller, 2016). Development of programs that advance resiliency to compassion fatigue has potential to improve critical decision-making, enhance communication, and improve patient and nurse satisfaction (Potter et al., 2013). As demands in healthcare increase, providers with greater resiliency will be better equipped to focus and maintain engagement in their occupations. Compassion fatigue has clear implications for nursing retention and the quality of care provided, suggesting that organizations should actively address compassion satisfaction to endorse the retention and quality of their workforce, especially for younger generations (Kelly, Runge, & Spencer, 2015).

**Increasing Volume and Acuity of Children with Medical Complexity**

Due to changes in improved medical capability and the growing rate of children with medical complexities, frontline caregivers are immersed in traumatic experiences and have an increased likelihood of being exposed to suffering and dying patients (Huetsch & Green, 2016). Children with medical complexity are characterized as having severe chronic conditions,

substantial functional limitations, high level of family needs, and increased resource utilization, with greater risk for chronic physical, developmental, behavioral, or emotional conditions requiring healthcare services in excess of typically developing children (Agrawal, 2015; Allshouse, Comeau, Rodgers & Wells, 2018).  Changes in treatment intensity, treatment duration, and the general acuity of patients have altered the environment in which pediatric caregivers work, exposing them to increasingly stressful situations with greater potential for emotional stress (Huetsch & Green, 2016).  Regularly caring for critically ill children with intensive needs may stimulate feelings of helplessness, anger, and stress in healthcare providers and potentially impact the quality of care that is provided (Stayer & Lockhart, 2016).  Clinicians in pediatric critical care units have an increased risk for emotional suffering and reported lower levels of compassion satisfaction and higher levels of compassion fatigue and burnout than providers in other pediatric units (Sorenson et al., 2016; van Mol, Kompanje, Benoit, Bakker, and Nijkamp, 2015)

The total number of pediatric admissions in the United States declined by 21.3%, from 2010 to 2016, but the complexity of pediatric admissions increased from 16.7% to 22.4% for admissions with at least one complex chronic condition (Boggs, 2019).  Pediatric hospitals experienced a 32.5% increase in the number of children treated with two or more chronic conditions, from 2004 to 2009 (Huetsch & Green, 2016).  The increasing prevalence of complex chronic conditions in pediatrics accounts for approximately 20% of pediatric office visits and nearly 40% of all medical care costs (Schor, 2019).  Nearly half a million infants and children per year navigate life-threatening or life-limiting illness with uncertain trajectories (Williams-Reade et al., 2015).  Future research is needed to identify additional protective resources for pediatric healthcare providers as they process and cope with higher rates of pediatric illness,

death, and dying (Stayer & Lockhart, 2016).  Boggs (2019) identified a need for more research

on medical homes, care coordination, and chronic condition management for children with

medical complexity.

**Burnout of Healthcare Professionals and Provider Shortages**

Compassion satisfaction and compassion fatigue impact the professional longevity of

healthcare providers and their quality of life.  Symptoms of burnout include exhaustion,

cynicism, and decreased productivity, often associated with negative self-oriented emotions from

others' distress (Duarte & Pinto-Gouveia, 2017).  Healthcare providers who have compassion

fatigue may experience a decline in health, personality changes, increased errors, changes in job

performance, undesired consequences in their personal relationships, and a longing to leave the

profession (Potter et al., 2013).  Sorenson et al. (2016) reported that nearly 30% of pediatric

nurses reported excessive levels of burnout, and approximately 27% of pediatric nurses reported

elevated levels of compassion fatigue, with younger nurses experiencing the greatest levels of

burnout.  Genetic counselors were identified to be at an increased risk for compassion fatigue

(Lee et al., 2015).  Compassion fatigue and burnout negatively impacted the emotional health

and professional performance of neonatologists (Weintraub, Geithner, & Waldman, 2016).  There

was a significant negative correlation identified between compassion satisfaction and burnout

and between compassion satisfaction and compassion fatigue suggesting that healthcare systems

could increase the pervasiveness of compassion satisfaction through both policy and institutional

level programming to support healthcare professionals (Slocum-Gori et al., 2011).

**Theory**

The Theory of Human Caring, originally constructed by theorist Jean Watson, in 1979,

was the primary theoretical framework for the evidence-based quality improvement project.  The

relationship that a healthcare provider has with self is a core concept in managing compassion fatigue and is essential for optimizing health, empathy, and productivity (Lombardo & Eyre, 2011). The core conceptual elements of the Theory of Human Caring are practice of loving-kindness and equanimity, authentic presence, cultivation of one's own spiritual practice toward wholeness of mind-body-spirit, being the caring-healing environment, and allowing miracles (Watson Caring Science Institute, 2010). One of the goals of the Theory of Human Caring is to guarantee an equilibrium and harmony between the health and illness experiences of a person within the context of their environment, nature, and the universe (Ozan, Okumus, & Lash, 2015). The theory advocates for relationship-based nursing in which empathy, the ability to understand feelings, perspective, and communicate the understanding, is a core value (Lombardo & Eyre, 2011). If healthcare providers are not supported and provided with tools to assist them in the art of caring, they may be overcome with uncertainty, anxiety, and stress (Foss-Durant, 2014), which will contribute to an increase in the rates of compassion fatigue and burnout (see Appendix D for Theory to Application Diagram).

**Methods**

**Institutional Review Board and Site Approval**

The University of Missouri-Kansas City served as the Institutional Review Board (IRB) for the evidence-based quality improvement project proposal. The IRB proposal included a request for verification of site approval and review as non-human subjects, evidence-based quality improvement project (see Appendix E for IRB Approval Letter). Faculty approval was obtained for the project (see Appendix F for Faculty DNP Project Letter). Site approval for the project was approved by the pediatric care facility's Chief Executive Officer and the Director of Inpatient Services/Licensed Nursing Home Administrator.

**Ethical Considerations**

Ethical considerations for the pilot project were privacy and confidentiality, respect of persons, beneficence, and justice. There was minimal risk to the participants and vulnerable populations did not participate in the project. Surveys completed by the participants included demographics, but remained anonymous. One potential conflict of interest was that the student investigator is the pediatric care facility's Director of Nursing and Pediatric Palliative Care Consultant and she provides consultative services to children and families on the units that participated in the project. No ethical concerns occurred during the project, but if any concerns were identified they should have been directed to the student investigator's preceptor for further investigation.

**Funding**

The overall costs for the implementation of the pilot project were nominal. The project was an initiative generously supported by the organization's leadership team and additional funding sources were available, if needed. The Professional Quality of Life: Compassion Satisfaction and Fatigue Scale (ProQOL) Version 5 assessment tool (Stamm, 2009) was available for use online at no cost. There were minor expenses incurred for the purchase of two carts, supplies and refills for the carts, and the investment of the student investigator's time (see Appendix G for Cost Table for Project).

**Setting and Participants**

The evidence-based quality improvement project was implemented at a pediatric care facility, an organization that provides care to approximately 4,600 children with medical complexity and their families, annually. The pediatric care facility is located in Iowa. Because of the wide variety of services provided and children served, the student investigator

implemented the pilot project on the Inpatient Pediatric Rehabilitation and Post-Acute Care Unit and the Pediatric Long-Term Care Unit. Approximately 1,400 people are employed by the pediatric care facility, but only the 200 individuals who work on the inpatient units were invited to participate in the pilot project. One of the inpatient units has 38 beds of pediatric long-term care and the other inpatient unit has 26 beds of pediatric inpatient rehabilitation and post-acute care. Each unit is unique in the structure of their teams, but both units require a diverse group of team members to care for the children served. Team members are comprised of nurses (licensed practical nurses, registered nurses, and an advanced registered nurse practitioner), therapists (respiratory, physical, occupational, speech language pathologists, and aquatics), social workers, therapy assistants, therapeutic recreation specialists, a child life specialist, dieticians, certified nursing assistants, care coordinators, an access specialist, team leads, unit supervisors, administrators, and administrative support. The inpatient units are also supported by volunteers, high school interns, students, volunteer chaplains, and a pediatric palliative care consultant (the student investigator), but they were not invited to participate in the project. Participation was voluntary and participants were recruited for the project through an emailed letter from the student investigator (see Appendix H for Recruitment Materials). The anticipated number of participants was 25-100 individuals, which would have been 12.5% to 50% of the possible sample pool.

**Evidence-based Practice Intervention**

Changes in patient acuity and treatment intensity and duration have altered the environment in which our pediatric caregivers work, exposing them to increasingly stressful situations with greater potential for emotional stress (Huetsch & Green, 2016). According to Brint (2016), caring is a fundamental principle of healthcare and requires that healthcare

providers have an energetic presence, often resulting in the development of compassion fatigue.

The student investigator initially administered the Professional Quality of Life: Compassion

Satisfaction and Fatigue Scale (ProQOL) Version 5 (Stamm, 2009) to all participants using

REDCap (Research Electronic Data Capture).  Study data were collected and managed using

REDCap electronic data capture tools hosted at University of Missouri-Kansas City.  REDCap is

a secure, web-based software platform designed to support data capture for quality improvement

projects and research studies, providing (a) an intuitive interface for validated data capture, (b)

audit trails for tracking data manipulation and export procedures, (c) automated export

procedures for seamless data downloads to common statistical packages, and (d) procedures for

data integration and interoperability with external sources (Harris et al., 2009; Harris et al.,

2019).  Once the pre-implementation surveys were completed, the student investigator provided

education to the healthcare providers.  The education covered a variety of concepts associated

with compassion satisfaction, burnout, secondary traumatic stress, and compassion fatigue.  The

healthcare providers were initially provided with live education about the implementation of a

compassion satisfaction program, titled Code Compassion, and received an introduction and

orientation to the utilization of a compassion cart.  A Code Compassion was encouraged to be

initiated by the healthcare providers when they felt stressed, overwhelmed, or fatigued

throughout their shifts.  The compassion cart was heavily utilized and frequently restocked

throughout the intervention with a variety of items, such as gratitude notecards, tactile

items/fidgets, essential oils, postcards from around the world, play dough, card games, poetry,

puzzles, scripture, battery powered candles, coffee, hot chocolate, tea, lifesavers, mints, dark

chocolate, paint/paint brushes, chalk/chalkboard, stamps/stickers, and coloring

books/markers/crayons/colored pencils, that could help dissipate any distress or fatigue that was

being experienced throughout the shift and assist the healthcare providers in building their

reserves of compassion satisfaction.  The healthcare providers received brief education, from the

student investigator, on a weekly basis, in a variety of formats, such as handouts, emails, and

huddle presentations, on compassion fatigue mitigation strategies and additional ways to enhance

compassion satisfaction.  There was also a three-ring binder available on each of the compassion

carts that served as a reference guide for anyone who wanted to review past education.

Following the inaugural three months of the Code Compassion implementation, the student

investigator requested post-implementation feedback from the participants using the Professional

Quality of Life: Compassion Satisfaction and Fatigue Scale (ProQOL) Version 5 (Stamm, 2009).

Rates of compassion satisfaction, burnout, and secondary traumatic stress were evaluated and

analyzed by the student investigator, comparing pre-implementation and post-implementation

data (see Appendix I for Intervention Flow Diagram, Appendix J for Project Timeline Flow

Graphic, and Appendix K for Intervention Material).

**Change Process Theory**

The project utilized Roger's Diffusion of Innovation Theory as the change process theory.

Roger's Diffusion of Innovation Theory offered all of the necessary stages to endorse the

acceptance of a new idea and implied that individuals' perception of an innovation's features can

predict adoption of the new idea (Mohammadi, Poursaberi, & Salahshoor, 2018).  The theory is

divided into three stages: (a) knowledge, (b) persuasion, and (c) decision, to determine the

adoption or rejection of the proposed innovation by healthcare providers, which in turn can lead

to health promotion (Mohammadi, Poursaberi, & Salahshoor, 2018).

**Evidence-based Practice Model**

The project utilized The Iowa Model as the evidence-based practice model.  The Iowa Model is a heuristic model, originally developed by nurses, and based on Roger's Diffusion of Innovation Theory (Iowa Model Collaborative, 2017).  The model incorporates successful strategies learned when assuming research utilization projects and is often used as a framework for the implementation of evidence-based practice to support quality in health care (Iowa Model Collaborative, 2017).  The Iowa Model has a clearly outlined change process and provides feedback loops.

**Sustainability of the Project**

The project has potential for high likelihood of sustainability, following the pilot project implementation, particularly if the healthcare providers develop ownership of the compassion satisfaction program.  The Code Compassion program would not be a time-intensive project to maintain following initial implementation and there should only be minimal costs to the units to maintain the supplies within the carts.  Healthcare providers who are early adopters and experience success in the program could be identified as champions to maintain the program. Sustaining the program could also positively impact the operational success of the organization by decreasing rates of burnout, secondary traumatic stress, and resignation.

**Study Design**

The study design for the evidence-based quality improvement project was a quasi-experimental design with a single group.  Outcome measurements were based on pre-and post-implementation data.  The primary outcome was the successful implementation of a compassion satisfaction program that increased rates of compassion satisfaction and decreased rates of compassion fatigue, expressed through rates of burnout and secondary traumatic stress. Secondary outcomes were decreased rates of burnout, decreased rates of secondary traumatic

stress, increased retention, decreased turnover, increased patient safety, and increased staff

engagement.

**Validity**

Integrity of the data contributes to the internal validity of the project.  Potential factors

that could have impacted internal validity included number of participants, baseline personal

stressors, brief three-month timeframe of the pilot project, utilization of the same pre-and post-

implementation scale, staffing demands, and attrition of the participants.

Transferability contributes to the external validity of the project.  Potential factors that

could have impacted external validity included potential for a small sample size, unique

demographics of the people participating in the project, lack of randomization, and the

geographic location of the project.

**Outcomes**

The primary outcome of the project was the successful implementation of a compassion

satisfaction program that increased rates of compassion satisfaction.  Secondary outcomes were

decreased rates of burnout, decreased rates of secondary traumatic stress, decreased staff

turnover, increased patient safety, and increased staff engagement (see Appendix L for Logic

Model).

**Measurement Instruments**

The Professional Quality of Life: Compassion Satisfaction and Fatigue Scale (ProQOL)

Version 5 has been utilized since 1995 (Stamm, 2009).  It is one of the most commonly used

instruments to measure both the positive and negative effects of helpers who experience trauma

and suffering (Stamm, 2009).  The instrument has subscales that are used to assess levels of

compassion satisfaction, burnout, and secondary traumatic stress.  The ProQOL Scale has well-

established validity and reliability (compassion satisfaction $\alpha$=.88, n=1130; burnout $\alpha$=.75,

n=976; compassion fatigue $\alpha$=.81, n=1135; inter-scale correlations: 2% shared variance [r=-.23;

co-$\sigma$=5%; n=1187] with secondary traumatic stress; 5% shared variance [r=-.14; co-$\sigma$=2%;

n=1187] with burnout) across many settings, organizations, and countries (Stamm, 2009). The

ProQOL Scale has been revised several times, last in 2009, and ProQOL Version 5 is the most

recent version of the measurement instrument. Participants in the project were healthcare

providers of children with medical complexity. They completed the ProQOL assessment prior to

the intervention and repeated the assessment following the implementation of the intervention.

