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Oncology Nurses, Compassion Fatigue and General Health: A Mixed-Methods Study

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This is to certify that the doctoral dissertation by

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Abstract

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by

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Post-Masters Nurse Practitioner, University of South Florida, 2007

MSN, Drexel University, 2005

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Current literature on compassion fatigue is expansive, but there is a lack on the relationship between compassion fatigue and general health complaints in oncology nurses; how they perceive compassion fatigue and its relation to their general health. Using Pender's health promotion model, this mixed methods study addressed how oncology nurses perceive compassion fatigue and whether a correlation exists between compassion fatigue and general health complaints. Data were collected from a sample of 55 oncology nurses through two separate Survey Monkey links. All 55 participants completed quantitative data points including a demographic questionnaire, the Professional Quality of Life 5 tool, and the Giessen Subjective Complaints brief form. Participants selecting the second link also completed qualitative questionnaires (n = 15). Pearson's correlation test revealed statistically significant positive correlations: burnout with exhaustion and musculoskeletal complaints (p = .000 and .036, respectively) and secondary traumatic stress with exhaustion, gastrointestinal complaints, and cardiovascular complaints (p = .000, .022, and .007, respectively). Qualitative data revealed nine themes including fatigue and being overwhelming. Combining quantitative and qualitative data showed the strength of the relationship between compassion fatigue and general health complaints. Oncology nurses recognize compassion fatigue as a very real phenomenon and feel that it needs to be addressed. Social implications of this new research, showing that compassion fatigue is a problem affecting nurses that needs to be addressed could lead to improved retention of nurses in the field.

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Dedication

This dissertation is dedicated to the many people in my life who have helped me get to this point.

First to my mom, in heaven, for starting me down my nursing career and being my guardian angel every step of the way.

To my dad, who made sure I never lost sight of the end of this very long tunnel. His love and support kept me going through it.

To my husband Keith, who told me from the beginning, many years ago, that I could achieve anything I set my mind to. His faith in me has always been a light that has guided me through. He has always supported me in any endeavor I have undertaken.

To my son Dillon, who pushed me to keep going when I wanted to give up.

To my many other family members, friends, co-workers, and colleagues who were my cheerleaders along the way; they pushed, prodded, laughed, and cried right there with me.

Without all of you this would not have been possible.

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Chapter 1: Introduction to the Study

The topic of this study was compassion fatigue and the general health of oncology nurses. This study was important and needed to be carried out because, according to research (Kohli & Padmakumari, 2020; Reiser & Gonzalez, 2020), oncology nurses may be at a higher risk for developing compassion fatigue because of the nature of their profession. The implications for positive social change involve improving the levels of compassion fatigue and the general health of oncology nurses.

In this chapter, I present a brief background, the problem and purpose statements, and the research questions and hypotheses. The chapter also includes a discussion of the theoretical and conceptual frameworks used to address the study concepts as well as the nature of the study, definitions, assumptions, scope and delimitations, limitations, significance, and a summary of the chapter.

Background

Oncology nurses are an essential component of the cancer care team, caring for cancer patients along their treatment trajectory. As such, they are exposed to the prolonged suffering of the patient and family. This suffering can include but is not limited to cancer-related symptoms, treatment-related side effects, fear, uncontrolled pain, and death and dying. This repeated exposure can lead to compassion fatigue and increased general health complaints.

Compassion fatigue has been classified as a diminished ability to care for others as a direct result of repeated exposure to patients' continual suffering (Cavanaugh et al., 2020; Cross, 2019; Stamm, 2010). Investigation of compassion fatigue among oncology

nurses needs to be undertaken because research has shown that when nurses suffer from compassion fatigue, there is an increase in nurse health complaints, patient complaints, and medical errors, as well as a decrease in nursing performance (Cross, 2019; Harris & Griffin, 2015; Sorenson et al., 2017). Compassion fatigue has also been shown to lead to increased nursing turnover (Lee et al., 2018) and intent to leave the field (Wells-English et al., 2019).

Compassion fatigue can lead to physical and psychological consequences (Harris & Griffin, 2015; Lombardo & Eyre, 2011; Xie et al., 2019). Physical effects include headaches, nausea, vomiting, diarrhea, and insomnia, while the psychological effects may be depression, anxiety, irritability, and self-doubt (Cross, 2019; Sorenson et al., 2017). The 2020 State of the World Nursing Report stated that the nursing shortage is expected to be at a standstill of almost 6 million nurses by 2030, indicating that the incoming and outgoing nurses balance out (Challinor et al., 2020). Addressing the professional quality of life of oncology nurses may increase the retention of nurses which is a current problem (Lee et al., 2018; Wells-English et al., 2019).

Addressing compassion fatigue in nursing through research will help with the retention of nurses by decreasing levels of compassion fatigue that research shows lead to turnover (Lee et al., 2018). Lee et al. (2018) evaluated nursing turnover related to compassion fatigue at one Southern California Magnet hospital and found that in 2015 the turnover rate related to compassion fatigue was 17.2% for their facility alone. According to the NSI *National Health care Retention and RN Staffing Report* (NSI Nursing Solutions, 2021), the hospital turnover rate for staff registered nurses (RN's) was

18.7%, with the average cost of turnover per RN being $40,038. Wells-English et al. (2019) evaluated the levels of compassion fatigue and nurses' intent to leave the nursing field, discovering that higher levels of compassion fatigue indicated an increased intent of nurses to leave the field. They recommended that additional studies be conducted to evaluate interventions to combat compassion fatigue and decrease the turnover rate of nursing staff. Arimon-Pages et al. (2019) explored the professional quality of life and anxiety in oncology nurses and found that over half of the nurses in the study had moderate to high levels of compassion fatigue and moderate to high levels of anxiety. Yilmaz and Uston (2019) investigated sociodemographic and professional factors that affect nurses' professional quality of life. They found that the longer the time spent with the patient, the greater the risk of compassion fatigue. They also reported that improving professional conditions (e.g., shorter shifts, fewer shifts, receiving department-specific education, and supporting nurses) increases the nurses' professional quality of life.

Based on the previously discussed studies, research clearly shows that oncology nurses are at an increased risk of developing compassion fatigue. I will discuss the previous research in more depth in the next chapter. The gap in the literature is evaluated for a correlation between compassion fatigue and general health complaints in oncology nurses while adding the qualitative data to explore the nurses' perceptions of compassion fatigue.

Problem Statement

Oncology nurses may be at a higher risk of compassion fatigue than other nursing specialties due to the very nature of the patient population they care for (Kohli &

Padmakumari, 2020; Reiser & Gonzalez, 2020). Oncology nurses care for patients suffering from prolonged illness from cancer, cancer-related treatments, cancer-related pain, and often death (Jakel et al., 2016; Pehilvan & Guner, 2020). Compassion fatigue needs to be addressed through research to prevent the consequences that arise from it.

The gap in the literature that I evaluated was exploring a correlation between compassion fatigue and general health complaints in oncology nurses while adding qualitative data to explore the nurses' perceptions of compassion fatigue.

Purpose of the Study

The purpose of this mixed method convergent concurrent study was twofold. The quantitative purpose was to examine the relationship between compassion fatigue and health complaints. The qualitative purpose was to explore nurses' perceptions of compassion fatigue. I chose the mixed-methods approach because it provides quantitative data that can show statistical significance while at the same time adding the richness and depth of qualitative data that explores the oncology nurses' lived experiences.

The use of mixed-methods research will help to provide valuable information on the experiences of oncology nurses as it relates to compassion fatigue and general health complaints. The results of this study will also provide information on whether there is a correlation between compassion fatigue and general health complaints in oncology nurses as measured by the Professional Quality of Life 5 (ProQOL 5) tool and the Giessen Subjective Complaints List-Brief Form (GBB-8).

Research Questions and Hypotheses

The following research questions and hypotheses guided this study:

Research Question 1 (RQ1; qualitative): What are the perceptions of oncology nurses regarding compassion fatigue?

Research Question 2 (RQ2; quantitative): What is the correlation between compassion fatigue and general health complaints in oncology nurses as measured by the ProQOL 5 and the GBB-8?

$H_0$2: There is no correlation between compassion fatigue and general health complaints.

$H_1$2: There is a correlation between compassion fatigue and general health complaints.

The variables studied are nurses' compassion fatigue and general health complaints.