The assessment was offered electronically via REDCap. According to Stamm (2009), the

ProQOL Scale may be freely utilized and copied, as long as the author is credited, no changes are

made, other than the ones authorized to be changed, and it is not sold (see Appendix M for

ProQOL Scale Version 5).

**Quality of Data**

The *a priori* power analysis determined the sample size of the evidence-based quality

improvement project to be 51 people using the independent samples *t*-test (difference between

two independent means) with power .8, medium effect .5, and alpha .05 (see Appendix N for

G*Power Calculations). Baseline data and demographics were obtained pre-implementation and

data collection was repeated three months later, post-implementation (see Appendix O Data

Collection Template). The utilization of the ProQOL Scale improved the quality of data

collection due to the high validity of the instrument. The collected data was compared to

available benchmark data in publications on healthcare providers and their rates of compassion

satisfaction, compassion fatigue, burnout, and secondary traumatic stress, but there are no

published studies that directly correlate with the setting and healthcare providers utilized in the

project.

**Analysis Plan**

Statistical Package for the Social Sciences (SPSS), a statistical analysis computer

software system, was used for the data analysis of the project.  Nominal, ordinal, and scale data

from the pre- and post-implementation surveys were transferred to SPSS for evaluation.  The

results of the pre- and post-implementation scores were analyzed using the independent samples

*t*-test.  Descriptive statistics were utilized to evaluate and report the demographic information

that was collected for the project.  Demographic data included age, ethnicity, race, gender,

highest level of education, professional role, years of experience at the pediatric care facility, and

years of experience in healthcare (see Appendix P for Outcome to Analysis Summary Table and

Appendix Q for Statistical Analysis Results Table).

**Results**

**Setting and Participants**

The project was implemented at the pediatric care facility, on the Inpatient Pediatric

Rehabilitation and Post-Acute Care Unit and the Pediatric Long-Term Care Unit, from

November 2019 through February 2020.  Fifty-five healthcare providers of children with medical

complexity participated in the pilot project.  The majority of participants were female (96%),

ages 30-35 years (18%), not Hispanic or Latino (98%), white or Caucasian (89%), registered

nurses (31%), with the highest level of education a Bachelor's degree (35%), with 1-5 years of

experience in healthcare (26%), and 1-5 years of experience at the pediatric care facility (35%).

The range of participant ages was less than 20 years of age through 60-65 years of age.  There

were 15 professional roles represented in the pilot project.  The range of years of experience in

healthcare was less than 1 year through 35-40 years and years of experience at the pediatric care facility ranged from less than 1 year to 35-40 years.

**Actual Intervention Course**

Eligible participants (approximately 200 people) were identified and included all healthcare providers on the two inpatient units. The potential participants were contacted via email and invited to participate in the evidence-based process improvement project. Fifty-five healthcare providers (28% of the total eligible participants) participated in the pilot project. Demographic data was collected, and the pre-implementation ProQOL Scale was administered from September 2019 through October 2019. Orientation to concepts associated with compassion satisfaction, secondary traumatic stress, compassion fatigue, and burnout, as well as introduction to the compassion carts (one cart was placed on each unit) occurred at the beginning of the pilot project implementation in November 2019. There was a three-ring binder on each of the carts that was updated weekly with handouts and articles on a variety of topics, such as self-compassion, mindfulness, mitigation of compassion fatigue through compassion satisfaction, debriefing, professional development and recognition, culture of caring, self-care, trauma informed care, work life balance, healthy eating, and exercise. The student investigator attended huddles several times each month, followed up with the pilot project participants, both in person and via email, offered lunch and learn in-services, and continued to maintain supplies within the compassion carts throughout the three-month intervention. The post-implementation ProQOL Scale was administered in March 2020, following three months of implementation of the pilot project.

**Outcome Data**

Descriptive statistics were used to summarize the results of participant demographics and there was no missing data (see Appendix Q for Statistical Analysis Results Table). Demographic data collection variables included age, ethnicity, race, gender, highest level of education, professional role, years of experience at the pediatric care facility, and years of experience in healthcare.

Primary outcomes for the project were the successful implementation of a compassion satisfaction program that increased rates of compassion satisfaction and decreased rate of compassion fatigue. The mean pre-implementation score for compassion satisfaction was 41.08 and the mean post-implementation score for compassion satisfaction was 41.54, which did not demonstrate statistical significance utilizing the independent samples $t$-test (see Appendix Q for Statistical Analysis Results Table). A score of 22 or less demonstrated low compassion satisfaction; a score of 23-41 demonstrated moderate compassion satisfaction; and a score of 42 or more demonstrated high compassion satisfaction. Both pre- and post-implementation scores indicated levels of moderate compassion satisfaction, although there was a slight increase in mean scores following the intervention. There were four sets of missing data for the compassion satisfaction scale score on the pre-implementation survey and seven sets of missing data for the compassion satisfaction scale score on the post-implementation survey.

Secondary outcomes for the project were decreased rates of burnout, decreased rates of secondary traumatic stress, decreased staff turnover, increased patient safety, and increased staff engagement. The mean pre-implementation score for burnout was 33.04 and the mean post-implementation score for burnout was 32.49, which did not demonstrate statistical significance utilizing the independent samples $t$-test (see Appendix Q for Statistical Analysis Results Table). A score of 22 or less demonstrated low burnout; a score of 23-41 demonstrated moderate

burnout; and a score of 42 or more demonstrated high burnout.  Both pre- and post-implementation scores indicated levels of moderate burnout, although there was a slight decrease in mean scores following the intervention.  There were five sets of missing data for the burnout scale score on the pre-implementation survey and six sets of missing data for the burnout scale score on the post-implementation survey.  The mean pre-implementation score for secondary traumatic stress was 23.62 and the mean post-implementation score for secondary traumatic stress was 22.36, which did not demonstrate statistical significance utilizing the independent samples $t$-test (see Appendix Q for Statistical Analysis Results Table).  A score of 22 or less demonstrates low secondary traumatic stress; a score of 23-41 demonstrates moderate secondary traumatic stress; and a score of 42 or more demonstrates high secondary traumatic stress.  Both pre- and post-implementation scores indicated levels of moderate secondary traumatic stress, although there was a slight decrease in mean scores following the intervention.  There were five sets of missing data for the secondary traumatic stress scale score on the pre-implementation survey and eight sets of missing data for the secondary traumatic stress scale score on the post-implementation survey.  Staff turnover decreased from 34.97% pre-implementation to 26.06% post-implementation.  Patient safety increased, as evidenced by decreased medication adverse events, no fractures, decreased critical adverse events, and decreased unplanned hospitalizations.  Staff engagement remained at 80% pre- and post-implementation.

## Discussion

### Successes

While both primary and secondary outcomes of the project were not statistically significant, there was a slight improvement noted in the mean rates of compassion satisfaction, burnout, and secondary traumatic stress following the intervention.  Staff turnover decreased,

patient safety increased, and staff engagement remained consistently high.  Several of the participants expressed interest in maintaining the Code Compassion project.  One of the participants taught yoga poses to her peers following afternoon huddles.  Many of the participants reached out to the student investigator throughout the pilot project to share their personal success stories and journey to developing enhanced self-awareness, which is the first step in improving the occurrence rates of compassion satisfaction, burnout, and secondary traumatic stress.

**Study Strengths**

The creation of a compassion satisfaction program, Code Compassion, at the pediatric care facility was vehemently supported by unit and organizational leadership.  The culture at the pediatric care facility provided an opportunity to pilot a project that had never been attempted, but had been discussed several times over the past few years.  There was a diverse population of potential project participants and more people participated in the project than anticipated.  The ProQOL Scale has well-established validity and reliability and is one of the most commonly used instruments to measure both the positive and negative effects of helpers who experience trauma and suffering.  The project required minimal financial support and the participants were able to regulate the level of involvement they chose to have within the project.

**Results Compared to Evidence in the Literature**

Evidence in the literature has established that the development and implementation of a formal compassion satisfaction program has the potential to provide support to healthcare providers, improve healthcare providers' quality of life and satisfaction with their chosen profession, mitigate the toll that caring takes on their personal and professional lives, and ultimately improve patient safety, staff turnover, patient satisfaction, and overall job

performance. Although there are no exact benchmark studies to compare these results to, there are some general assessments that can be inferred. Sorenson et al. (2016) recognized that advanced practice registered nurses, respiratory therapists, physical therapists, and occupational therapists have been noticeably absent from the recent literature published on compassion fatigue and compassion satisfaction. This project was able to capture data, although limited, from all of these healthcare providers. Changes in treatment intensity, treatment duration, and acuity of patients have altered the environment in which pediatric caregivers work, exposing them to increasingly stressful situations with greater potential to emotional stress (Huetsch & Green, 2016). Despite the substantial consideration given to measuring the incidence of compassion fatigue, there is a shortage of evidence regarding effective interventions intended to reduce compassion fatigue in healthcare providers (Cocker & Joss, 2016).

## Limitations

### Internal Validity Effects

Integrity of the data contributes to the internal validity of the project. Investigator bias and confounding variables could also impact internal validity. Potential factors that could have impacted the internal validity of this pilot project were number of participants, baseline personal stressors, brief three-month timeframe of the project, utilization of the same pre-and post-implementation scale, staffing demands, and attrition of the participants. The student investigator does not believe that the project was negatively impacted by the number of participants or attrition of the participants, the brief three-month timeframe of the project, or the utilization of the same pre-and post-implementation scale. Baseline personal stressors and staffing demands are possible sources of confounding factors.

### External Validity Effects

Transferability contributes to the external validity of the project. Potential factors that could have impacted the external validity of this pilot project were potential for a small sample size, unique demographics of the people participating in the project, lack of randomization, and the geographic location of the project. The pilot project occurred at a single site with a diverse group of healthcare providers, but there was an adequate number of participants. The education that was provided during the implementation was delivered primarily by the student investigator, in a variety of methods, which could be difficult for another person to replicate.

**Sustainability of Effects and Plans to Maintain Effects**

Due to the nature of a pilot project, there is potential for observed gains to weaken over time and plans must be established to maintain the desired improvement. The project has potential for high likelihood of sustainability, particularly since several of the healthcare providers developed ownership of the compassion satisfaction program. The program should not be a time-intensive project to maintain and there should only be minimal costs to the units to refill supplies within the carts. Healthcare providers who were early adopters and experienced success in the pilot project were identified as champions to maintain the program. The student investigator will also remain in her role as the Director of Nursing and Pediatric Palliative Care Consultant for the site organization and will have the ability to influence the sustainability of the project. Sustaining the program has great potential to positively impact the operational success of the organization by decreasing rates of burnout, secondary traumatic stress, and turnover experienced by their healthcare providers.

**Efforts to Minimize the Study Limitations**

There are several efforts that could be taken to minimize the study limitations for the project. The first opportunity would be to include repeated administrations of the ProQOL Scale

Survey, over the course of several months to years of follow-up, to minimize misclassification of

changes in behaviors over time.  The ProQOL Scale Survey has well-established validity and

reliability, which allows for it to be utilized in a variety of settings and groups without

influencing the interpretation and application of findings.  All participants were assured that they

could not be identified by their responses on the ProQOL Scale Survey and that their responses

would not impact their employment or status within their unit or peer groups.  Another

opportunity to minimize limitations would be to perform subgroup analyses among participants

on key variables of interest to address potential selection bias.

## Interpretation

### Expected and Actual Outcomes

The expected primary outcomes for the project were the successful implementation of a

compassion satisfaction program that increased rates of compassion satisfaction and decreased

rate of compassion fatigue.  The expected secondary outcomes for the project were decreased

rates of burnout, decreased rates of secondary traumatic stress, decreased staff turnover,

increased patient safety, and increased staff engagement.  While several of these expected

outcomes were not actual outcomes, per statistically significant analysis, there was slight

improvement in the mean rates of compassion satisfaction, burnout, and secondary traumatic

stress following the intervention.  Possible reasons for differences between observed and

expected outcomes could be the short three-month time frame for implementation of the

intervention and only one assessment of pre-and post-implementation surveys, rather than

multiple surveys issued over time.

### Intervention Effectiveness

The relationship that a healthcare provider has with self is a core concept in managing compassion fatigue and is essential for optimizing health, empathy, and productivity (Lombardo & Eyre, 2011). The implementation of a compassion satisfaction program at an organization that cares for children with medical complexity provided pediatric healthcare providers with an opportunity to develop their self-awareness, which ultimately impacted their rates of compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress, even if not recognized as statistically significant. Support from organizational leadership and healthcare providers within the organization allowed the pilot project to occur with anticipation that over time, there will be a statistically significant improvement in the rates of compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress. This project would be most effectively implemented in other pediatric post-acute care and rehabilitation units and pediatric long-term care units, but there is reason to believe that the implementation of a compassion satisfaction program in any healthcare organization or setting has the ability to mitigate the harmful effects of caring.

**Intervention Revision**

There are a couple of intervention modifications that may improve attainment of statistically significant outcomes for this project. The first recommendation would be to increase the implementation time frame to a minimum of six months. This would provide more time for the development of personal self-awareness, which is the cornerstone to ultimately improving the rates of compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress. The second recommendation would be to collect data at several points throughout the intervention and beyond the final post-implementation survey to see if there are identifiable trends over time.

**Expected and Actual Impact to Health System, Costs, and Policy**

While none of the expected outcomes were statistically significant actual outcomes, there was slight improvement noted in the mean rates of compassion satisfaction, burnout, and secondary traumatic stress following the intervention.  There is a significant negative correlation identified between compassion satisfaction and burnout and between compassion satisfaction and compassion fatigue suggesting that healthcare systems could increase the prevalence of compassion satisfaction through both policy and institutional level programs to support healthcare professionals (Slocum-Gori et al., 2011).  The long-term effects of compassion fatigue potentiate physical and mental health concerns and are positively correlated with increased use of drugs (prescribed and illicit), alcohol, and tobacco (Potter et al., 2013).  Healthcare systems have an opportunity to expand efforts in compassion satisfaction through both policy and organizational programming to support healthcare professionals (Slocum-Gori, Hemsworth, Chan, Carson, & Kazanjian, 2011).

The estimated cost of the project was $270, but the actual cost of the intervention was slightly higher at $336 (see Appendix G for Cost Table for Project).  The project has a high probability for economic sustainability following the intervention secondary to the establishment of the carts and supplies for the program.  The cost of the project, moving forward, would include replacing items in the cart, as they are used, which would be maintainable.  An optional funding source for the sustainability of this project would be the pediatric care facility's Palliative Care Fund, but the inpatient units should be able to absorb the nominal expenses to maintain the compassion satisfaction program, without significant impact to their operating budgets.