Theoretical Framework

Oncology nurses are often described as being caring and compassionate; however, research has shown that caring for patients along the cancer continuum has its consequences (Harris & Griffin, 2015; Kohli & Padmakumari, 2020; Lombardo & Eyre, 2011; Reiser & Gonzalez, 2020; Xie et al., 2019). Oncology nurses are at a higher risk of developing compassion fatigue than other nursing disciplines (Kohli & Padmakumari, 2020; Reiser & Gonzalez, 2020). Compassion fatigue can have adverse effects on a person's physical and psychological health and their professional quality of life (Kohli & Padmakumari, 2020; Reiser & Gonzalez, 2020; Xie et al., 2019).

I chose Pender's health promotion model as the theoretical framework for this study because increasing awareness of compassion fatigue and the risk to general health

will increase the use of relaxation techniques to promote healthy behavioral changes. I also chose Pender's health promotion model because compassion fatigue is a health problem that has adverse health effects, including headaches, gastrointestinal problems, depression, anxiety, and fatigue (see Harris & Griffin, 2015). Addressing compassion fatigue may positively affect nurses' mental and physical health.

Pender's (2011) health promotion model was first developed in 1982 and then revised in 1996 and 2002 due to changing perspectives and findings. The model evaluated factors influencing health behaviors, including eight health beliefs. I used some of these eight beliefs to support oncology nurses' awareness of the problem of compassion fatigue by providing information about compassion fatigue after completing the questionnaires and surveys.

The ProQOL5 (see Appendix A) is a 30-item questionnaire developed by Figley in the 1980s to measure the quality of life in healthcare professionals (Stamm, 2010). This tool measures both compassion fatigue and compassion satisfaction. I used this tool to determine the participants' levels of compassion fatigue. The questionnaire contains 20 questions related to burnout and secondary traumatic stress that are used to calculate the score for compassion fatigue and 10 questions that measure compassion satisfaction.

The GBB-8 (see Appendix A) is a validated, eight-item questionnaire tool to evaluate general health complaints and was adapted from the 24-item subjective complaints list (Kliem et al., 2017). I chose this tool because researchers have shown that nurses suffering from compassion fatigue have physical and psychological health

complaints (see Cross, 2019; Harris & Griffin, 2015; Lombardo & Eyre, 2011; Sorenson et al., 2017; Xie et al, 2019).

Conceptual Framework

The conceptual framework for this study is Plano Clark and Ivankova's (2016) socioecological framework. The socioecological framework (see Appendix B) contains research questions, the type of data collected, and the inferences and five overlapping circles that explain the mixed-methods research approach. The three outer rings that address the mixed-method research contexts are personal contexts, interpersonal contexts, and societal contexts. Personal contexts include experience with compassion fatigue, knowledge in self-care, expansive oncology experience, and pragmatism. Interpersonal contexts include being up to date on good clinical practice standards.

Social contexts include that this study was conducted in the United States in the oncology field and that I had university support. The social change addressed with this topic is compassion fatigue and how it correlates with general health in oncology nurses. By increasing awareness, administrators can use these data to implement different interventions to help their nurses.

The logical connection between the framework presented and the nature of the study includes assessing whether there is a correlation between compassion fatigue levels and general health complaints and what perceptions oncology nurses have regarding compassion fatigue. Grant and Osanloo (2014) pointed out that the theoretical foundation reflects personal importance to the researcher regarding the topic of the study. Compassion fatigue is very personal to me because I have seen oncology nurses deal with

it and have seen the health issues arising from it both personally and professionally. Pender's health promotion model was helpful in my quest to address compassion fatigue among oncology nurses and improve their overall health and well-being. Plano Clark and Ivankova's (2016) socioecological framework guided the research and supported the study as well as ensured that all requirements of the study were met.

Nature of the Study

To address the research questions in this mixed methods study, I used a convergent, concurrent, mixed methods design (see Gray et al., 2017). This design is proper when a researcher wants to confirm findings within a single study using a single sample. In this design, quantitative and qualitative data are collected simultaneously, analyzed separately, and then integrated to interpret and draw conclusions (Gray et al., 2017). The rationale for using this design was to gain a deeper understanding of compassion fatigue and the general health of oncology nurses. Few studies have used a mixed methods approach to evaluate these variables and none have looked at compassion fatigue and general health. Studies that did use a mixed-methods approach all used a different design: Giarelli et al. (2016) used a descriptive design, Zajac et al. (2017) used a sequential design, and Pfaff et al. (2017) used an embedded experimental design. The mixed method used in the current study comes from Creswell et al. (2011, as cited in Plano Clark & Ivankova, 2016). It focuses on the participants' real-life experiences utilizing multiple methods for data collection and combining the results of these multiple methods. The convergent, concurrent, mixed-methods design uses questionnaires and a survey with eight open-ended questions with written responses. The variables are

compassion fatigue and general health complaints. I analyzed the data using both descriptive and inferential statistics and thematic coding, I analyzed them separately at first and then merged the results to provide a deeper understanding of the data.

The design supported the collection of quantitative data using a demographic questionnaire, the ProQOL 5 tool, and the GBB-8 and qualitative data using a questionnaire consisting of eight open-ended questions with written responses. The qualitative questionnaire was coded following Saldana's (2021) coding process with first- and second-level coding to derive themes. I chose manual in vivo coding as the first-level coding method and manual thematic coding as the second-level coding method. I measured quantitative data from the ProQOL 5 and the GBB-8 with statistical analysis through IBM SPSS Statistics (Version 27; see Wagner, 2016). The data were then merged to explore underlying themes that correlated with compassion fatigue levels in the ProQOL 5 data and health complaints on the GBB-8. The qualitative data provided data on what oncology nurses perceive about compassion fatigue; there were also other significant data gleaned from the qualitative data.

The ProQOL 5 tool was originally developed by Dr. Figley back in the late 1980s and has since gone under revision and refinement (Stamm, 2010). The scale measures compassion fatigue via burnout and secondary traumatic stress (STS) and then compassion satisfaction. The compassion fatigue scale is distinct. The tool was designed for continuous use, meaning in its entirety. Data were collected on all three parts of the scale as the best way to support its validity and reliability. Measurement of the ProQOL 5 has 30 questions on a Likert scale and the directions for scoring are in the manual that

accompanies it. The reliability is 0.88. Burnout scores less than 23 are reflective of positive feelings in the workplace; scores greater than 41 equal a higher risk of burnout. STS scores greater than 43 indicate a high level of STS and the need for intervention. The two scales, burnout and secondary traumatic stress equal the compassion fatigue scale. There is no statistical difference across gender, age, race, income, or years in the current position or field (Stamm, 2010). This tool has proven both validity and reliability with over 200 published articles and more than 100,000 articles on the internet.

The GBB-8 (see Appendix A) was adapted from the Giessen Subjective Complaints List (GBB-24), a German measure of subjective health complaints (Kliem et al., 2017). The GBB-8 has eight items rated on a Likert scale ranging from 0 (*not at all*) to 4 (*very much*), indicating how troubling each complaint is perceived. This adaption was developed and validated in a large population study with over 2000 participants. The psychometric analyses included confirmation of factor structure, classical item analysis, and measurement invariance tests. The sample was deemed to serve as a normal group for the population. To determine construct validity, correlations with measures of anxiety, depression, alexithymia, and primary care contact were computed. Analyses revealed a Cronbach's alpha of 0.88, the comparative fit index was 0.980. This applies to the four-factor model that is represented in the GBB-8 (i.e., exhaustion, gastrointestinal complaints, musculoskeletal complaints, and cardiovascular complaints). Construct validity of the scale is evidenced by the correlation coefficients of the GBB-8 total score with depression and anxiety were $r = .56$. The GBB-8 score also showed high correlations ($r = .44$, $p < .001$) with the number of primary care provider contacts in the

previous year, as well as the number of physician consultations ($r = .45$, $p < .001$; Kliem et al., 2017).

The basic demographic questionnaire (see Appendix A) included items such as age, gender identification, years of nursing experience and years of oncology nursing experience, and inpatient or outpatient status. For the qualitative component, a written survey was completed with eight open-ended questions about compassion fatigue and general health oncology nurses.