**Opportunities**

One of the opportunities that arose during the implementation of the pilot project was to implement a compassion satisfaction program in every service line, throughout the organization. This would require champions from each of the services and a commitment from them to continue to advance the program. The benefit of this opportunity would be that it could positively impact all of the team members in the organization, which would in turn have an impact on the care that is provided for the children and families served.

## Conclusions

### Practical Usefulness of Intervention

There is limited published evidence regarding the best approach to implement compassion satisfaction programming in units and organizations experiencing excessive rates of turnover and burnout or among professional roles with extraordinary rates of compassion fatigue. Review of literature on healthcare providers leaves minimal doubt that their work may take a toll on their psychosocial and physical health, which contributes to compassion fatigue and burnout and may threaten the sustainability of caring professions. The past decade has resulted in heightened awareness of compassion fatigue and recognition of compassion fatigue as a potential harm for healthcare providers. The impact of compassion fatigue on healthcare providers can be profound. Healthcare leaders have advanced nursing practice through programs that focus on structural empowerment, work environments, practice standardization, and leadership development; however, they have not consistently addressed caring's core nature and components (McClendon, 2017).

### Further Study or Implementation of Intervention

Historically, research concerning compassion fatigue, compassion satisfaction, secondary vicarious trauma, moral distress, secondary traumatic stress, and burnout has centered around

first responders, trauma teams, emergency providers, oncology nurses, hospice nurses, genetic

counselors, veterinarians, social workers, psychologists, and neonatologists.  There is nominal

published evidence-based literature on compassion fatigue, compassion satisfaction, secondary

vicarious trauma, moral distress, secondary traumatic stress, and burnout and the impact these

experiences have on pediatric healthcare providers who provide care to children with medical

complexity.  Despite the substantial attention given to assessing the prevalence of compassion

fatigue, there is a lack of evidence and information about effective interventions designed to

reduce compassion fatigue (Cocker & Joss, 2016).  Future work is required to establish the

degree, if any, that compassion fatigue increases a healthcare provider's future risk of depression

or anxiety, after accounting for other known risk factors, and establish whether compassion

fatigue can be effectively reduced or eliminated by a combination of directed interventions.

**Dissemination**

Dissemination of the outcomes obtained from the project include submission of the

project and results to a professional healthcare journal with a preferred target audience of

healthcare providers in the field of pediatrics, complex care, palliative care, or nursing.

Outcomes will continue to be shared at local, regional, and national conferences in the form of

poster and/or podium presentations to foster improvement in compassion satisfaction, ultimately

leading to quality care.

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Appendix A

Definition of Terms

Compassion satisfaction: the pleasure you derive from being able to do your work well; feeling satisfied by one's job and from the helping itself (Stamm, 2009).

Compassion fatigue: the negative aspects of providing care to those who have experienced extreme or traumatic stressors (Stamm, 2009).

Burnout: one of the elements of compassion fatigue that is associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively; characterized by feelings of unhappiness, disconnectedness, and insensitivity to the work environment (Stamm, 2009).
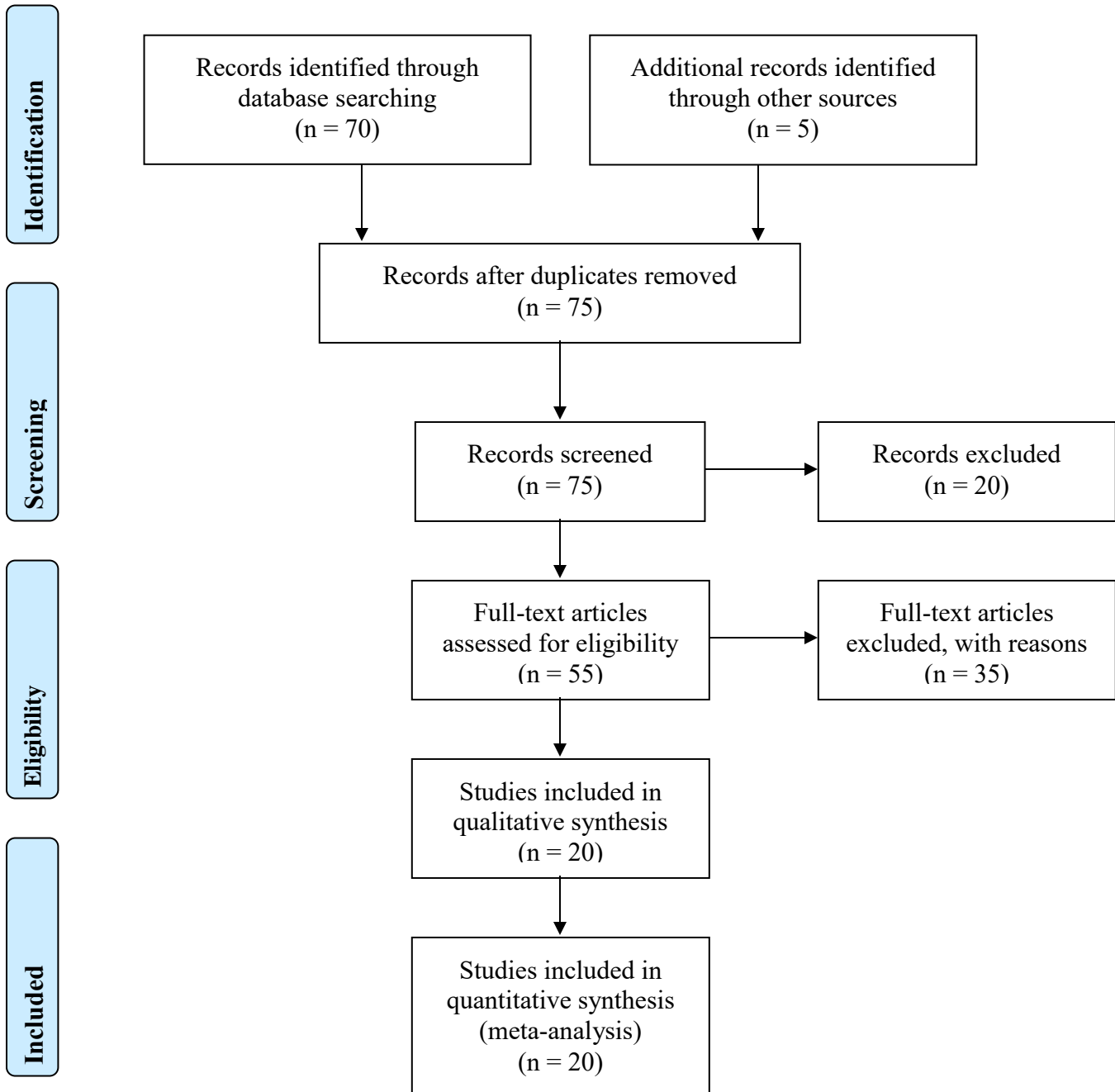
Secondary traumatic stress or vicarious trauma: work-related, secondary exposure, to extremely or traumatically stressful events; an element of compassion fatigue that is characterized by being preoccupied with thoughts of people one has helped (Stamm, 2009).

Healthcare provider: nurse, therapist, nursing assistant, therapy assistant, nurse practitioner, physician, or administrator who coordinates and provides care to someone.

Children with medical complexity: children who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally (Allshouse, Comeau, Rodgers, & Wells, 2018).

Appendix B

Modified PRISMA Search Diagram

**Identification**

Records identified through
database searching
(n = 70)

Additional records identified
through other sources
(n = 5)

Records after duplicates removed
(n = 75)

**Screening**

Records screened
(n = 75)

Records excluded
(n = 20)

**Eligibility**

Full-text articles
assessed for eligibility
(n = 55)

Full-text articles
excluded, with reasons
(n = 35)

Studies included in
qualitative synthesis
(n = 20)

**Included**

Studies included in
quantitative synthesis
(meta-analysis)
(n = 20)

Appendix C

Synthesis of Evidence Table

| Inquiry: In healthcare providers of children with medical complexity, does the implementation of a compassion satisfaction program compared to no compassion satisfaction program improve the rates of occurrence for compassion satisfaction, burnout, and secondary traumatic stress during the subsequent three months at a pediatric care facility? | | | | | | |
|---|---|---|---|---|---|---|
| First author, Year, Title, Journal | Purpose | Research Design, Evidence Level & Variables | Sample & Sampling, Setting | Measures & Reliability (if reported) | Results & Analysis Used | Limitations & Usefulness |
| Theme: Compassion fatigue, a significant mental health concern for healthcare providers (9 studies) | | | | | | |
| Barnett (2018). Psychological distress and compassion fatigue among hospice nurses: The mediating role of self-esteem and negative affect. Journal of Palliative Medicine. | To investigate self-esteem and affect as mediators between psychological distress and compassion fatigue among hospice nurses. | Cross-sectional design.<br><br>Evidence Level IV.<br><br>Psychological distress, self-esteem, positive affect, negative affect, compassion fatigue. | 90 hospice nurses, aged 22-70 years, working in hospice centers, hospitals, nursing homes, long-term care facilities, and home healthcare, southern United States, average number of years of experience was 17.3. | Depression Anxiety and Stress Scale (4-point Likert-type scale).<br><br>Compassion Fatigue Short-Scale (10-point Likert-type scale).<br><br>Rosenberg Self Esteem Scale (4-point Likert-type scale).<br><br>International Positive and Negative Affect Schedule—Short Form (two 5-item scales using a 5-point response scale).<br><br>Multiple mediation analysis | Psychological distress was associated with greater rates of compassion fatigue and had an indirect effect on compassion fatigue through lower self-esteem.<br><br>Bivariate correlations between and descriptive statistics for all variables of interest. | Limited conclusions can be drawn about causality and directionality of results due to cross-sectional design.<br><br>Psychological distress is associated with compassion fatigue. |

| | | | | was used to explore associations between variables of interest. | | |
|---|---|---|---|---|---|---|
| Nolte (2017). Compassion fatigue in nurses: A metasynthesis. Journal of Clinical Nursing. | To conduct a review of studies that have explored compassion fatigue and extract the common features which might be applied to nursing care. | Metasynthesis.  Evidence Level V.  Qualitative method, focus was compassion fatigue, nurses were the population of interest. | 9 papers met criteria for review.  Qualitative and mixed-method studies, 1992 to present, nurses, English language, United States, Canada, Australia. | No measures or reliability reported. | Findings provided evidence of the need to implement strategies which prevent, identify, and mitigate compassion fatigue in nurses.  Either thematic or content analysis. | Dissertations and theses were not included, studies were only from three countries with limited information about culture, a potentially important contextual factor that needs additional consideration. |
| Khan (2016). Association of specialty and working hours with compassion fatigue. Pakistan Armed Forces Medical Journal. | To find out association of specialty and working hours with compassion fatigue. | Cross-sectional comparative study.  Evidence Level IV. | 54 doctors from medicine, surgery, anesthesia, and gynecology, military hospitals, 11 females, 43 males, December 2013 to July 2014. | ProQOL (30-item tool, 5-point Likert scale).  No reliability reported. | Chances of suffering from compassion fatigue were significantly higher if working hours are 12 or more, however the disorder is not associated with specialty.  Chi square test  Cronbach's alpha. | Healthcare professionals should think about reducing their working hours if they notice any signs and symptoms of compassion fatigue.  Association of compassion fatigue with night shifts and dependent children. |
| Sinclair (2016). Compassion: A scoping review of the healthcare literature. BioMed Central Palliative Care. | To map the literature of compassion in clinical healthcare. | Scoping review.  Evidence Level V.  Final synthesis included studies that sampled patients and caregivers, clinicians, | 44 studies included in the review.  Primary or secondary studies using qualitative, quantitative, or | No measures or reliability reported. | Six themes emerged that explored perceptions of compassionate care: Nature of compassion, development of compassion, interpersonal factors | Identified the limited empirical understanding of compassion in healthcare.  Deeper understanding of |

| | | healthcare administrators, or healthcare students. | mixed-methods design, English language, 1988-2014. | | related to compassion, action and practical compassion, barriers and enablers of compassion, and outcomes of compassion.

A narrative approach to synthesizing and mapping the literature was used. | key behaviors and attitudes that lead to improved patient-reported outcomes through compassionate care is necessary. |
|---|---|---|---|---|---|---|
| Sorenson (2016). Understanding compassion fatigue in healthcare providers: A review of current literature. Journal of Nursing Scholarship | To identify, review, synthesize, and analyze the existing literature addressing compassion fatigue in healthcare providers. | Systematic review.

Evidence Level III.

Literature review of compassion fatigue and related concepts in healthcare providers. | 43 articles met criteria (30 quantitative, 9 qualitative, and 4 mixed method articles).

Only formal healthcare professionals, English, 2005-2015, CINAHL and PubMed, | No measures or reliability reported. | Higher emotional intelligence and emotional management scores correlated with decreased incidence of compassion fatigue.

Clinicians in pediatric critical care units reported lower levels of compassion satisfaction and higher levels of compassion fatigue and burnout than providers in other pediatric units.

30% of pediatric nurses reported high levels of burnout and 27% reported high levels of compassion fatigue.

Younger nurses experienced the | Advanced practice registered nurses, respiratory therapists, physical therapists, and occupational therapists were conspicuously absent from the recent literature.

Challenging to delineate compassion fatigue from related concepts because terms have developed overlapping and conflated meanings over time. |

| | | | | | highest levels of burnout. | |
|---|---|---|---|---|---|---|
| Weintraub (2016). Compassion fatigue, burnout, and compassion satisfaction in neonatologists in the US. Journal of Perinatology. | To determine the prevalence of compassion fatigue, burnout, and compassion satisfaction in neonatologists. | Quantitative descriptive study.<br><br>Evidence Level VI.<br><br>Gender, race, current household members, years as NICU attending, NICU level, involved in activities in the past month, current feelings of distress, self-care activities, survivor of prior trauma. | Electronic distribution of test to neonatologists in the United States and Canada, 433 respondents, most respondent were white, female, lived with a partner or spouse and/or children, and were mid-career or senior level faculty at Level IV institutions. | Modified Compassion Fatigue and Satisfaction Self-Test for Helpers (CFST).<br><br>Convergent and discriminant validity and reliability has been established for the test and scale. | Compassion fatigue and burnout may impact emotional well-being and professional performance of neonatologists.<br><br>Multivariate logistic regression.<br><br>Cronbach's alpha.<br><br>Pearson's $r$.<br><br>Spearman's $p$.<br><br>Chi square test. | Enhancement of compassion satisfaction is a potential target for intervention.<br><br>Risk of non-response bias, modest sample size, majority of respondents were white and in mid-career or at the senior faculty level. |
| Kelly (2015). Predictors of compassion fatigue and compassion satisfaction in acute care nurses. Journal of Nursing Scholarship. | To examine compassion fatigue and compassion satisfaction in acute care nurses across multiple specialties in a hospital-based setting. | Cross-sectional, quantitative, survey research study.<br><br>Evidence Level IV.<br><br>Scores on ProQOL and demographics. | 491 direct care registered nurses, inpatient settings, with at least 3 months of tenure on the unit, three-week period of study in May 2013, large, Magnet-recognized, quaternary care teaching facility in southwest United States. | ProQOL (30-item tool, 5-point Likert scale). | Satisfaction and intent to leave were indicators of compassion fatigue and compassion satisfaction.<br><br>Receiving a DAISY nomination was a significant predictor of lower compassion fatigue and higher compassion satisfaction.<br><br>ANOVA for differences in scores between generations and specialties, regression analysis on | Meaningful recognition may increase compassion satisfaction, positively impact retention, and elevate job satisfaction.<br><br>Compassion fatigue in nurses has clear implications for nursing retention and the quality of care provided.<br><br>Organizations should actively address compassion |

| | | | | | ProQOL subscale scores and individual nurse characteristics, univariate analysis to assess initial significance of nurse demographics, satisfaction and intent to leave | fatigue and compassion satisfaction in their nurses to promote retention and the quality of their workforce, especially for the younger generations. |
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| Lee (2015). Who is at risk for compassion fatigue? An investigation of genetic counselor demographics, anxiety, compassion, satisfaction, and burnout. Journal of Genetic Counseling. | To identify individual and environmental factors that predispose genetic counselors to compassion fatigue risk. | Cross-sectional and correlational.<br><br>Evidence Level IV.<br><br>Online survey designed to assess relationships between state and trait anxiety, burnout, compassion satisfaction, selected demographic characteristics, and compassion fatigue risk. | 402 practicing genetic counselors, in the United States and Canada, completed anonymous, online, surveys. | ProQOL (30-item tool, 5-point Likert scale), State-Trait Anxiety Inventory (STAI), and demographic questions.<br><br>No reliability reported. | Genetic counselors with high burnout, high compassion satisfaction regarding how they do their work, high trait anxiety, and ethnic background other than Caucasian are at increased risk for compassion fatigue.<br><br>Quantitative analysis used descriptive statistics calculations for responses to ProQOL, STAI, and demographics.<br><br>Qualitative analysis by the first author using an interpretive content analysis method.<br><br>Multiple regression analysis was performed to identify significant predictors of compassion fatigue. | Causal connections could not be made because the study was cross-sectional and correlational.<br><br>Results demonstrate a need for interventions to address compassion fatigue risk among genetic counselors as well as the factors shown to be related to the risk. |

| Van Mol (2015). The prevalence of compassion fatigue and burnout among healthcare professionals in intensive care units: A systematic review. PLOS One. | To evaluate the literature related to emotional distress among healthcare professional in the intensive care unit (ICU), with an emphasis on the prevalence of burnout and compassion fatigue and the available preventative strategies. | Systematic review. Evidence Level III. Bibliographic information, aim of the study, definition of concepts, setting, population and sample size, method design, measuring instrument, validation, and reliability, and prevalence. | 40 publications met the selection criteria for review. Qualitative data extraction limited to the prevalence presented as numbers or percentages, January 1992 (first year that article on CF in nurses was published)-June 2014, English language. | No measures or reliability reported. | Working in an ICU correlates with a substantial risk of emotional distress. Meta-analysis could not be performed because RCTs and rigorous observational studies are rare in the area. | The true magnitude of the emotional distress in the ICU healthcare professional remains unclear due to a lack of unity on measurements, Policymakers should introduce interventions to prevent the negative consequences of emotional distress. A longitudinal experimental study is needed. |
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| **Theme: Development of compassion fatigue resiliency training programs (6 studies)** | | | | | | |
| Sinclair (2017). Can self-compassion promote healthcare provider well-being and compassionate care to others? Results of a systematic review. | To critically examine the construct of self-compassion to determine if it is an accurate target variable to mitigate work-related stress and promote compassionate caregiving in healthcare providers. | Systematic review, meta-narrative review conducted according to RAMESES standards. Evidence Level III. Conceptualization of self-compassion, measures of self-compassion, self-compassion and affect, and self-compassion interventions. | 69 studies met criteria. Nurses, healthcare students, residents, general practitioners, psychologists, and unspecified. United States, Canada, Brazil, Portugal, Scandinavia, Spain, Turkey, the United Kingdom, and Australia. | No measures or reliability reported. | Therapeutic interventions to cultivate self-compassion may have a broader effect on general affective states. Self-compassion evolved largely from the integration of Buddhist constructs into Western psychological approaches in the 1990s. | Self-compassion in healthcare has significant limitations; it is the composite of common facets of self-care, healthy self-attitude, and self-awareness rather than a construct in and of itself. |
| Cocker (2016). Compassion fatigue | Review evidence on effectiveness | Systematic review. | 13 studies deemed suitable for | 10 studies used a version of the | Despite the significant attention given to | Small sample size, none of the included |

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| among healthcare emergency and community service workers: A systematic review. International Journal of Environmental Research and Public Health. | of compassion fatigue (CF) interventions in at-risk health, emergency, and social care professions. | Evidence Level V.<br><br>Intervention descriptors, sample characteristics, implementation characteristics, quality of the research design, and outcome indicators. | detailed systematic review and data extraction out of the 229 articles reviewed.<br><br>Quantitative evaluation of an intervention that reported outcomes on a standardized and validated measure for CF, January 1990-December 2015, nurses, social workers, chaplains, hospice workers, disability sector workers, and miscellaneous medical staff, English language.<br><br>United States, Australia, Israel. | ProQOL (30-item tool, 5-point Likert scale), other measures used were The Compassion Fatigue Scale (CFS) (original and revised) and the Compassion Satisfaction and Fatigue Test (CSFT).<br><br>No reliability reported. | measuring the prevalence of CF, there is a lack of information and evidence about effective interventions designed to reduce CF in these occupational groups.<br><br>No statistical analysis or meta-analysis due to small sample size. | studies assessed intervention quality using a validated measure and the majority of studies used unrepresentative convenience samples. |
| Ifrach (2016). Social action art therapy as an intervention for compassion fatigue. | To evaluate the effectiveness of a social action art therapy session to address symptoms of stress and compassion fatigue. | Single qualitative study.<br><br>Evidence Level VI.<br><br>Intervention of social action art therapy, stress measures, compassion fatigue levels. | 30 participants all female, ages 22-55 years old, counselors working in three shelters in Connecticut and New York. | Demographic questionnaire, Compassion Fatigue Self-Test for Helpers, and the Psychological Stress Measure-9 (pre-post surveys).<br><br>No reliability reported. | Social action art therapy can be an effective intervention for staff members.<br><br>Stress was reduced by an average of 8 points following the peace pole intervention.<br><br>Paired samples t-test. | Small sample, all same gender.<br><br>Helping professionals need a therapeutic outlet in order to have relief of negative symptoms related to compassion fatigue. |

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| Walker (2016). Exploration of mindfulness in relation to compassion, empathy and reflection within nursing education. Nurse Education Today. | To evaluate the viability of the inclusion of mindfulness into the nursing curriculum. | Anecdotal evidence.<br><br>Evidence Level VII.<br><br>Practice of mindfulness. | Nursing students in the United Kingdom | No measures or reliability reported. | Mindfulness is a way to deal with the stressors of the modern health service in which students are being introduced. | May be useful to fully assess the benefits in a longitudinal study by integrating the mindfulness component into a nursing curriculum. |
| Potter (2015). Compassion fatigue resiliency training: The experience of facilitators. The Journal of Continuing Education in Nursing. | To examine compassion fatigue facilitators' perceptions of the effects of a compassion fatigue resiliency training program. | Qualitative evaluation via short narratives from facilitators.<br><br>Evidence Level VI.<br><br>Core feelings, perceptions, and experiences. | 15 participants, urban medical center, midwestern United States, | No measures or reliability reported. | Main themes identified from the narrative report were self-improvement and application of resiliency.<br><br>Narratives were analyzed using a phenomenological method. | The program shows promise in ameliorating compassion fatigue and burnout in health care providers. |
| Potter (2013). Evaluation of a compassion fatigue resiliency program for oncology nurses. Oncology Nursing Forum. | To evaluate a resiliency program designed to educate oncology nurses about compassion fatigue. | Descriptive quantitative study.<br><br>Evidence Level VI.<br><br>Scores on the ProQOL IV, Maslach Burnout Inventory—Human Services Survey, Impact of Event Scale-Revised (IES-R), and the Nursing Job Satisfaction Scale. | 13 oncology nurses, aged 20 years or older, employed in an outpatient infusion center, in a National Cancer Institute (designated comprehensive cancer center) in the midwestern United States. | ProQOL (30-item tool, 5-point Likert scale), Maslach Burnout Inventory—Human Services Survey (good reliability and validity have been established and reported in several analyses) | Long-term benefits were realized from the program.<br><br>Mixed-model repeated-measures analysis used to compare the outcome measures as a function of time across four time points. | Small sample size, time demands for the five-week program may have been a barrier to participation for those staff feeling most overwhelmed.<br><br>The first reported study to show benefits gained from a compassion fatigue intervention program. |
| **Theme: Increasing volume and acuity of children with medical complexity (3 studies)** | | | | | | |
| Boggs (2019). Rising readmission rates for children | To evaluate trends of readmission rates for children | Systematic review.<br><br>Evidence Level V. | 2010-2016, Healthcare Cost and Utilization | Patient-level admissions, hospital-level | Total number of pediatric admissions decreased 21.3% with | Need for more research on medical homes, care |

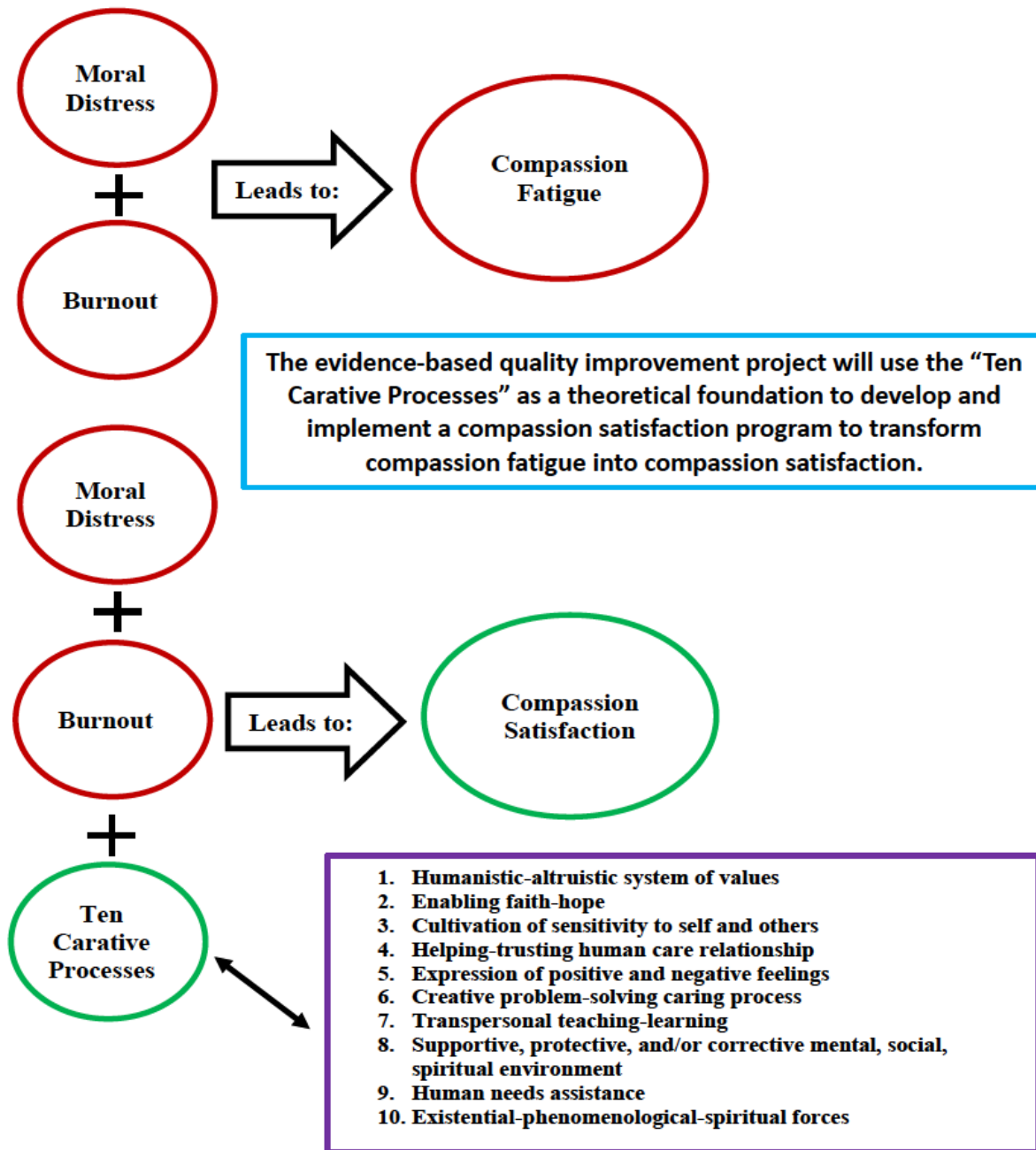| | | | | | | |
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| with complex chronic conditions. Pediatrics. | with complex chronic conditions. | Pediatric hospitalization rates and readmission rates. | Project Nationwide Readmissions Database, National Inpatient Sample | admissions, 30-day readmissions.<br><br>No reliability reported. | the complexity of admissions increasing over time.<br><br>30-day readmission rates increased due to higher numbers of children with chronic conditions.<br><br>No statistical analysis. | coordination, and chronic condition management for children with medical complexity. |
| Huetsch (2016). Responding to emotional stress in pediatric hospitals. The Journal of Nursing Administration. | To identify leadership awareness of emotional stress and employee support efforts in pediatric hospitals. | Descriptive exploratory study.<br><br>Evidence Level VI.<br><br>Organizational awareness of emotional stressors and prevalence of organizational interventions to address emotional stressors. | Survey mailed to chief nursing officers (CNOs) at 87 pediatric hospitals with 49 responses (56%), respondent representation from all four major United States geographic regions. | Hospital and unit leadership recognition of the problem, organizational resource commitment<br><br>Several iterations of the survey were developed and revised based on reported feedback and validity from two CNOs and three published researchers on the topic of compassion fatigue. | Emotional stress is a well-recognized issue in pediatric hospitals with comparatively large resource commitment.<br><br>No statistical difference between Magnet and non-Magnet hospitals' prevalence of emotional stress interventions. | Further focus on caregiver prevention training and unit leadership recognition of stress may be needed. |
| Williams-Reade (2015). Paediatric palliative care: A review of needs, obstacles and the future. Journal of Nursing Management. | To offer a response to the current paediatric palliative care literature that will punctuate the need for a framework that can serve as an evaluative lens | Integrative literature review.<br><br>Evidence Level V.<br><br>Qualitative and quantitative studies, as well as theoretical and discussion pieces, | 54 articles, three-world view (clinical, operational, and financial factors), January 2000-September 2011, search terms included | Clinical, operational, and financial domains.<br><br>No reliability reported. | Six themes were identified: defining palliative care, uniqueness of providing palliative care to children, uniqueness of providing palliative care to children, lack | Clinical, operational, and financial barriers need to be identified and addressed when developing efficient paediatric palliative care. |