Data points included the eight questions from the qualitative questionnaire, the nine questions on the demographic tool, the 30 questions on the ProQOL 5 tool, and the eight questions on the GBB-8. The ProQOL 5 (see Appendix A) collects data on compassion fatigue and compassion satisfaction related to a person's employment. The GBB-8 (see Appendix A) collects data on health complaints in four major subcategories, exhaustion, gastrointestinal complaints, musculoskeletal complaints, and cardiovascular complaints. The qualitative questionnaire (see Appendix A) explored the nurse's lived experiences of compassion fatigue and their general health. The data were evaluated to assess what oncology nurses understand about compassion fatigue and if there is a correlation between compassion fatigue levels and general health complaints. Using the qualitative questionnaire, I looked for codes, themes, and subthemes to validate findings of the effect on compassion fatigue and the general health of oncology nurses. Combining the qualitative and quantitative data added the evidence needed to answer the research questions proposed.

Definitions

Compassion fatigue as a concept has many different definitions; however, the broadest definition comes from the ProQOL manual (Stamm, 2010) as the negative aspect of the work of caring for others. Cavanaugh et al. (2020), in a systematic review and meta-analysis of compassion fatigue, recognized that it impacts the general health and effectiveness of professionals in healthcare and eventually affects patient care. Cross (2018) conducted a concept analysis that identified compassion fatigue as a complex concept with consequences that affected professionals, organizations, and clients/patients.

Compassion satisfaction is defined here as a concept but it is not a variable under study. Compassion satisfaction is defined as the satisfaction a person gets from helping others (Stamm, 2010).

General health is defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity "(World Health Organization, n.d., p. 1)

Professional quality of life is "the quality one feels about their work as a helper" (Stamm, 2010, p. 8). The term *helper* includes any profession in the position to help others in times of crisis. There are both positive and negative facets of one's profession that affects one's professional quality of life. Positive professional quality of life has been termed *compassion satisfaction*, whereas the negative has been termed *compassion fatigue* (Stamm, 2010).

Assumptions

Assumptions that can be seen or heard when dealing with oncology nursing are that it must be a depressing and sad field to work in. Another assumption is that all cancer patients die or suffer. A third assumption could be that oncology nurses all have effective coping strategies. These assumptions are essential to address because they can lead to misconceptions about oncology nurses, how they feel about the profession, and how they cope with their day-to-day job. Research shows that oncology nursing has unique features, as previously discussed, that puts them at a higher risk to suffer from compassion fatigue (Yu et al., 2016). There is a gap in evaluating for a correlation between compassion fatigue and general health complaints in oncology nurses with the added qualitative data exploring the nurses' perceptions of compassion fatigue. Obtaining a baseline of data about what oncology nurses perceive about compassion fatigue and demonstrating that there is a correlation to general health, as this study was designed to do, will assist with planning of future interventional studies to prevent, and combat compassion fatigue.

Scope and Delimitations

The specific aspects of the research problem chosen for this study are compassion fatigue and general health complaints in oncology nurses. The reason that these were chosen is that compassion fatigue has been shown to affect general health in oncology nurses (Harris & Griffin, 2015; Lombardo & Eyre, 2011; Sorenson et al., 2017; Xie et al., 2019). These have been studied both quantitatively and qualitatively, but there have not been many mixed methods studies to look at them simultaneously from both angles. This

study explored what oncology nurses perceive about compassion fatigue and whether there was a correlation between compassion fatigue levels and general health complaints.

Research shows that this is important for oncology nurses to practice self-care techniques to improve their levels of compassion fatigue and general health (Kohli & Padmakumari, 2020). The boundaries of the study were that only active oncology nurses who have been working in the field over a year were included. Another boundary is that this study was being conducted via SurveyMonkey (https://www.surveymonkey.com/), which may limit people from wanting to participate.

There was one main theory that was evaluated but determined not to be relevant with regards to this study. The theory of the nurse as wounded healer (Conti-O'Hare, 2002 as cited in Christie & Jones, 2013) was not chosen since it relates to personal trauma not secondary trauma as seen in patient care.

Limitations

One limitation of this study could have been sample size. The sample may be too small or too large since it is a survey design using SurveyMonkey; however, that was not a problem. A second limitation was that there may be incomplete data; this was handled by aiming for a number over that indicated by the G*Power analysis to allow for the four incomplete surveys that were returned. A third limitation could have been the enrollment of participants due to inclusion criteria, but this was not a problem. These possible limitations will be addressed in detail in Chapter 3.

Significance

This study was significant in that data would reveal whether there is a correlation between compassion fatigue levels and general health complaints and what oncology nurses perceive about compassion fatigue and their general health. Oncology nurses were chosen because previous research has shown that oncology nurses may be at a higher risk for developing compassion fatigue (see Giarelli et al., 2016; Gomez-Uriquiza et al., 2016; Kohli & Padmakumari, 2020; Resier & Gonzalez, 2020; Wentzel et al., 2019; Wu et al., 2016; Xie et al., 2020). Compassion fatigue is often seen in health service professions due to the nature of their work (Gomez-Urquiza et al., 2016). The prolonged exposure to people who are in pain, suffering, and/or dying takes its toll on a professional's quality of life which equates into compassion fatigue (Harris & Griffin, 2015; Kohli & Padmakumari, 2020; Stamm, 2010; Wells-English et al., 2019). Compassion fatigue is the loss of the ability to care for others (Lombardo & Eyre, 2011; Stamm, 2010). By addressing compassion fatigue in oncology nurses, social change may be affected by increasing professional quality of life, improving general health, and decreasing the number of nurses leaving the field. Lee et al. (2019) found that it is estimated to cost the healthcare organization $37,700 to $58,400 dollars to turnover one nurse. Wells-English et al. (2019) found that increased levels of compassion fatigue correlated with increased intent to leave the field. Interventions that evaluated ways of combatting compassion fatigue included providing a provider resilience mobile application, knitting, biannual survivor events and an accelerated recovery treatment program (see Anderson & Gustavson, 2016; Fleming et al., 2020; Jakel et al., 2016; Lee et al., 2019). To date, little

is known as to whether one intervention is more effective than others in combating compassion. One of the eight steps for effecting social change in the video *Social Impact of a Dissertation* that Dr. Iris Yob pointed out was with practice (Laureate Education, 2015g). Addressing compassion fatigue in oncology nursing has the protentional to improve nurses' satisfaction with their profession. This research could support social change on a larger scale if it supports that oncology nurses believe compassion fatigue is a very real problem that affects their health and they believe it needs to be addressed.

Summary

In summary, this chapter has provided a general overview of the research study. It has covered a brief background, the problem and purpose statement, and research questions and hypotheses. It also covered the theoretical and conceptual frameworks used to address the study concepts, the nature of the study, definitions, assumptions, scope and delimitations, limitations, and the significance of the study.

This research can effect positive social change by improving the professional quality of life of oncology nurses and their general health. The next two chapters will include an in-depth analysis of the current status of the literature for this study and the variables under study. Chapter 2 will cover a review of the literature including the literature review search strategy, current status of the research variables, and an in-depth review of the theoretical and conceptual framework used in this study. Chapter 3 will cover methodology and include an in-depth examination of the research design, instrumentation, study procedures, and data analysis plan. Chapter 4 will cover data

collection, analysis, and quantitative, qualitative, and mixed results. Chapter 5 will cover interpretation of the findings, limitations, recommendations, and implications of the data.

Chapter 2: Literature Review

Compassion fatigue has been studied in multiple different professions such as law enforcement, firefighters, lawyers, social workers, and educators (Cuartero & Campos-Vidal, 2019; Essary, 2020; Grant et al., 2019; Kim et al., 2020; Tilby & Holbrook, 2019). Oncology nurses have been identified as being at a higher risk for developing compassion fatigue due to the nature of the patient population that they care for (Kohli & Padmakumari, 2020; Reiser & Gonzalez, 2020). Compassion fatigue is associated with many different physical and psychological complaints, work-related and patient safety concerns, and a financial toll (Harris & Griffin, 2015; Lee et al., 208; Lombardo & Eyre, 2011; Wells-English et al., 2019; Xie et al., 2019)). Research has been undertaken that looks at compassion fatigue levels in oncology nursing quantitatively and qualitatively; however, to date there is no mixed methods study that looks simultaneously at compassion fatigue levels and general health complaints in oncology nurses while at the same time exploring how oncology nurses perceive compassion fatigue and their general health. Therefore, I conducted a mixed-methods research study to explore the perceptions of oncology nurses regarding compassion fatigue and to determine whether there is a correlation between compassion fatigue levels and general health complaints. I chose the mixed-methods approach because it provides quantitative data that can show statistical significance while at the same time adding the richness and depth of qualitative data that explores the oncology nurses' lived experiences.