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| for nurse managers who are in the planning or evaluative stages of paediatric palliative care programs. | philosophical base, history, and current state of knowledge. | palliative, end-of-life, and hospice. |  | of staff education, coordination and communication among staff, eligibility criteria, and payment and reimbursement.  Deductive approach was used to organize findings. |  |  |
| **Theme: Burnout of healthcare professionals and provider shortages (2 studies)** | | | | | | |
| Duarte (2017). Empathy and feelings of guilt experienced by nurses: A cross-sectional study of their role in burnout and compassion fatigue symptoms. Applied Nursing Research. | To explore the relationship between empathy, empathy-based pathogenic guilt, and professional quality of life (burnout and CF). | Descriptive, correlational, cross-sectional study design using self-report questionnaires.  Evidence Level IV. | 298 nurses from five public hospitals in Portugal's north and center region, data collected in 2014 and 2015. | ProQOL (30-item tool, 5-point Likert scale).  No reliability reported. | Nurses who experience pathogenic guilt feelings may have compromised well-being and should be addressed in training programs aiming at preventing or treating burnout and CF.  Correlational analysis using Pearson's correlation coefficient. | The sample size was small, and participants were mainly women.  Finding ways to identify and target pathogenic guilt may be important to burnout and CF prevention and treatment. |
| Slocum-Gori (2011). Understanding compassion satisfaction, compassion fatigue, and burnout: A survey of the hospice palliative care workforce. Palliative Medicine. | To understand the complex relationships among compassion satisfaction, compassion fatigue, and burnout within the hospice and palliative care workforce.  To explore how key practice | Quantitative descriptive study.  Evidence Level VI.  Demographic variables (birth year, sex, marital status, and highest education attained), practice characteristics (practice status, professional affiliation, principal institution, type of | National survey of 630 hospice and palliative care workers (clinical, administrative, allied health workers, and volunteers) from hospital, community-based, and care homes in Canada (pilot-tested originally in British Colombia). | Self-reported measures of compassion satisfaction, compassion fatigue, and burnout using validated scales on the ProQOL (30-item tool, 5-point Likert scale); key practice characteristics, and socio- | Significant negative correlation between compassion satisfaction and burnout and between compassion satisfaction and compassion fatigue.  Pearson chi-square tests.  Pearson correlation tests. | Healthcare systems could increase the prevalence of compassion satisfaction through both policy and institutional level programs to support healthcare professionals.  Large sample size.  Stamm's ProQOL has not been |

| | characteristics interact with the measured constructs of compassion satisfaction, compassion fatigue, and burnout. | palliative services provided).<br><br>Three ProQOL Scales (compassion fatigue, compassion satisfaction, and burnout). | French and English languages, 2010 | demographic profiles. | Cronbach's alpha.<br><br>Independent *t*-tests. | validated within Canada. |
|---|---|---|---|---|---|---|

Appendix D

Theory to Application Diagram

**Role of the Theory of Human Caring in Relation to Compassion**



Moral Distress + Burnout **Leads to:** Compassion Fatigue

The evidence-based quality improvement project will use the "Ten Carative Processes" as a theoretical foundation to develop and implement a compassion satisfaction program to transform compassion fatigue into compassion satisfaction.

Moral Distress + Burnout + Ten Carative Processes **Leads to:** Compassion Satisfaction

1. Humanistic-altruistic system of values
2. Enabling faith-hope
3. Cultivation of sensitivity to self and others
4. Helping-trusting human care relationship
5. Expression of positive and negative feelings
6. Creative problem-solving caring process
7. Transpersonal teaching-learning
8. Supportive, protective, and/or corrective mental, social, spiritual environment
9. Human needs assistance
10. Existential-phenomenological-spiritual forces

Appendix E

IRB Approval Letter

**UMKC** | **Institutional Review Board**
University of Missouri-Kansas City

5319 Rockhill Road
Kansas City, MO 64110
816-235-5927
umkcirb@umkc.edu

Dear Dawn Schwartz,

A member of the UMKC Research Compliance Office screened your QI Questionnaire to project #2016183-QI entitled "Implementation and Evaluation of a Compassion Satisfaction Program for Healthcare Providers of Children with Medical Complexity Children with Medical Complexity" and made the following determination:

QI Determination: **The project has been determined to be a quality improvement activity not requiring IRB review.**

If you have any questions regarding this determination, please feel free to contact our office at 816-235-5927, umkcirb@umkc.edu, or by replying to this notification.

Note Regarding Publications: It is appropriate to disseminate and replicate QI/program evaluation successes, including sharing the information external to an organization. This may include presentations and publications. The mere intent to publish the findings does not require IRB review as long as the publication does not refer to the activity as research.

Thank you,
UMKC Institutional Review Board

Appendix F

Faculty DNP Project Letter



July 17, 2019

DNP Project Proposal Approval
UMKC DNP Student

This letter serves to provide documentation regarding Dawn Schwartz's Doctor of Nursing
Practice (DNP) project proposal. Ms. Schwartz obtained approval for her proposal,
*Implementation and Evaluation of a Compassion Satisfaction Program for Healthcare Providers
of Children with Medical Complexity,* from the School of Nursing and Health Studies DNP
faculty on July 17, 2019.

If we can provide further information, please feel free to contact us.

Sincerely,

Cheri Barber, DNP, RN, PPCNP-BC, FAANP
Clinical Assistant Professor
DNP Program Director
UMKC School of Nursing and Health Studies
barberch@umkc.edu

Lyla Lindholm, DNP, ACNS-BC
UMKC MSN-DNP Program Coordinator
Clinical Assistant Professor
DNP Faculty

Appendix G

Cost Table for Project

| Item | Item Description | Quantity | Unit Cost | Anticipated Cost | Actual Cost |
|---|---|---|---|---|---|
| **Materials** | ProQOL 5 Survey | 200 surveys | $0 | $0 | $0 |
| | Compassion Cart | 2 | $35-75 | $70 | $136 |
| | Initial set of supplies for each Compassion Cart | 2 | $100 | $200 | $200 |
| **Student Investigator Time** | Project implementation and data analysis | 600 hours | $0 | $0 | $0 |
| **Total** | | | | $270 | $336 |

Appendix H

Recruitment Materials

Email Recruitment Letter


Dear [First Name of Participant],

You have been chosen to participate in an evidence-based quality improvement project that will examine compassion satisfaction, secondary traumatic stress, compassion fatigue, and burnout in healthcare providers of children with medical complexity.

Very little published data exists regarding compassion satisfaction and compassion fatigue within the field of pediatric complex care.  The purpose of this evidence-based quality improvement project is to provide education to healthcare providers with the goal of improving rates of compassion satisfaction, secondary traumatic stress, compassion fatigue, and burnout at the pediatric care facility Inpatient Units.

Participating in this project is completely voluntary and will involve completion of a brief pre-implementation survey and post-implementation survey and participation in weekly education, over the next three months, provided in a variety of formats (live classes, small groups, handouts, and emails).  The survey should take no more than 15 minutes to complete.  No personally identifiable information will be solicited in the survey and all information collected will remain anonymous.  The provided education will be relevant to the care you currently provide to yourself and others.

There are no known risks for participating in this project.  However, by participating, you will support furthering projects that aim to transition compassion fatigue into compassion satisfaction.  Please remember that participation in the project is completely voluntary.  You can choose to be involved or not.  If you have any questions about the project, please email me at xxxxx@xxxxx.org.
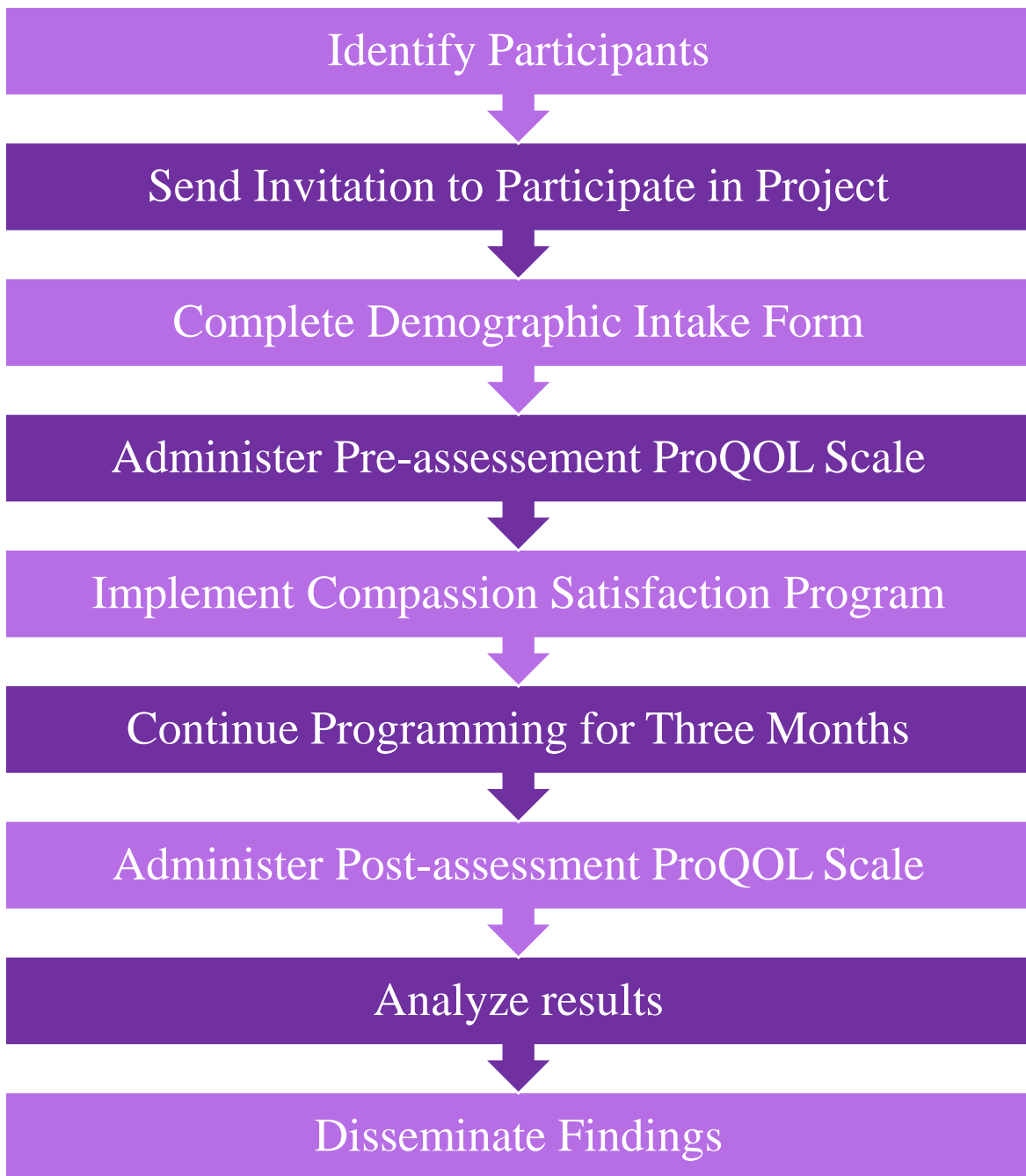
Thank you in advance for your participation in this project.  To take the pre-implementation survey, click on the following link: xxxxxxxxxx.

Sincerely,

Dawn Schwartz, MSN, ARNP, NNP-BC, IBCLC, CBIS, CHPPN, CENP
Doctor of Nursing Practice Student Investigator
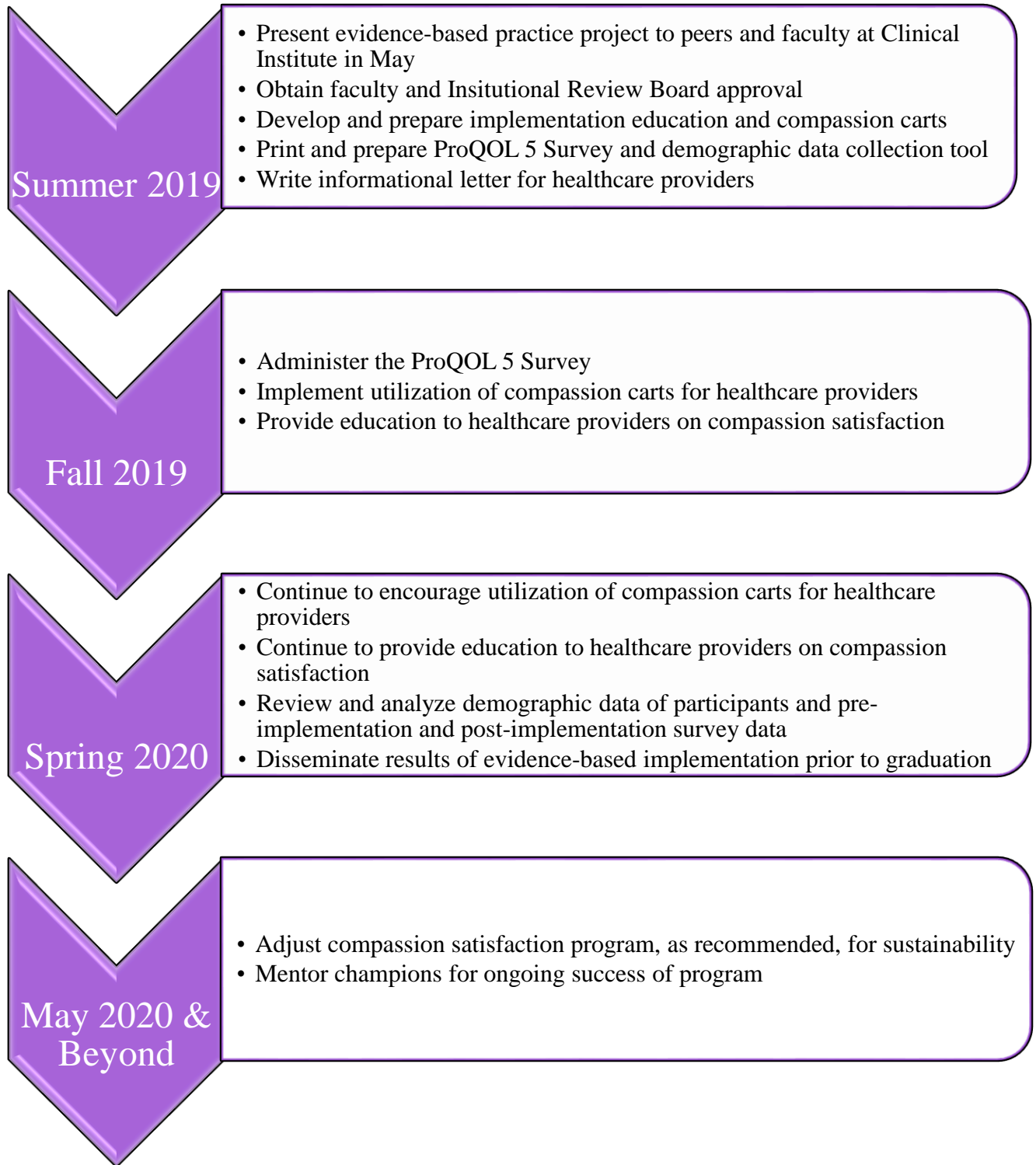University of Missouri-Kansas City School of Nursing

Appendix I

Intervention Flow Diagram

## Identify Participants

## Send Invitation to Participate in Project

## Complete Demographic Intake Form

## Administer Pre-assessement ProQOL Scale

## Implement Compassion Satisfaction Program

## Continue Programming for Three Months

## Administer Post-assessment ProQOL Scale

## Analyze results

## Disseminate Findings

Appendix J

Project Timeline Flow Graphic

**Summer 2019**
- Present evidence-based practice project to peers and faculty at Clinical Institute in May
- Obtain faculty and Insitutional Review Board approval
- Develop and prepare implementation education and compassion carts
- Print and prepare ProQOL 5 Survey and demographic data collection tool
- Write informational letter for healthcare providers

**Fall 2019**
- Administer the ProQOL 5 Survey
- Implement utilization of compassion carts for healthcare providers
- Provide education to healthcare providers on compassion satisfaction

**Spring 2020**
- Continue to encourage utilization of compassion carts for healthcare providers
- Continue to provide education to healthcare providers on compassion satisfaction
- Review and analyze demographic data of participants and pre-implementation and post-implementation survey data
- Disseminate results of evidence-based implementation prior to graduation

**May 2020 & Beyond**
- Adjust compassion satisfaction program, as recommended, for sustainability
- Mentor champions for ongoing success of program

Appendix K

Intervention Material: Example of education program

Weekly education will be provided to the participants of the evidence-based quality

improvement project over the next three months on a variety of topics, surrounding compassion

satisfaction, secondary vicarious trauma, compassion fatigue, and burnout.  The education will

be provided in a variety of formats, including live classes, small groups, handouts, and emails.

Topics that will be included are:

- Introduction to compassion satisfaction, secondary traumatic stress, compassion fatigue, and burnout

- Background of this problem in healthcare

- Self-compassion

- Mindfulness

- Signs and symptoms of compassion fatigue

- Mitigation of compassion fatigue through compassion satisfaction

- Debriefing

- Professional development and recognition

- Culture of caring

- Self-care

- Trauma informed care

- Delegation

- Work life balance

- Exercise

Appendix L

Logic Model

| Logic Model for DNP Project | | | | | | |
|---|---|---|---|---|---|---|
| **Student: Dawn Schwartz, MSN, ARNP, NNP-BC, IBCLC, CBIS, CHPPN, CENP, DNP student** | | | | | | |
| **Inquiry, PICOTS:** In healthcare providers of children with medical complexity, does the implementation of a compassion satisfaction program compared to no compassion satisfaction program improve the rates of occurrence for compassion satisfaction, burnout, and secondary traumatic stress during the subsequent three months at Child*Serve*? | | | | | | |
| **Inputs** | **Intervention(s)** *Activities* | **Outputs** *Participation* | **Outcomes -- Impact** | | | |
| | | | *Short* | *Medium* | *Long* | |
| **Evidence, sub-topics:** 1. Compassion fatigue, a significant mental health concern for healthcare providers. 2. Development of compassion fatigue resiliency training programs. 3. Increasing volume and acuity of children with medical complexity. 4. Burnout of healthcare professionals and provider shortages. **Major facilitators or contributors:** 1. Professional preceptor and mentor 2. Support from team members at project site **Major barriers or challenges:** 1. Low or insufficient enrollment rates 2. Healthcare providers' attitude toward the project 3. Lack of participation from the healthcare providers 4. Time constraints and commitments | **EBP intervention which is supported by the evidence in the Input column:** The development of a formal compassion satisfaction program would provide support to healthcare providers to mitigate the toll that caring takes on their personal and professional lives. **Major steps of the intervention:** 1. Develop the proposed compassion satisfaction program. 2. Enroll participants and obtain consent. 3. Administer ProQOL Scale to participants and gather demographic data. 4. Implement the compassion satisfaction program. 5. Re-administer ProQOL Scale after three months of intervention. 6. Evaluate the effectiveness of the program. 7. Prepare for sustainability of the program. | **The participants:** Healthcare providers on the inpatient units at Child*Serve* (combination of nurses, therapists, nursing assistants, administrators, nurse practitioner, and physicians). **Site:** Child*Serve* Inpatient Services Johnston, Iowa **Time frame:** Three months **Consent or assent needed:** No consent required **Other person(s) collecting data:** None **Others directly involved in consent or data collection:** None | (Completed during DNP Project) **Outcomes to be measured:** Primary: Rates of self-reported compassion satisfaction. Secondary: Rates of self-reported burnout, secondary traumatic stress, staff turnover, patient safety, and staff engagement. **Measurement tools:** 1. The Profession Quality of Life Scale (ProQOL, version 5, 2009) 2. Demographics **Statistical analysis to be used:** 1. Independent samples *t*-tests to compare differences in pre/post groups. 2. Descriptive statistics to summarize demographics. | (after student DNP) **Outcomes to be measured:** 1. Ongoing rates of staff turnover. 2. Ongoing rates of patient safety. 3. Ongoing rates of staff engagement. | (after student DNP) **Outcomes that are potentials:** 1. Enhanced staff satisfaction and sustainability with continuation of a compassion satisfaction program. | |

Rev. 7/2009, 1/2015 http://www.uwex.edu/ces/lmcourse/interface/coop_M1_Overview.htm Logic-Model Worksheet content revisions by Lyla Lindholm for DNP Project. Not to be placed on web for public use. For UMKC DNP coursework only.

Appendix M

Professional Quality of Life Scale

| 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 last 30 days.

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

1. I 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].
11. Because of my [helping], I have felt "on edge" about various things.
12. I 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. I 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. I am a very caring person.
30. I am happy that I chose to do this work.

**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.

## 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. _____
22. _____
24. _____
27. _____
30. _____

**Total:** _____

| The sum of my Compassion Satisfaction questions is | So My Score Equals | And my Compassion Satisfaction level is |
|---|---|---|
| 22 or less | 43 or less | Low |
| Between 23 and 41 | Around 50 | Average |
| 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 Wrote | Change to |
|---|---|
|  | 5 |
| 2 | 4 |
| 3 | 3 |
| 4 | 2 |
| 5 | 1 |

the effects of helping when you are *not* happy so you reverse the score

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

**Total:** _____

| 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 |

### Secondary Traumatic Stress Scale

Just like you did on Compassion Satisfaction, 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.

2. _____
5. _____
7. _____
9. _____
11. _____
13. _____
14. _____
23. _____
25. _____
28. _____

**Total:** _____

| The sum of my Secondary Trauma questions is | So My Score Equals | And my Secondary Traumatic Stress level is |
|---|---|---|
| 22 or less | 43 or less | Low |
| Between 23 and 41 | Around 50 | Average |
| 42 or more | 57 or more | High |

Appendix N

G*Power Calculations

**t tests** - Means: Difference between two independent means (two groups)

**Analysis:** A priori: Compute required sample size
**Input:**          Tail(s)                        =      One
                    Effect size d                  =      0.5
                    α err prob                     =      0.05
                    Power (1-β err prob)           =      0.8
                    Allocation ratio N2/N1         =      1
**Output:**         Noncentrality parameter δ      =      2.5248762
                    Critical t                     =      1.6602343
                    Df                             =      100
                    Sample size group 1            =      51
                    Sample size group 2            =      51
                    Total sample size              =      102
                    Actual power                   =      0.8058986

t tests - Means: Difference between two independent means (two groups)
Tail(s) = One. Allocation ratio N2/N1 = 1. α err prob = 0.05. Effect size d = 0.5
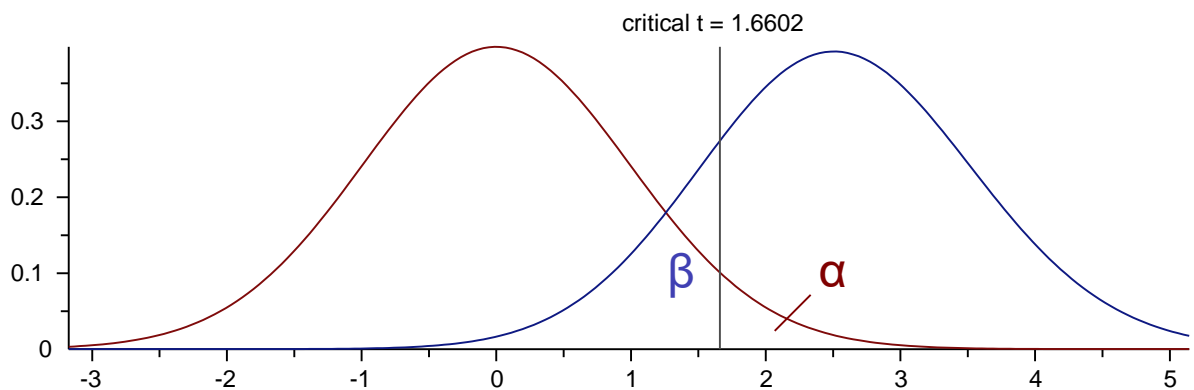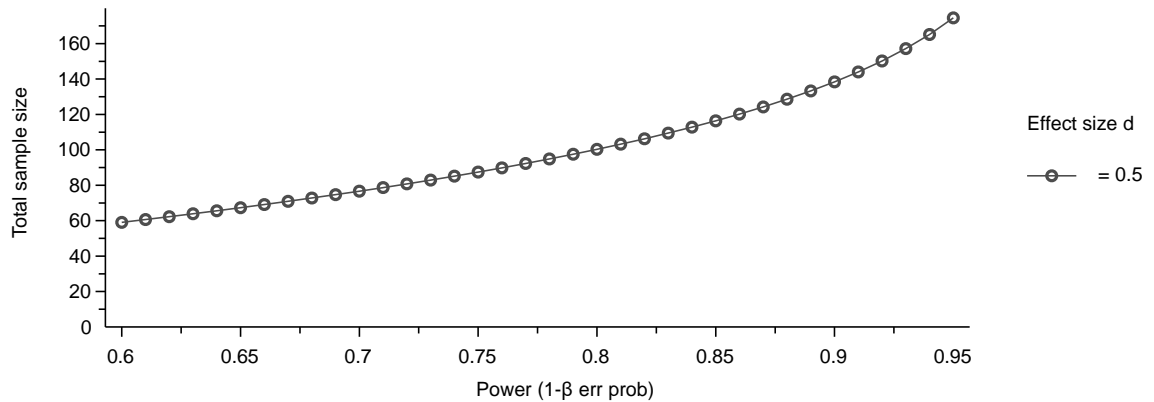
Appendix O

Data Collection Template

| | Name | Type | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | Role |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Age | Numeric | 8 | 0 | Age Group | {1, <20}... | None | 8 | Right | Nominal | Input |
| 2 | Ethnicity | Numeric | 8 | 0 | Ethnicity | {1, Hispanic... | None | 8 | Right | Nominal | Input |
| 3 | Race | Numeric | 8 | 0 | Race | {1, White}... | None | 8 | Right | Nominal | Input |
| 4 | Gender | Numeric | 8 | 0 | Gender | {1, Female}... | None | 8 | Right | Nominal | Input |
| 5 | Education | Numeric | 8 | 0 | Highest level of ... | {1, High sch... | None | 8 | Right | Nominal | Input |
| 6 | Role | Numeric | 8 | 0 | Professional role | {1, Nursing ... | None | 8 | Right | Nominal | Input |
| 7 | Tenure | Numeric | 8 | 0 | Years of experi... | {1, <1 year}... | None | 8 | Right | Nominal | Input |
| 8 | Experience | Numeric | 8 | 0 | Years of experi... | {1, <1 year}... | None | 8 | Right | Nominal | Input |
| 9 | Q1Pre | Numeric | 8 | 0 | I am happy | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 10 | Q2Pre | Numeric | 8 | 0 | I am preoccupi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 11 | Q3Pre | Numeric | 8 | 0 | I get satisfactio... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 12 | Q4Pre | Numeric | 8 | 0 | I feel connected... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 13 | Q5Pre | Numeric | 8 | 0 | I jump or am st... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 14 | Q6Pre | Numeric | 8 | 0 | I feel invigorate... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 15 | Q7Pre | Numeric | 8 | 0 | I find it difficult t... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 16 | Q8Pre | Numeric | 8 | 0 | I am not as pro... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 17 | Q9Pre | Numeric | 8 | 0 | I think that I mi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 18 | Q10Pre | Numeric | 8 | 0 | I feel trapped b... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 19 | Q11Pre | Numeric | 8 | 0 | Because of my ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 20 | Q12Pre | Numeric | 8 | 0 | I like my work a... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 21 | Q13Pre | Numeric | 8 | 0 | I feel depressed... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 22 | Q14Pre | Numeric | 8 | 0 | I feel as though... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 23 | Q15Pre | Numeric | 8 | 0 | I have beliefs th... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 24 | Q16Pre | Numeric | 8 | 0 | I am pleased wi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 25 | Q17Pre | Numeric | 8 | 0 | I am the person... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 26 | Q18Pre | Numeric | 8 | 0 | My work make... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 27 | Q19Pre | Numeric | 8 | 0 | I feel worn out b... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 28 | Q20Pre | Numeric | 8 | 0 | I have happy th... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 29 | Q21Pre | Numeric | 8 | 0 | I feel overwhelm... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 30 | Q22Pre | Numeric | 8 | 0 | I believe I can ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 31 | Q23Pre | Numeric | 8 | 0 | I avoid certain a... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 32 | Q24Pre | Numeric | 8 | 0 | I am proud of w... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 33 | Q25Pre | Numeric | 8 | 0 | As a result of ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 34 | Q26Pre | Numeric | 8 | 0 | I feel "bogged d... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 35 | Q27Pre | Numeric | 8 | 0 | I have thoughts ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 36 | Q28Pre | Numeric | 8 | 0 | I can't recall im... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 37 | Q29Pre | Numeric | 8 | 0 | I am a very cari... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 38 | Q30Pre | Numeric | 8 | 0 | I am a very cari... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 39 | CSPre | Numeric | 8 | 0 | Compassion sa... | {1, 22 or les... | None | 8 | Right | Scale | Input |
| 40 | BOPre | Numeric | 8 | 0 | Burnout scale s... | {1, 22 or les... | None | 8 | Right | Scale | Input |