This chapter covers the literature search strategy utilized for this study as well as Pender's (2011) health promotion model, which is the theoretical foundation, and Plano

Clark and Ivankova's (2016) socioecological framework, which was used as the conceptual framework. There will also be a literature review related to key variables and concepts. The chapter finishes with a summary of the current state of the literature and a conclusion.

Literature Search Strategy

The literature review search strategy included a search of EBSCO, PubMed and Google Scholar for articles looking for the following keywords and various combinations of them: *compassion fatigue, nursing, oncology nurses, oncology nursing, general health complaints in oncology nurses,* and *interventions for compassion fatigue*. The years included were from 2015 to current and included the seminal work for the Professional Quality of Life Tool (Stamm, 2010) and Nola Pender's health promotion model (2011). Some older articles were also included due the nature of their content and evidence.

Theoretical Foundation

The theoretical foundation of this study is Pender's health promotion model, which was first developed in 1982 and revised in 1995 and again in 2002 due to changing perspectives (Pender, 2011). The model was designed to help nurses understand patient behaviors to promote healthy lifestyle changes. Pender's health promotion model is based on expectancy value theory and social cognitive theory (Pender, 2011). The expectancy value theory explains that people will participate in measures, to achieve goals that are possible to achieve and that provide value. Social cognitive theory suggests that thoughts, behaviors, and the environment all interact and that for people to alter behavior they have to alter their thinking and environment. The philosophical roots of the health promotion

model are based on the reciprocal interactive worldview, where all people are viewed as a whole but parts can be studied separately.

The health promotion model has seven assumptions that reflect both behavioral science and nursing perspectives. These assumptions include that people will seek to change conditions that will have a positive impact on health but also create an acceptable balance between change and stability. Another assumption is that people have the capability to reflect on their own self-awareness and realize the need for behavioral changes. A fourth assumption is that as people interact with their environment, they transform the environment and themselves over time. The next assumption is that health care professionals are part of a person's interpersonal environment and produce changes on a person throughout their lifespan.

The two assumptions that are most important to this study include that a person actively seeks to regulate behavior and that self-initiated alterations of one's environment are essential to promote behavioral change. I consider these the most important because the oncology nurses are electing to participate in a study that could increase awareness of a problem and may affect behavioral change thus affecting their health.

Pender's health promotion model has 14 theoretical propositions that provide a basis for research on health behaviors; I will discuss the ones applicable to this study. The first is that people commit to engage in behaviors from which they anticipate gaining personal valued benefits (Pender, 2011). In this study, once the nurses become aware of the problem of compassion fatigue, they may begin to do their own research on it to help themselves. The third and fourth propositions suggest that if there is a higher feeling of

self-efficacy, and positive change results from the behavior, there are fewer perceived barriers and increased commitment to action, respectively. Once nurses are aware of compassion fatigue and its effect on their health, they may begin to practice techniques to combat it and if they feel better, they are more like to continue them.

The following proposition, from the health promotion model, states that people are more likely to enact the behavior when significant others model, expect, and support the behavior. Additionally, the external environment can influence participation in health-promoting behaviors. As previously stated, if the nurses are feeling better and others notice they will support the nurses in continuing the techniques they are using, possibly modifying their behavior or the environment to help. The next proposition is that the greater the dedication to the behavior change, the more likely it will be maintained over time. For instance, if the nurses who partake in the study feel that this increased awareness has helped them and they notice a change for the better; they are more likely to continue using the techniques they found helpful. However, if there is a competing demand or a more attractive alternative, the dedication to the change in behavior is less likely to occur.

The last proposition, from the health promotion model, that is useful for this study is that people have the ability to modify multiple different aspects to create inducements for promoting healthy behavioral change. If the nurses are wanting to participate and wanting to learn how to help themselves, they can change different aspects of their day to help improve levels of compassion fatigue.

Pender's health promotion model was chosen because compassion fatigue is a health problem, and the model promotes healthy behavioral changes. The negative health effects of compassion fatigue can include headaches, gastrointestinal problems, depression, anxiety, and fatigue (Cross, 2019; Harris & Griffin, 2015; Powell, 2020; Sorenson et al., 2017). By addressing compassion fatigue, nurses' mental and physical health can be improved along with levels of compassion fatigue. Pender's health promotion model also related to the research questions, which focused on increasing awareness of compassion fatigue through evaluating compassion fatigue and general health complaint levels.

Conceptual Framework

Concepts and Definitions

The concepts that are being explored are compassion fatigue and general health complaints. Compassion fatigue as a concept has many different definitions; however, the broadest definition comes from the ProQOL manual (Stamm, 2010) as the negative aspect of the work of caring for others. It impacts the general health and effectiveness of professionals in healthcare and eventually affects patient care (Cavanaugh et al., 2020). It is a complex concept with consequences that affect professionals, organizations, and clients/patients (Cross, 2018). General health is "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948, p. 1). Professional quality of life is "the quality one feels concerning their work as a helper" (Stamm, 2010, p. 8). The term *helper* includes any profession in the position to help other people in times of crisis. There are both positive and negative

facets of a person's profession that affect professional quality of life. Positive professional quality of life has been termed *compassion satisfaction*, whereas negative has been termed *compassion fatigue* (Stamm, 2010).

Socioecological Framework

The conceptual framework that I used was Plano Clark and Ivankova's (2016) socioecological framework (see Appendix B for a visual graphic). The framework addresses this mixed methods research through personal contexts, interpersonal contexts, and societal contexts. Personal contexts include experience with compassion fatigue, knowledge in self-care, expansive oncology experience, and pragmatism. Interpersonal contexts include being up to date on good clinical practice standards. Social contexts include that this study was conducted in the United States, in the oncology nursing field, and that I had university support.

Connection Between Theoretical and Conceptual Framework

I chose Pender's health promotion model because compassion fatigue is a health problem. The model has eight beliefs that can be assessed and used to target promoting awareness of a problem and changing behaviors to achieve health (Pender, 2011). Pender's health promotion model can help oncology nurses deal with compassion fatigue and improve their overall health and well-being. Plano Clark and Ivankova's (2016) socioecological framework provided the framework to guide the research and support achievement of a complete study.

Literature Review

"Compassion fatigue" was first coined by Joinson in 1992 as she witnessed her nurses losing their ability to care about their patients; at this time, it was introduced as a synonym for burnout (Joinson, 1992 as cited by, Harris & Griffin, 2015). However, burnout differs from compassion fatigue in that it arises more from the chronic stressors of the work environment rather than caring for traumatized patients (Cavanaugh et al., 2020). Later, psychologist Dr. Figley began to identify compassion fatigue as a secondary traumatic stress disorder due to being more descriptive of the cost of caring for traumatized individuals (Figley, 1993, as cited in Sorenson et al., 2017). Figley defined compassion fatigue as the cost of caring for individuals suffering from traumatic events (Ruiz-Fernandez et al., 2020). Figley also developed the ProQOL tool to measure compassion fatigue in professionals (Stamm, 2010). The defining attributes of compassion fatigue include sudden onset, emotional and physical exhaustion, apathy, helplessness, desensitization, and depersonalization (Henson, 2020). In contrast, burnout's defining attributes were gradual onset, emotional exhaustion, cynicism and hopelessness. Compassion fatigue arises from caring for traumatized patients and may affect patients care more severely due to the nurses decreased ability to care about them not necessarily for them (Cavanaugh et al., 2020). Compassion satisfaction is the pleasure one gets from caring for others (Ruiz-Fernandez et al., 2020; Stamm, 2010). The balance between compassion fatigue and compassion satisfaction is what can be used to determine professional quality of life (Ruiz-Fernandez et al., 2020).

Compassion Fatigue in Other Disciplines

Compassion fatigue has also been studied in professions other than just health care providers. Firefighters often work in hazardous conditions where they are exposed repeatedly to a victim's trauma, loss of property, or loss of life. Kim et al. (2020) found that the greater the risk in the working environment, the greater the risk for compassion fatigue in firefighters. Those who work in law enforcement are also exposed to continually hazardous conditions and traumatic events; however, studies show that they do not suffer from high levels of compassion fatigue (Grant et al., 2019; Turgoose et al., 2017). Additionally, in a quantitative research study of 270 social workers, over 90% reported medium to high levels of compassion fatigue due to day-to-day involvement with people in physical, mental, and emotional distress and listening to the stories that they tell (Cuartero & Campos-Vidal, 2019). Though there is not much data available on compassion fatigue in lawyers and judges; one article highlighted the fact that secondary traumatic stress does occur in this population due to listening and replaying traumatic events in the courtroom thus increasing the risk of compassion fatigue in this population (Tilby & Holbrook, 2019). Research also shows that educators suffer from high levels of compassion fatigue due to interacting and supporting children who are victims of violent crime (Essary, 2020; Perez-Chacon et al., 2021). Working with special needs children, gifted children, or behaviorally challenged students increases the risk of compassion fatigue among educators (Perez-Chacon et al., 2021).

Compassion Fatigue in Oncology Nursing

Oncology nurses care for cancer patients across the cancer continuum; these patients may be suffering from cancer-related symptoms, treatment-related side effects, fear, and the grieving process. In oncology nursing, the nurse cares not only for the patient but also for the caregivers. Research has shown that 60% of oncology nurses suffer from moderate to high levels of compassion fatigue (Ortega-Campos et al., 2020). In a study of 2,509 oncology nurses, there was a 62.79% prevalence rate of burnout and a 66.84% prevalence rate of secondary traumatic stress, the two components of compassion fatigue (Algamdi, 2022).

Risk factors other than caring for patient that have been found to contribute to compassion fatigue include the nurse's grief or loss experiences (Ko & Kaiser-Larson, 2016) as well as age of the nurse, number of shifts worked, amount of time per week worked, and if they received department specific education (Yilmaz & Uston, 2019; Zajac et al., 2017). Heavy workload, increased expectations, lack of resources, ineffective management, passive coping strategies, and a long-term mutual relationship with the patients has also led to increased levels of compassion fatigue (Harris & Griffin, 2015; Kelly, 2020; Yu et al., 2016). Personality traits like neuroticism have also been associated with compassion fatigue (Yu et al., 2016). Neuroticism is the trait disposition to experience adverse effects (Widiger & Ottmann, 2017). Work environments with poor levels of supervisory and coworker support, decreased decision-making ability, and increased psychological demands can also lead to increased risk of compassion fatigue

(Malliet & Read, 2021). Combating compassion fatigue and supporting oncology nurses may hopefully keep more nurses in the field and draw new ones to the field.

General Health Complaints Associated With Compassion Fatigue

Compassion fatigue has been shown to affect physical health, psychological/emotional health, and create behavioral/work-related problems. Physical symptoms that can be seen with compassion fatigue are many. Common signs and symptoms include headaches, chronic exhaustion (emotional and physical), weight loss, and insomnia (GoodTherapy, 2020). Other symptoms include lack of energy and appetite changes (Zajac et al., 2017). Wentzel et al. conducted a qualitative study to attempt to define compassion fatigue from oncology nurse's standpoint; one of the symptoms that came out of that study was emotional fatigue that nurses defined as "fatigue from within" (2019, p.4). Xie et al. (2020) conducted a systematic review that included 21 articles and involved 6,533 oncology nurses; physical symptoms that were found to be associated with compassion fatigue included exhaustion, headaches, sleep disorders, constipation, diarrhea, and gastrointestinal upset.

Upton (2022) identified physical symptoms including those above but also identified increased blood pressure, weight gain, stiff neck, and immune dysfunction. There was also an increase in cardiovascular diseases and diabetes related to compassion fatigue according to an older study by Aycock and Boyle (2009). In a concept analysis of compassion fatigue by Sorenson et al. (2017), all these symptoms were also found including cardiovascular changes. Kohil and Padmakumari (2020) also discuss the physical symptoms of headaches, insomnia, and reduced appetite.

Psychological or emotional symptoms also abound with compassion fatigue. In the systematic review by Xie et al. (2020), these symptoms included irritability, depression, and substance abuse. In a qualitative study Wentzel et al. (2019) identified psychological symptoms of emotional loss and emotional exhaustion. In a systematic review by Gomez-Urquiza et al. (2016) that included 27 articles and 11,107 oncology nurses, they explored levels of burnout for oncology nurses specifically looking for the three components of burnout; emotional exhaustion, depersonalization, and personal accomplishment. They did find that oncology nurses did suffer from high levels of emotional exhaustion. Since burnout is closely related to compassion fatigue and has the same psychological symptoms of emotional exhaustion and depersonalization it was felt appropriate to be included here.

Zajac et al. (2017) identified psychological symptoms of compassion fatigue as being apathy, callousness, and indifference. Upton (2022) identified psychological symptoms of compassion fatigue, including those mentioned above, but also, cynicism, anxiety, discouragement, and detachment. Other psychological problems found with compassion fatigue include a feeling of emptiness, a decreased sense of purpose or ability to feel joy, a diminished sense of personal accomplishment, anger, and blaming (Sorenson et al., 2017). An article by Powell (2020) also pointed out psychological symptoms of anger, irritability, heightened anxiety, and irrational fears. She also discussed the increased risk of alcohol and drug usage. Kohli and Padmakumari (2022) discussed psychological symptoms of stress related pathology and depressive symptoms.

Work-related problems that have been found with compassion fatigue can cause an increased risk to the patient and nursing safety. These include inability to focus or concentrate, calling in or increased absenteeism, chronic lateness, or overworking (Sorenson et al., 2017). Powell (2020) describes work related issues related to compassion fatigue as the dread of working with patients, absenteeism, and impaired ability to make decisions and care for patients. Kohli and Padmakumari (2020) also identified impaired decision making and medical errors as consequences of compassion fatigue. Upton (2022) identifies work related problems of compassion fatigue as decreased productivity, poor performance, poor professional judgment, and increased medical errors. She also reports an increase in patient dissatisfaction.

Kelly (2020) reported that when nurses are suffering from compassion fatigue, they are less likely to be engaged with their patients and more likely to make errors. Harris and Griffin (2015) included work-related problems of an increase in poor judgment and patient dissatisfaction. It is essential to discuss patient satisfaction as it directly is related to hospital reimbursement which in turn affects the resources available to the nursing staff, including having enough staff. In another study, Wells-English et al. (2019) discussed that compassion fatigue led to an increase in situations where more errors could occur and a decrease in productivity. Their study explored compassion fatigue and how levels of compassion fatigue led to increased turnover of nursing staff. They found that the higher the level of compassion fatigue the higher the chance the nurse would leave the nursing field. This turnover leads to newer, less experienced nurses entering the field which can lead to increase in errors and increased risk to patient safety.

When we start discussing the work-related problems seen with compassion fatigue this in turns leads into the financial impact of compassion fatigue on the organization involved. While that is not the topic of this research, the outcomes of this research do have the ability to impact organizational outcomes.

The social problem identified and the focus of this research is that oncology nurses may be at higher risk of compassion fatigue than other nursing specialties due to the very nature of the patient population they care for (Kohli & Padmakumari, 2019; Reiser & Gonzalez, 2020). Caring for cancer patients exposes the nurses to prolonged illness from cancer and cancer related treatments, cancer related pain, and death (Jakel et al., 2016). Compassion fatigue needs to be addressed through research to prevent the consequences that arise from it; physical and psychological problems, risk to patient safety, and nursing turnover.

Research has shown that compassion fatigue can lead to both physical and psychological consequences. Physical effects include headaches, nausea, vomiting, diarrhea, and insomnia just to name a few, this was discussed above in detail. Psychological effects may be depression, anxiety, irritability, and self-doubt, also discussed above. Work related factors include poor performance and increase in medical errors. The 2020 State of the World Nursing report expects that the nursing shortage to be at a standstill of almost 6 million nurses by 2030 (Challinor et al., 2020). Addressing compassion fatigue in nursing through research and finding effective interventions will help with retention of nurses. Lee et al. (2018) looked at nursing turnover as it related to

compassion fatigue at one Southern California Magnet hospital and found that in 2015 the turnover rate was 17.2% related to compassion fatigue for that facility alone.

Wells-English et al. (2019) conducted a study looking at levels of compassion fatigue and nurses' intent to leave. Their results showed that higher levels of compassion fatigue indicated an increase intent of nurses to leave the field. Recommendations from their study were for additional studies to look at interventions to combat compassion fatigue thus potentially leading to a decrease in the turnover of nursing. According to the NSI *National Health Care Retention and RN Staffing Report* (NSI Nursing Solutions, 2021), the hospital turnover rate for staff RN's is at 18.7% with the average cost of turnover per RN $40,038. By researching compassion fatigue, general health complaints and techniques oncology nurse use; this researcher hopes to increase awareness of compassion fatigue in nurses and improve general health complaints thus leading to improvement in compassion fatigue and the general health of the oncology nursing workforce.