ProQOL SPSS_2.sav [DataSet1] - IBM SPSS Statistics Data Editor

File　Edit　View　Data　Transform　Analyze　Graphs　Utilities　Extensions　Window　Help

| | Name | Type | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | Role |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | STSPre | Numeric | 8 | 0 | Secondary trau... | {1, 22 or les... | None | 8 | Right | Scale | Input |
| 42 | Q1Post | Numeric | 8 | 0 | I am happy | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 43 | Q2Post | Numeric | 8 | 0 | I am preoccupi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 44 | Q3Post | Numeric | 8 | 0 | I get satisfactio... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 45 | Q4Post | Numeric | 8 | 0 | I feel connected... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 46 | Q5Post | Numeric | 8 | 0 | I jump or am st... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 47 | Q6Post | Numeric | 8 | 0 | I feel invigorate... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 48 | Q7Post | Numeric | 8 | 0 | I find it difficult t... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 49 | Q8Post | Numeric | 8 | 0 | I am not as pro... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 50 | Q9Post | Numeric | 8 | 0 | I think that I mi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 51 | Q10Post | Numeric | 8 | 0 | I feel trapped b... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 52 | Q11Post | Numeric | 8 | 0 | Because of my ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 53 | Q12Post | Numeric | 8 | 0 | I like my work a... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 54 | Q13Post | Numeric | 8 | 0 | I feel depressed... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 55 | Q14Post | Numeric | 8 | 0 | I feel as though... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 56 | Q15Post | Numeric | 8 | 0 | I have beliefs th... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 57 | Q16Post | Numeric | 8 | 0 | I am pleased wi... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 58 | Q17Post | Numeric | 8 | 0 | I am the person... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 59 | Q18Post | Numeric | 8 | 0 | My work make... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 60 | Q19Post | Numeric | 8 | 0 | I feel worn out b... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 61 | Q20Post | Numeric | 8 | 0 | I have happy th... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 62 | Q21Post | Numeric | 8 | 0 | I feel overwhelm... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 63 | Q22Post | Numeric | 8 | 0 | I believe I can ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 64 | Q23Post | Numeric | 8 | 0 | I avoid certain a... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 65 | Q24Post | Numeric | 8 | 0 | I am proud of w... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 66 | Q25Post | Numeric | 8 | 0 | As a result of ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 67 | Q26Post | Numeric | 8 | 0 | I feel "bogged d... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 68 | Q27Post | Numeric | 8 | 0 | I have thoughts ... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 69 | Q28Post | Numeric | 8 | 0 | I can't recall im... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 70 | Q29Post | Numeric | 8 | 0 | I am a very cari... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 71 | Q30Post | Numeric | 8 | 0 | I am a very cari... | {1, Never}... | None | 8 | Right | Ordinal | Input |
| 72 | CSPost | Numeric | 8 | 0 | Compassion sa... | {1, 22 or les... | None | 8 | Right | Scale | Input |
| 73 | BOPost | Numeric | 8 | 0 | Burnout scale s... | {1, 22 or les... | None | 8 | Right | Scale | Input |
| 74 | STSPost | Numeric | 8 | 0 | Secondary trau... | {1, 22 or les... | None | 8 | Right | Scale | Input |
| 75 | PreCS | Numeric | 8 | 1 | PreCS | {1.0, 29}... | None | 8 | Right | Scale | Input |
| 76 | PostCS | Numeric | 8 | 0 | PostCS | {1, 29}... | None | 8 | Right | Scale | Input |
| 77 | PreBO | Numeric | 8 | 0 | PreBO | {1, 25}... | None | 8 | Right | Scale | Input |
| 78 | PostBO | Numeric | 8 | 0 | PostBO | {1, 25}... | None | 8 | Right | Scale | Input |
| 79 | PreSTS | Numeric | 8 | 0 | PreSTS | {1, 12}... | None | 8 | Right | Scale | Input |
| 80 | PostSTS | Numeric | 8 | 0 | PostSTS | {1, 12}... | None | 8 | Right | Scale | Input |

Data View　Variable View

IBM SPSS Statistics Processor is ready　　Unicode:ON

Appendix P

Outcomes to Analysis Summary Table

| | State | Measurement Instrument Name | Tool validity and reliability | Permission Needed | Statistical Analysis |
|---|---|---|---|---|---|
| **Primary Outcome:** | Successful implementation of a compassion satisfaction program with increased rates of compassion satisfaction and decreased rate of compassion fatigue | ProQOL Version 5 | Valid | No | Independent samples *t*-test |
| **Secondary Outcomes:** | Decreased rates of burnout<br><br>Decreased rates of secondary traumatic stress<br><br>Decreased staff turnover<br><br>Increased staff satisfaction | ProQOL Version 5 | Valid | No | Independent samples *t*-test |
| **Demographics:** | Age | Not applicable | Not applicable | Not Applicable | Descriptive |
| | Ethnicity | Not applicable | Not applicable | Not applicable | Descriptive |
| | Race | Not applicable | Not applicable | Not applicable | Descriptive |
| | Gender | Not applicable | Not applicable | Not applicable | Descriptive |
| | Highest level of education | Not applicable | Not applicable | Not applicable | Descriptive |
| | Professional role | Not applicable | Not applicable | Not applicable | Descriptive |
| | Years of experience at Child*Serve* | Not applicable | Not applicable | Not applicable | Descriptive |
| | Years of experience in healthcare | Not applicable | Not applicable | Not applicable | Descriptive |
| **Participant Completion of the Measurement Tool (Procedure):** The measurement tool will be administered to participants pre-implementation and three months later, post-implementation | | | | | |

Appendix Q

Statistical Analysis Results Tables

**Demographics**

| Variable: | *n* | % |
|---|---|---|
| **Age (in years):** | | |
| <20 | 1 | 1.8 |
| 20-25 | 6 | 10.9 |
| 25-30 | 8 | 14.5 |
| 30-35 | 10 | 18.2 |
| 35-40 | 8 | 14.5 |
| 40-45 | 5 | 9.1 |
| 45-50 | 4 | 7.3 |
| 50-55 | 9 | 16.4 |
| 55-60 | 3 | 5.5 |
| 60-65 | 1 | 1.8 |
| 65-70 | 0 | 0 |
| >70 | 0 | 0 |
| **Ethnicity:** | | |
| Hispanic or Latino | 1 | 1.9 |
| NOT Hispanic or Latino | 53 | 98.1 |
| Unknown/Not reported | 0 | 0 |
| **Race:** | | |
| White or Caucasian | 49 | 89.1 |
| Black or African American | 1 | 1.8 |
| Asian | 2 | 3.6 |
| American Indian or Alaskan Native | 1 | 1.8 |
| Native Hawaiian or other Pacific Islander | 0 | 0 |
| More than one race | 1 | 1.8 |
| Unknown/Not reported | 1 | 1.8 |
| **Gender:** | | |
| Female | 53 | 96.4 |
| Male | 2 | 3.6 |
| Transgender | 0 | 0 |
| Prefer to not respond | 0 | 0 |
| **Highest level of education:** | | |
| High school diploma or GED | 6 | 10.9 |
| Associate's degree | 17 | 30.9 |
| Bachelor's degree | 19 | 34.5 |
| Master's degree | 11 | 20 |
| Doctoral degree | 2 | 3.6 |
| **Professional role:** | | |
| Nursing assistant—CNA or tech | 10 | 18.2 |
| Nurse—LPN | 5 | 9.1 |

| | | |
|---|---|---|
| Nurse—RN | 17 | 30.9 |
| Nurse—ARNP | 1 | 1.8 |
| Physical therapist | 4 | 7.3 |
| Occupational therapist | 1 | 1.8 |
| Speech language pathologist | 2 | 3.6 |
| Certified medication aide | 1 | 1.8 |
| Respiratory therapist | 2 | 3.6 |
| Social worker | 3 | 5.5 |
| OT assistant | 0 | 0 |
| Rehabilitation aide | 0 | 0 |
| Therapeutic recreation specialist | 1 | 1.8 |
| School nurse liaison | 0 | 0 |
| Dietitian | 0 | 0 |
| Aquatics staff | 0 | 0 |
| Administrative support staff | 2 | 3.6 |
| Administration (managers and directors) | 3 | 5.5 |
| Care coordinator or access specialist | 2 | 3.6 |
| Other | 1 | 1.8 |
| **Years of experience at Child***Serve***:** | | |
| <1 year | 9 | 16.4 |
| 1-5 years | 19 | 34.5 |
| 5-10 years | 7 | 12.7 |
| 10-15 years | 8 | 14.5 |
| 15-20 years | 6 | 10.9 |
| 20-25 years | 2 | 3.6 |
| 25-30 years | 1 | 1.8 |
| 30-35 years | 2 | 3.6 |
| 35-40 years | 1 | 1.8 |
| 40-45 years | 0 | 0 |
| 45-50 years | 0 | 0 |
| >50 years | 0 | 0 |
| **Years of experience in healthcare:** | | |
| <1 year | 2 | 3.6 |
| 1-5 years | 14 | 25.5 |
| 5-10 years | 12 | 21.8 |
| 10-15 years | 8 | 14.5 |
| 15-20 years | 4 | 7.3 |
| 20-25 years | 7 | 12.7 |
| 25-30 years | 2 | 3.6 |
| 30-35 years | 3 | 5.5 |
| 35-40 years | 3 | 5.5 |
| 40-45 years | 0 | 0 |
| 45-50 years | 0 | 0 |
| >50 years | 0 | 0 |

**Professional Quality of Life (ProQOL) Scale Pre-Implementation**

1=Never
2=Rarely
3=Sometimes
4=Often
5=Very often

| Variable: | 1 n (%) | 2 n (%) | 3 n (%) | 4 n (%) | 5 n (%) | M | Goal for Score: |
|---|---|---|---|---|---|---|---|
| 1.  I am happy | 0 | 0 | 11 (21.6) | 31 (60.8) | 9 (17.6) | 3.96 | High-5 |
| 2.  I am preoccupied with more than one person I help | 0 | 8 (15.7) | 16 (31.4) | 17 (33.3) | 10 (19.6) | 3.57 | Low-1 |
| 3.  I get satisfaction from being able to help people | 0 | 0 | 6 (11.5) | 17 (32.7) | 29 (55.8) | 4.44 | High-5 |
| 4.  I feel connected to others | 0 | 2 (3.8) | 14 (26.9) | 22 (42.3) | 14 (26.9) | 3.92 | High-5 |
| 5.  I jump or am startled by unexpected sounds | 0 | 22 (42.3) | 17 (32.7) | 9 (17.3) | 4 (7.7) | 2.90 | Low-1 |
| 6.  I feel invigorated after working with those I help | 1 (1.9) | 2 (7.7) | 14 (26.9) | 19 (36.5) | 14 (26.9) | 3.79 | High-5 |
| 7.  I find it difficult to separate my personal life from my life as a helper | 8 (15.4) | 18 (34.6) | 15 (28.8) | 6 (11.5) | 5 (9.6) | 2.65 | Low-1 |
| 8.  I am not as productive at work because I am losing sleep over traumatic experiences of a person I help | 15 (28.8) | 25 (48.1) | 10 (19.2) | 2 (3.8) | 0 | 1.98 | Low-1 |
| 9.  I think that I might have been affected by the traumatic stress of those I help | 7 (13.5) | 17 (32.7) | 22 (42.3) | 5 (9.6) | 1 (1.9) | 2.54 | Low-1 |
| 10. I feel trapped by my job as a helper | 18 (34.6) | 12 (23.1) | 18 (34.6) | 2 (3.8) | 2 (3.8) | 2.19 | Low-1 |
| 11. Because of my helping, I have felt "on edge" about various things | 11 (21.2) | 15 (28.8) | 18 (34.6) | 4 (7.7) | 4 (7.7) | 2.52 | Low-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12. I like my work as a helper | 1 (1.9) | 0 | 7 (13.5) | 21 (40.4) | 23 (44.2) | 4.25 | High-5 |
| 13. I feel depressed because of the traumatic experiences of the people I help | 15 (28.8) | 21 (40.4) | 15 (28.8) | 1 (1.9) | 0 | 2.04 | Low-1 |
| 14. I feel as though I am experiencing the trauma of someone I have helped | 20 (38.5) | 19 (36.5) | 11 (21.2) | 1 (1.9) | 1 (1.9) | 1.92 | Low-1 |
| 15. I have beliefs that sustain me | 3 (5.8) | 2 (3.8) | 11 (21.2) | 17 (32.7) | 19 (36.5) | 3.90 | High-5 |
| 16. I am pleased with how I am able to keep up with helping techniques and protocols | 0 | 2 (3.8) | 16 (30.8) | 27 (51.9) | 7 (13.5) | 3.75 | High-5 |
| 17. I am the person I always wanted to be | 2 (3.8) | 5 (9.6) | 18 (34.6) | 23 (44.2) | 4 (7.7) | 3.42 | High-5 |
| 18. My work makes me feel satisfied | 0 | 1 (1.9) | 16 (30.8) | 21 (40.4) | 14 (26.9) | 3.92 | High-5 |
| 19. I feel worn out because of my work as a helper | 1 (1.9) | 7 (13.5) | 26 (50) | 12 (23.1) | 6 (11.5) | 3.29 | Low-1 |
| 20. I have happy thoughts and feelings about those I help and how I could help them | 0 | 2 (3.8) | 6 (11.5) | 29 (55.8) | 15 (28.8) | 4.10 | High-5 |
| 21. I feel overwhelmed because my caseload or workload seems endless | 4 (7.7) | 7 (13.5) | 23 (44.2) | 13 (25) | 5 (9.6) | 3.15 | Low-1 |
| 22. I believe I can make a difference through my work | 0 | 1 (1.9) | 7 (13.5) | 18 (34.6) | 26 (50) | 4.33 | High-5 |
| 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help | 20 (38.5) | 19 (36.5) | 12 (23.1) | 0 | 1 (1.9) | 1.90 | Low-1 |
| 24. I am proud of what I can do to help | 0 | 0 | 5 (9.6) | 18 (34.6) | 29 (55.8) | 4.46 | High-5 |
| 25. As a result of my helping, I have intrusive, frightening thoughts | 30 (57.7) | 13 (25) | 8 (15.4) | 0 | 1 (1.9) | 1.63 | Low-1 |
| 26. I feel "bogged down" by the system | 8 (15.4) | 12 (23.1) | 18 (34.6) | 10 (19.2) | 4 (7.7) | 2.81 | Low-1 |
| 27. I have thoughts that I am a "success" as a helper | 1 (1.9) | 2 (3.8) | 18 (34.6) | 23 (44.2) | 8 (15.4) | 3.67 | High-5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 28. I can't recall important parts of my work with trauma victims | 20 (39.2) | 20 (39.2) | 8 (15.7) | 3 (5.9) | 0 | 1.88 | Low-1 |
| 29. I am a very caring person | 0 | 0 | 3 (5.9) | 19 (37.3) | 29 (56.9) | 4.51 | High-5 |
| 30. I am happy that I chose to do this work | 0 | 0 | 8 (15.7) | 17 (33.3) | 26 (51) | 4.35 | High-5 |