Researched Interventions for Compassion Fatigue

Many studies have been done to look for interventions to combat compassion fatigue. In this next section, I will review these interventions which include interventions such as educational programs, resiliency training, retreats, camps, crafting and mindfulness, just to name a few. This section of literature review is included because it supports the need for research on compassion fatigue.

Two articles examined the availability of interventions within the employment facilities. Aycock and Boyle (2009) surveyed oncology nurses across the United States

looking for accessibility to onsite professional resources, educational programs, and/retreats to address compassion fatigue; there were 103 responses. Their results revealed that up to 60% had some sort of on-site professional resource (employee assistance programs, support groups, etc.), up to 30% had access to educational opportunities and only 10% had access to off-site retreats. Wentzel and Brysiewicz (2017) conducted an integrative review of the literature looking at facility-based interventions to combat compassion fatigue; 31 studies met eligibility requirements. The aim of their study was to assess the effectiveness of infacility interventions, their feasibility, and the nurses' experiences with them. Out of the 31 studies, four did not conduct an evaluation of the intervention, 11 showed that burnout, compassion fatigue, and secondary traumatic stress scores decreased. In comparison, three studies reported no changes in compassion fatigue or burnout scores. Four authors measured health complaints and found an improvement after the intervention. Three other studies reported on death anxiety and end of life stress and that these levels decreased with the intervention. Two studies revealed increased team camaraderie and self-reflection with their intervention. Finally, one reported that the intervention resulted in a reduction of staff turnover. Regarding the feasibility of an infacility intervention, Wentzel and Brysiewicz (2017) found many variations of time, scheduling, and types of interventions and how it was incorporated into the facility that overall feasibility could not be determined.

In the literature search, three articles were chosen that looked at mindfulness as the intervention. Owens et al. (2020) used a 3-minute mindfulness intervention that is the

shortest that has ever been tested. They used a quasi-experimental design with a single group. The intervention was a 3-minute mindful breathing session. Their sample size started at 45 with the final ending at 32 participants. The research hypothesis was to explore if the intervention would decrease levels of compassion fatigue over 4 weeks. The nurses were instructed to do the 3-minute breathing sessions, 3 times a day for 4 weeks. They did find that there was a significant reduction in burnout (p = .0113) and STS (p = .0053) on the ProQOL tool; the two components of compassion fatigue. Limitations to this study were that they only used critical care nurses and had a relatively small sample size though enough to achieve statistical power.

Duarte and Pinto-Gouveia (2016) conducted an abbreviated mindfulness-based intervention using oncology nurses. They conducted a nonrandomized study with an experimental arm and control arm. Initially 94 nurses agreed to participate however only 48 completed initial pre- and post-intervention data due to poor follow-up, not high dropout. There were 29 in the experimental arm and 19 in the control arm. The intervention was a 6-week-long group intervention consisting of didactic and experiential exercises, there was one session a week lasting 2 hours. The authors used seven different tools pre-intervention, post-intervention, and at 3 months post intervention. Only six participants did the 3-month set so this data was not analyzed. Their results did reveal a significant reduction in compassion fatigue as measured by the ProQOL 5 tool, but it was not statistically significant. Limitations in the study were sample size and poor follow up. This researcher also believes that the number of tools that were used led to lack of participation on follow up; there were seven tools with 121 total questions to answer.

The third study was conducted by Delaney (2018). This study was a mixed observational research pilot study to evaluate the usefulness of an 8-week mindful self-compassion training program. There were 13 participants in the study. The intervention was a generic 8-week-long training that taught the nurses how to respond with positivity in difficult moments instead of negativity. There was a 2.5-hour weekly session for the 8 weeks along with a half-day retreat. The focus was on self-compassion and mindfulness. Pre and post data was collected on multiple tools, however, for the basis of this literature review we will continue only to discuss the results of the ProQOL 5 tool as compassion fatigue was the topic of this study. Delaney's results did show a statistically significant reduction in burnout (p = .03) and in STS (p = .05); the two components of compassion fatigue. There was also a large effect size as measured by Pearson correlations; burnout (r = -.60) and STS (r = -.54) correlated to mindfulness. The qualitative data collected by Delaney that emerged after the training was all positive and supported the use of the intervention. Limitations are that it was a pilot study and as such had a small sample size and no control arm. These three studies all support the use of mindfulness as a possible intervention for combating compassion fatigue.

The following study that will be reviewed involves self-compassion and its effectiveness on compassion fatigue. Delaney (2018) also used self-compassion education but in combination with mindfulness. In Galiana and colleagues (2022) study they conducted a cross-sectional survey of 296 palliative care professionals. The survey contained 6 tools including the ProQOL 5 tool and the self-compassion scale. They found a small to moderate effect size using Pearson's correlation of the three types of self-

compassion measured: self-kindness (r = -.296), mindfulness (r = -.309), and common humanity (r = -.164). The p values for all three of these were < .010 which does indicate statistical significance. This study does show that increasing self-compassion in nurses can help combat compassion fatigue which does concur with the Delaney (2018) study findings.

Shingler-Nace et al. (2018) discussed that moral distress, compassion fatigue, post-traumatic stress and burnout were all complications of caring for others. They conducted a quality initiative project that looked at understanding the risk and prevalence at their facility. They followed the PDSA (Plan, Do, Study, Act) approach to quality improvement projects. The interventions they put into place included workshops for nurses that involved an overview of compassion fatigue, self-help techniques, awareness, and mindfulness. After this workshop was completed, they then instituted compassion rounds that occurred on a specific day and time on the unit; these focused on providing employee support and needs. If the nurse was in distress during these compassion rounds, then a timeout was instituted that allowed the nurse to leave the floor for 10 to 15 minutes while the coordinator running the rounds monitored her patients. Their data revealed no statistical difference between the pre and post data with compassion rounds. What was interesting in their data was that even nurses who were satisfied with their working environment still were at risk for compassion fatigue.

Yilmazer et al. (2020) researched the effects of dance and movement therapy on compassion fatigue as measured by the ProQOL 5. This was a semi experimental pilot study with proposed three arms. Forty-two participants were invited to participate

however only eight completed the training. Since the sample size was so limited that there was only the intervention arm. The intervention was conducted once a week for 8 weeks with 60 minutes for each session and involved different dance and movement therapies based upon multiple models. These sessions were supervised via Skype by a certified psych movement therapist. The results did show a decrease in compassion fatigue levels pre to post intervention with a mean score of 28 down to 15.75, indicating that there is a benefit of dance and movement on compassion fatigue.

Anderson and Gustavson (2016) conducted a study that looked at knitting and its effects on compassion fatigue. Oncology nurses from a comprehensive cancer center were invited to participate. Thirty-nine nurses completed the study. Oncology nurses were taught to knit by Project Knitwell, a nonprofit group. Knitting supplies were left in a respite lounge located on the unit. The authors did not report compassion fatigue scores even though this was the purpose of their study; they did however report a significant change in burnout level; mean went from 24.72 to 22.91, pre to post intervention. This study has several limitations the most important being not having a consistent trainer available to the nurses.

Copeland (2021) conducted a quasi-experimental pilot study looking at brief workplace interventions and their effect on burnout, compassion fatigue, and teamwork. Her study did incorporate multiple different interventions available to the participants. These different interventions were all 5 minutes long and included meditation, journaling, gratitude, outside, and control. Participants (n = 23) were randomized to one of the five groups (meditation n = 4, journaling n = 4, gratitude n = 5, outside n = 5, and control n =

2; three dropped out). The intervention period was 6 weeks long. Data were reported for 20 participants who completed pre and post testing. All feedback was positive except for one comment about journaling, as it added to the nurse's stress when she was busy. Looking at the pre and post mean for burnout and STS, the components of compassion fatigue, we do see a decrease across all the scores in all the groups except for burnout and this one increased slightly. Journaling and gratitude showed the largest effect size. This study supports using multiple interventions that are easy to use and easily accessible to the staff to combat compassion fatigue.

The concept of resiliency has been studied in multiple ways to assess its impact on compassion fatigue. The following is a review of six studies that have used various forms of resiliency training to affect change in compassion fatigue scores.

Klein et al. (2018) conducted an interventional study using a commercially prepared resiliency program. A convenience sample of 18 was chosen, but only eight completed the entire 6-month study; 12 completed pre and post intervention data. Data was collected pre-intervention, post-intervention, and at 6 months. Educational sessions were conducted in three 90-minute sessions during work hours. Data revealed that pre and post intervention there was no statistical difference in burnout and STS; mean scores went from 27.3 to 26.75 ($p = .49$) and 26.1 to 26.3 ($p = .91$), respectively. At 6 months burnout was 25.6 and STS was 26.4. This study had many limitations to it and the authors stressed that those limitations needed to be considered when interpreting the data.

The second study that looked at the use of a resiliency program was conducted by Pehlivan and Guner (2020). They conducted a randomized control trial with 125

oncology nurses randomized to one of three arms: experimental I (n = 34) experimental II (n = 49) and control (n = 42). The intervention was a compassion fatigue resiliency program conducted as 5 hours per day for 2 days (experimental I) or 2 hours per week for 5 weeks (experimental II). Data analysis was conducted at preintervention, postintervention, 3 months, 6 months and 1 year. The results of the data indicate that the only statistically significant results seen were with the experimental II arm at post-intervention versus control with a p-value of .020. Further data analysis indicated that compassion fatigue scores worsened overtime. This study does not support resiliency programs for compassion fatigue.

In an older study by Potter et al. (2013), that was not the case. Potter and fellow researchers conducted a descriptive pilot study using a compassion fatigue resiliency program. They conducted the program over 5 weeks with 90-minute sessions. There was a total of 13 participants. Data was collected preintervention, postintervention, at 3 months and at 6 months. Pre-intervention nurses were at high risk for compassion fatigue based on burnout and STS scores; 23.46 and 19.76 respectively. Both components did decrease after the intervention, however, only the score was statistically significant at 6 months with a p-value of .044. This study did support the use of a resiliency program for compassion fatigue.

In a cross sectional pre and post intervention study carried out by Kestler and colleagues (2020), they also looked at a resiliency program for use against compassion fatigue. The program was taught once a week for 3 weeks and each session was an hour long. Data were collected using the Secondary Traumatic Stress Scale, which does

measure and reports compassion fatigue. Data was collected pre-intervention, post-intervention and at 3 months. Twenty-five nurses completed the full study and the results showed that almost all nurses had a decrease in levels of compassion fatigue that were statistically significant at a *p*-value < .001. This study does show statistical significance for the usefulness of a resiliency program in combating compassion fatigue.

Jakel et al. (2016) conducted a quasi-experimental study that looked at using a mobile application for provider resilience. The intervention started with an educational session explaining compassion fatigue and to increase awareness of it, then participants in the intervention arm were instructed on use of the application. This application was developed by the Department of Defense to aid compassion fatigue in healthcare providers who treat military personnel. The investigators monitored usage via tracking software also downloaded. The ProQOL 5 was used pre- and post-intervention to assess levels of compassion fatigue. Total participants were 25; 16 were in the investigation arm and nine in the control arm. Results revealed no statistical difference in either arm however, burnout and STS scores did decrease in both arms most likely due to increased awareness of compassion fatigue. The researchers point out that this was a pilot study only and that results should be evaluated accordingly.

The last study that looked at resiliency training for combating compassion fatigue was Pfaff et al. (2017). They conducted an experimental mixed methods design as a pilot study to evaluate the effects of a compassion fatigue resiliency program. There were 32 participants enrolled. The intervention was based on the compassion fatigue accelerated recovery program (ARP) designed by Gentry and colleagues (2007, as cited in Pfaff et

al., 2017). The ARP was a 6-week program with classes once a week, see the article for details about what was included in the program. Quantitative data was collected using the ProQOL tool pre- and post-program; qualitative data was collected mid and post-program as focus groups and individual interviews. Twenty-seven completed the program but only 15 completed the post-intervention ProQOL surveys. Only 12 had complete datasets. Qualitative data entailed three focus groups (n = 12) and individual interviews (n = 8). The quantitative data revealed no statistically significant changes in mean scores for compassion fatigue (p = .1) however the scores did decrease for burnout (22.1 to 21.5, p = .87) and STS (24.8 to 22.7, p = .31). Qualitative data imparted two recurrent themes "self-reflection and perceived risk of developing compassion fatigue and seeking personal balance through the use of self-care strategies" (p. 515). This data while not statistically significant does support resiliency training. The researchers do cautious interpretation of results due to it being a pilot study and small sample size. As a side note the authors did show a statistically significant reduction in clinical stress as measured by the Index of Clinical Stress ($p < .005$).

Synthesis of these six studies reveals that there were overall no statistically significant decreases in the compassion fatigue scores but that in most of the study there were decreases in compassion fatigue (Jakel et al., 2016; Kestler et al., 2020; Klein et al., 2018; Pfaff et al., 2017; Potter et al., 2013) There was one study that revealed compassion fatigue scores worsened over time (Pehlivan & Guner, 2020). In Pehlivan & Guner (2020), where compassion fatigue scores worsened over time this may be because they were followed the longest (one year) and had the largest number of participants (n =

125). Two studies followed participants for 6 months (Klein et al.,2016; Potter et al., 2013), one for 3 months (Kestler et al., 2020) and two only evaluated pre- and post-intervention (Jakel et al., 2016; Pfaff et al., 2017) Participation numbers ranged from eight to 125. Five studies involved resiliency training classes (Kestler et al., 2020; Klein et al., 2018; Pehlivan & Guner, 2020; Pfaff et al., 2017; Potter et al., 2013) while Jakel and colleagues (2016) used a mobile application. The class setup varied widely between the authors. Three studies were conducted only as pilot studies (Klein et al., 2016; Pfaff et al.,2017; Potter et al., 2013). Based on the data, there is evidence to support further studies using resiliency as an intervention to combat compassion fatigue.

Two articles evaluated the use of debriefing sessions and their impact on compassion fatigue. In a mixed methods quality improvement study by Zajac et al. (2017) they explored the usage of debriefing after each patient's death. This came about because during the initial investigation of the decreasing patient satisfaction scores it was discovered that the nurses were suffering from compassion fatigue. A pre-intervention educational session included information regarding the project, an information sheet, and the pre-intervention surveys. The intervention was carried out over 3 months; during this time there were 16 patient deaths and 15 debriefing sessions. Post-intervention surveys were not matched with pre and only included those nurses that completed pre-intervention surveys. The quantitative data did not reveal significant differences in compassion fatigue scores post-intervention. Qualitatively, however, the nursing staff did report that they did feel that the debriefing sessions were helpful to them.

In the second article related to debriefings, Arbios et al. (2022) conducted a quality improvement project to address compassion fatigue in pediatric intensive care nurses. The cumulative stress debriefings were conducted every month, lasting about an hour for 6 months. Nurses completed a pre-intervention survey and a 6-month survey. The sixth-month survey was given also to non-participants to assess barriers to use. Based on these surveys, the sessions were increased to twice a month. The participants were then resurveyed at 9 and 12 months. Because there was no identifying data collected on surveys it is unclear whether the surveyed nurses were the same from previous surveys leading to the inability to collect any statistical data on the effects the debriefings had on compassion fatigue. Qualitatively nurses did report that they felt that the sessions were beneficial to physical and mental well-being.

Yilmaz et al. (2018) conducted a pre- and post-intervention study that examined the use of multiple nurse-led interventions. Preintervention data was collected using the ProQOL 4 and the Post Traumatic Growth Inventory. The interventions were then carried out that included two sessions that entailed didactic information on the topic, background reading, video demonstrations, exercise, baksi dance and mandala painting techniques, followed by counseling via a smartphone application for two weeks after the session. Motivational messages were sent to the nurses daily via this application. The intervention period ran for 4 weeks. Post-intervention data were collected at 5 weeks. There were 43 participants in the study. Data did reveal a statistically significant decrease in compassion fatigue with a p-value of $< .001$, indicating that having nurses trained on multiple

different types of self-care techniques does have a significant effect on compassion fatigue.

Meditation was looked at by Hevezi (2016) as a possible intervention to combat compassion fatigue. She conducted a non-randomized pre- and post-intervention pilot study with 15 participants. The ProQOL 4 was completed pre-intervention and after a 4-week intervention trial. There were also four supplemental questions added to collect qualitative data to the post intervention survey. The interventions were taught during a one-on-one educational session with participants receiving an educational information folder and audio CD with three different breathing/meditation choices ranging from 4 to 8 minutes. Participants committed to doing the exercises five times a week for 4 weeks. The ProQOL 4 was administered before starting intervention and after the intervention in week 5. The results did show statistically significant decreases in burnout ($p = .003$) and STS ($p = .0047$). The effect size was large at $d > .5$. Qualitative data collected via the supplemental questions revealed that the nurses reported lower levels of stress, increased relaxation effect, and increased feelings of self-compassion. This study does support the use of meditation as a tool to combat compassion fatigue.