**Total score for each scale:**     22 or less=Low
23-41=Moderate
42 or more=High

| Variable: | n | % (50th) | M | SD |
|---|---|---|---|---|
| **Compassion satisfaction scale score** (#3, 6, 12, 16, 18, 20, 22, 24, 27, 30) | 51 | 42 | 41.08 | 5.62 |
| | | | | |
| **Burnout scale score** (#1, 4, 8, 10, 15, 17, 19, 21, 26, 29) | 50 | 33 | 33.04 | 3.85 |
| | | | | |
| **Secondary traumatic stress scale score** (#2, 5, 7, 9, 11, 13, 14, 23, 25, 28) | 50 | 22.5 | 23.62 | 6.35 |
| | | | | |

**Professional Quality of Life (ProQOL) Scale Post-Implementation**

1=Never
2=Rarely
3=Sometimes
4=Often
5=Very often

| Variable: | 1<br>n<br>(%) | 2<br>n<br>(%) | 3<br>n<br>(%) | 4<br>n<br>(%) | 5<br>n<br>(%) | M | Goal for Score: |
|---|---|---|---|---|---|---|---|
| 1. I am happy | 0 | 0 | 8 (16.3) | 30 (61.2) | 11 (22.4) | 4.06 | High-5 |
| 2. I am preoccupied with more than one person I help | 0 | 11 (22.9) | 15 (31.3) | 17 (35.4) | 5 (10.4) | 3.33 | Low-1 |
| 3. I get satisfaction from being able to help people | 0 | 0 | 4 (8.2) | 18 (36.7) | 27 (55.1) | 4.47 | High-5 |
| 4. I feel connected to others | 0 | 0 | 16 (32.7) | 22 (44.9) | 11 (22.4) | 3.90 | High-5 |
| 5. I jump or am startled by unexpected sounds | 3 (6.1) | 14 (28.6) | 26 (53.1) | 4 (8.2) | 2 (4.1) | 2.76 | Low-1 |
| 6. I feel invigorated after working with those I help | 0 | 1 (2) | 18 (36.7) | 17 (34.7) | 13 (26.5) | 3.86 | High-5 |
| 7. I find it difficult to separate my personal life from my life as a helper | 4 (8.2) | 21 (42.9) | 18 (36.7) | 3 (6.1) | 3 (6.1) | 2.59 | Low-1 |
| 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I help | 16 (32.7) | 25 (51) | 6 (12.2) | 2 (4.1) | 0 | 1.88 | Low-1 |
| 9. I think that I might have been affected by the traumatic stress of those I help | 9 (18.4) | 21 (42.9) | 16 (32.7) | 2 (4.1) | 1 (2) | 2.29 | Low-1 |
| 10. I feel trapped by my job as a helper | 19 (38.8) | 19 (38.8) | 10 (20.4) | 1 (2) | 0 | 1.86 | Low-1 |
| 11. Because of my helping, I have felt "on edge" about various things | 10 (20.8) | 20 (41.7) | 14 (29.2) | 4 (8.3) | 0 | 2.25 | Low-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12. I like my work as a helper | 0 | 0 | 4 (8.2) | 28 (57.1) | 17 (34.7) | 4.27 | High-5 |
| 13. I feel depressed because of the traumatic experiences of the people I help | 15 (30.6) | 22 (44.9) | 11 (22.4) | 1 (2) | 0 | 1.96 | Low-1 |
| 14. I feel as though I am experiencing the trauma of someone I have helped | 18 (36.7) | 24 (49) | 7 (14.3) | 0 | 0 | 1.78 | Low-1 |
| 15. I have beliefs that sustain me | 1 (2) | 2 (4.1) | 11 (22.4) | 17 (34.7) | 18 (36.7) | 4 | High-5 |
| 16. I am pleased with how I am able to keep up with helping techniques and protocols | 0 | 1 (2) | 11 (22.4) | 28 (57.1) | 9 (18.4) | 3.92 | High-5 |
| 17. I am the person I always wanted to be | 0 | 1 (2) | 16 (32.7) | 29 (59.2) | 3 (6.1) | 3.69 | High-5 |
| 18. My work makes me feel satisfied | 0 | 0 | 9 (18.4) | 22 (44.9) | 18 (36.7) | 4.18 | High-5 |
| 19. I feel worn out because of my work as a helper | 0 | 11 (22.4) | 26 (53.1) | 8 (16.3) | 4 (8.2) | 3.10 | Low-1 |
| 20. I have happy thoughts and feelings about those I help and how I could help them | 0 | 0 | 9 (18.8) | 25 (52.1) | 14 (29.2) | 4.10 | High-5 |
| 21. I feel overwhelmed because my caseload or workload seems endless | 3 (6.1) | 9 (18.4) | 32 (65.3) | 2 (4.1) | 3 (6.1) | 2.86 | Low-1 |
| 22. I believe I can make a difference through my work | 0 | 0 | 15 (30.6) | 15 (30.6) | 19 (38.8) | 4.08 | High-5 |
| 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help | 19 (38.8) | 21 (42.9) | 8 (16.3) | 0 | 1 (2) | 1.84 | Low-1 |
| 24. I am proud of what I can do to help | 0 | 0 | 5 (10.2) | 21 (42.9) | 23 (46.9) | 4.37 | High-5 |
| 25. As a result of my helping, I have intrusive, frightening thoughts | 27 (55.1) | 19 (38.8) | 2 (4.1) | 1 (2) | 0 | 1.53 | Low-1 |
| 26. I feel "bogged down" by the system | 7 (14.3) | 14 (28.6) | 19 (38.8) | 6 (12.2) | 3 (6.1) | 2.67 | Low-1 |
| 27. I have thoughts that I am a "success" as a helper | 0 | 1 (2) | 19 (38.8) | 21 (42.9) | 8 (16.3) | 3.73 | High-5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 28. I can't recall important parts of my work with trauma victims | 16 (32.7) | 22 (44.9) | 9 (18.4) | 2 (4.1) | 0 | 1.94 | Low-1 |
| 29. I am a very caring person | 0 | 0 | 3 (6.1) | 20 (40.8) | 26 (53.1) | 4.47 | High-5 |
| 30. I am happy that I chose to do this work | 0 | 0 | 4 (8.2) | 18 (36.7) | 27 (55.1) | 4.47 | High-5 |

**Total score for each scale:**    22 or less=Low
23-41=Moderate
42 or more=High

| Variable: | *n* | *% (50th)* | *M* | *SD* |
|---|---|---|---|---|
| **Compassion satisfaction scale score** (#3, 6, 12, 16, 18, 20, 22, 24, 27, 30) | 48 | 42.5 | 41.54 | 5.4 |
| | | | | |
| **Burnout scale score** (#1, 4, 8, 10, 15, 17, 19, 21, 26, 29) | 49 | 32 | 32.49 | 3.35 |
| | | | | |
| **Secondary traumatic stress scale score** (#2, 5, 7, 9, 11, 13, 14, 23, 25, 28) | 47 | 23 | 22.36 | 5.47 |
| | | | | |

**Professional Quality of Life (ProQOL) Scale Mean Score Comparison**

| Variable: | Pre-implementation *M* | Post-implementation *M* |
|---|---|---|
| 1. I am happy | 3.96 | 4.06 |
| 2. I am preoccupied with more than one person I help | 3.57 | 3.33 |
| 3. I get satisfaction from being able to help people | 4.44 | 4.47 |
| 4. I feel connected to others | 3.92 | 3.90 |
| 5. I jump or am startled by unexpected sounds | 2.90 | 2.76 |
| 6. I feel invigorated after working with those I help | 3.79 | 3.86 |
| 7. I find it difficult to separate my personal life from my life as a helper | 2.65 | 2.59 |
| 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I help | 1.98 | 1.88 |
| 9. I think that I might have been affected by the traumatic stress of those I help | 2.54 | 2.29 |
| 10. I feel trapped by my job as a helper | 2.19 | 1.86 |
| 11. Because of my helping, I have felt "on edge" about various things | 2.52 | 2.25 |
| 12. I like my work as a helper | 4.25 | 4.27 |
| 13. I feel depressed because of the traumatic experiences of the people I help | 2.04 | 1.96 |
| 14. I feel as though I am experiencing the trauma of someone I have helped | 1.92 | 1.78 |
| 15. I have beliefs that sustain me | 3.90 | 4 |
| 16. I am pleased with how I am able to keep up with helping techniques and protocols | 3.75 | 3.92 |
| 17. I am the person I always wanted to be | 3.42 | 3.69 |
| 18. My work makes me feel satisfied | 3.92 | 4.18 |
| 19. I feel worn out because of my work as a helper | 3.29 | 3.10 |
| 20. I have happy thoughts and feelings about those I help and how I could help them | 4.10 | 4.10 |
| 21. I feel overwhelmed because my caseload or workload seems endless | 3.15 | 2.86 |
| 22. I believe I can make a difference through my work | 4.33 | 4.08 |
| 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help | 1.90 | 1.84 |
| 24. I am proud of what I can do to help | 4.46 | 4.37 |

| | | |
|---|---|---|
| 25. As a result of my helping, I have intrusive, frightening thoughts | 1.63 | 1.53 |
| 26. I feel "bogged down" by the system | 2.81 | 2.67 |
| 27. I have thoughts that I am a "success" as a helper | 3.67 | 3.73 |
| 28. I can't recall important parts of my work with trauma victims | 1.88 | 1.94 |
| 29. I am a very caring person | 4.51 | 4.47 |
| 30. I am happy that I chose to do this work | 4.35 | 4.47 |

**Compassion Satisfaction Scale Total Score Comparison**

22 or less=Low
23-41=Moderate
42 or more=High

| Total Score | Pre-Implementation *n* | Post-Implementation *n* |
|---|---|---|
| 29 | 2 | 0 |
| 30 | 0 | 3 |
| 31 | 2 | 0 |
| 32 | 1 | 0 |
| 33 | 2 | 0 |
| 34 | 0 | 1 |
| 35 | 2 | 1 |
| 36 | 2 | 4 |
| 37 | 2 | 4 |
| 38 | 4 | 1 |
| 39 | 2 | 5 |
| 40 | 3 | 2 |
| 41 | 2 | 2 |
| 42 | 3 | 1 |
| 43 | 2 | 6 |
| 44 | 5 | 2 |
| 45 | 3 | 1 |
| 46 | 4 | 1 |
| 47 | 4 | 7 |
| 48 | 2 | 4 |
| 49 | 2 | 1 |
| 50 | 1 | 1 |
| *M:* | **41.08** | **41.54** |

**Burnout Scale Total Score Comparison**

22 or less=Low
23-41=Moderate
42 or more=High

| Total Score | Pre-Implementation n | Post-Implementation n |
|---|---|---|
| 25 | 1 | 0 |
| 26 | 0 | 1 |
| 27 | 1 | 0 |
| 28 | 5 | 1 |
| 29 | 3 | 4 |
| 30 | 2 | 8 |
| 31 | 5 | 7 |
| 32 | 4 | 8 |
| 33 | 7 | 6 |
| 34 | 6 | 5 |
| 35 | 6 | 1 |
| 36 | 2 | 2 |
| 37 | 3 | 3 |
| 38 | 1 | 1 |
| 39 | 2 | 1 |
| 40 | 1 | 0 |
| 46 | 1 | 1 |
| *M:* | **33.04** | **32.49** |

**Secondary Traumatic Stress Scale Total Score Comparison**

22 or less=Low
23-41=Moderate
42 or more=High

| Total Score | Pre-Implementation n | Post-Implementation n |
|:---:|:---:|:---:|
| 12 | 0 | 1 |
| 14 | 1 | 2 |
| 15 | 2 | 3 |
| 16 | 2 | 2 |
| 17 | 3 | 2 |
| 18 | 5 | 3 |
| 19 | 3 | 0 |
| 20 | 2 | 3 |
| 21 | 3 | 3 |
| 22 | 4 | 4 |
| 23 | 2 | 7 |
| 24 | 2 | 3 |
| 25 | 4 | 2 |
| 26 | 2 | 1 |
| 27 | 1 | 2 |
| 28 | 2 | 5 |
| 29 | 4 | 1 |
| 30 | 1 | 0 |
| 31 | 1 | 1 |
| 32 | 1 | 0 |
| 33 | 1 | 1 |
| 35 | 1 | 0 |
| 38 | 1 | 0 |
| 39 | 0 | 1 |
| 44 | 1 | 0 |
| *M:* | **23.62** | **22.36** |

## Independent Samples *t*-Test: Compassion Satisfaction

### Summary Data

|  | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| PreCS | 5 5.000 | 4 1.080 | 5.620 | .758 |
| PostCS | 5 5.000 | 4 1.540 | 5.400 | .728 |

### Independent Samples Test

|  | Mean Difference | Std. Error Difference | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Equal variances assumed | -.460 | 1.051 | -. 438 | 1 08.000 | .662 |
| Equal variances not assumed | -.460 | 1.051 | -. 438 | 1 07.828 | .662 |

Hartley test for equal variance: F = 1.083, Sig. = 0.3841

### 95.0% Confidence Intervals for Difference

|  | Lower Limit | Upper Limit |
|---|---|---|
| Asymptotic (equal variance) | - 2.520 | 1.60 0 |
| Asymptotic (unequal variance) | - 2.520 | 1.60 0 |
| Exact (equal variance) | - 2.543 | 1.62 3 |
| Exact (unequal variance) | - 2.543 | 1.62 3 |

# Independent Samples *t*-Test: Burnout

## Summary Data

|  | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| P reBO | 5 5.000 | 3 3.040 | 3.850 | .519 |
| P ostBO | 5 5.000 | 3 2.490 | 3.350 | .452 |

## Independent Samples Test

|  | Mean Difference | Std. Error Difference | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Equal variances assumed | .550 | .688 | .7 99 | 1 08.000 | .426 |
| Equal variances not assumed | .550 | .688 | .7 99 | 1 05.975 | .426 |

Hartley test for equal variance: F = 1.321, Sig. = 0.1526

## 95.0% Confidence Intervals for Difference

|  | Lower Limit | Upper Limit |
|---|---|---|
| Asymptotic (equal variance) | -.799 | 1.89 9 |
| Asymptotic (unequal variance) | -.799 | 1.89 9 |
| Exact (equal variance) | -.814 | 1.91 4 |
| Exact (unequal variance) | -.814 | 1.91 4 |

## Independent Samples *t* -Test: Secondary Traumatic Stress

### Summary Data

|  | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| PreSTS | 5 5.000 | 2 3.620 | 6.350 | .856 |
| PostSTS | 5 5.000 | 2 2.360 | 5.470 | .738 |

### Independent Samples Test

|  | Mean Difference | Std. Error Difference | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Equal variances assumed | 1.260 | 1.130 | 1. 115 | 1 08.000 | .267 |
| Equal variances not assumed | 1.260 | 1.130 | 1. 115 | 1 05.683 | .267 |

Hartley test for equal variance: F = 1.348, Sig. = 0.1358

### 95.0% Confidence Intervals for Difference

|  | Lower Limit | Upper Limit |
|---|---|---|
| Asymptotic (equal variance) | -.955 | 3.475 |
| Asymptotic (unequal variance) | -.955 | 3.475 |
| Exact (equal variance) | -.980 | 3.500 |
| Exact (unequal variance) | -.981 | 3.501 |