Reiser and Gonzalez (2020) conducted a quality improvement project to increase self-compassion through toolkits to combat compassion fatigue. The toolkits contained many resources on mental health coaches, mentorship opportunities, therapies at an integrative medicine center and health coaches. These toolkits were placed at the nursing station of two oncology units. Participating nurses completed the ProQOL tool plus other tools before the toolkits being placed. The second phase of the study looked at barriers to

using the kits. Data revealed that the tool kits were not felt to be helpful at all. The qualitative data that they received from the nursing staff revealed that there was very poor usage of the toolkit. Focus groups were conducted to assess why the toolkits were not helpful. This revealed complex shifts, understaffing, and patient acuity as reasons for not using them. During these focus groups the researchers found that nurses did not want interventions to enhance self-care and compassion satisfaction from their leadership. One of the things they did want from leadership included respite rooms incorporated into the facility.

Rajeswari et al. (2020) conducted an experimental pre and posttest interventional study with participants randomized to either the experimental arm or the control arm. They were evaluating whether an accelerated recovery program impacted compassion fatigue stores as measured by the ProQOL 5 tool. There was a total of 120 participants; 60 in each arm. The intervention was an accelerated recovery program (see article for in-depth details about the program) that was carried out once a week for 5 weeks lasting 90 to 120 minutes and included didactic and experiential training along with audio guidance. Surveys were done pre-intervention, after training, and then at 3, 6, 9 and 12 months. Data revealed that the use of an accelerated recovery program does have a statistically significant result on decreasing burnout scores ($p = .001$) and STS scores ($p = .001$); the two components of compassion fatigue. The mean scores for burnout at baseline was 47.72 and at one year it was 35.6; the STS scores were 46.57 at baseline and 35.57 at one year. These results indicate that the components of an accelerated recovery program have lasting effects.

Wayment et al. (2019) evaluated the effects of a brief "quiet ego" workplace intervention on compassion fatigue. Quiet ego is a brief cognitive intervention that allows for reflection and rumination. The goal of this study was to assess the effects of quiet ego on self-rated health, compassion fatigue, and compassion satisfaction. The total final sample size was 37. The intervention was taught in a workshop setting with four sessions conducted every other week lasting 45 to 60 minutes. Results of the study were positive in that participants employed quiet ego cues many times (88%) when stressed. This study did find a strong correlation between compassion fatigue levels and general self-reported health at $r = -.35$ ($p < .05$). The results did show a statistically significant reduction in compassion fatigue ($p = .001$) and the self-reported health improved ($p = .051$). This study highlights the importance of studying compassion fatigue and health complaints together.

The next two articles discuss the use of camps or retreats to help combat compassion fatigue and nursing staff. The first article by Lee et al. (2018) came about due to an investigation that revealed that many nurses working in the burn unit were leaving due to compassion fatigue. These camps were designed for the victims of burn injuries, who happen to be children, as a way for them to feel normal again. The burn unit nurses were invited to act as counselors or chaperones so that they could see the outcomes of their painful work. Though no statistical data was collected, the authors did report that the nurses felt they could make peace with their work. Since the program's inception 40 nurses and over 220 children have participated. This article highlights the

importance of giving nursing staff time to reflect and reconnect with their nursing purpose.

The second article looked at self-care retreats for pediatric hematology oncology nurses (Altounji et al., 2012). Though this study did not measure compassion fatigue, the qualitative data from the retreats revealed that nurses felt revived and rejuvenated, that their passion for their work was rekindled and that the retreats made them feel appreciated. What this article and the Lee et al. (2018) article offer is anecdotal evidence that suggests having some sort of quiet self-care area can help allow nurses to reflect and reconnect with the reason why they became nurses.

Summary

While there is a plethora of data regarding compassion fatigue, definitions, signs, and symptoms, defining attributes, consequences and sequela, and interventional studies of interventions; there is no one way that works for all people to combat compassion fatigue. This literature review has touched on compassion fatigue in nursing and other disciplines including, teachers, law enforcement, fire fighters, social workers, lawyers, and judges. There was information presented on the physical, psychological, and work-related problems seen with compassion fatigue. Finally, studies were abundant discussed that looked at interventions tested to assess their effectiveness in combatting compassion fatigue. Many of these studies do show promise at effectively assisting persons suffering from compassion fatigue however, there is not enough evidence to point to one specific intervention. What is noticed is that having a variety of options available in a location that is easily accessible to people shows the most promise (Copeland, 2018; Rajeswari et

al., 2020; Yilmaz et al., 2018). This study seeks to assess compassion fatigue levels and general health complaints in oncology nurses and explore if there is a correlation between compassion fatigue scores and general health complaints.

Chapter 3: Research Method

The purpose of this mixed method convergent concurrent study was twofold. The quantitative purpose was to examine the relationship between compassion fatigue and health complaints. The qualitative purpose was to explore nurses' perceptions of compassion fatigue. Mixed-methods research was chosen because this methodology provides quantitative data that may show statistical significance while at the same time adding the richness and depth of qualitative data that address the lived experiences of oncology nurses. This chapter includes a description of the study's methodology, including the research design and setting, the role of the researcher, recruitment of participants, data collection procedures, and instrumentation. It also includes the data analysis plan, threats to validity, issues of authenticity and trustworthiness, and ethical issues.

Research Design and Rationale

The primary concepts studied in this project were compassion fatigue and general health. *Compassion fatigue* is "the negative aspect of the work of caring for others" (Stamm, 2010, p. 5). *General health* is defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, n.d., p. 1). *Professional quality of life* is "the quality one feels about their work as a helper" (Stamm, 2010, p. 8). The term *helper* includes any professional in a position to help others in times of crisis. There are both positive and negative facets of a profession that affects a person's professional quality of life. Positive professional quality

of life has been termed compassion satisfaction, while negative has been termed compassion fatigue (Stamm, 2010).

The mixed-methods design that I used was a convergent, concurrent design (see Gray et al., 2017). This design is beneficial when a researcher wants to confirm findings within a single study using a single sample. In this design, both quantitative and qualitative data are collected simultaneously, analyzed separately, and then integrated to interpret and draw conclusions (Gray et al., 2017). I selected this approach as the best to answer the research questions because it provides quantitative data that may show statistical significance while at the same time adding the richness and depth of qualitative data. Both quantitative and qualitative methods were needed in the study because they provided a combination of results to answer the research questions, which were as follows:

RQ1 (qualitative): What are the perceptions of oncology nurses regarding compassion fatigue?

RQ2 (quantitative What is the correlation between compassion fatigue and general health complaints in oncology nurses as measured by the ProQOL 5 and the GBB-8?

$H_0$2: There is no correlation between compassion fatigue and general health complaints.

$H_1$2: There is a correlation between compassion fatigue and general health complaints.

Setting

This study was an online survey posted to the Oncology Nursing Society community digest board. The study targeted actively working oncology nurses with at least 1 year of experience. This forum had the ability to reach over 10,000 oncology nurses.

The rationale for the choosing mixed-methods design was to allow both quantitative and qualitative data to be collected within a single sample group. A single sample group was chosen because the goal of this research was to compare findings about a topic and avoid adding extraneous variables by having two different samples (see Creswell & Plano Clark, 2018). Quantitative data and qualitative data were collected at the same time. Quantitative data were collected via a demographic tool, the ProQOL 5 tool, and the GBB-8 (see Appendix A). Qualitative data were collected via a series of eight open-ended questions to gather information on compassion fatigue and general health of oncology nurses. The data were analyzed, separating, and then merged. The intent of this merger was to expand the understanding of compassion fatigue and general health in oncology nurses. These results are presented in a comparative joint display (see figure 2; see Creswell & Plano Clark, 2018).

Role of the Researcher

My roles as the researcher in the study were many. I was the one explaining this study to the participants and obtaining informed consent via the survey link. I also was the one collecting and interpreting the data. There was only a very slight risk of participation bias if any of the local area nurses were part of the Oncology Nursing

Society, they may recognize my name. To my knowledge, there were no competing studies through the Oncology Nursing Society. There is no conflict of interest because I and the Oncology Nursing Society were interested in addressing compassion fatigue and general health in the oncology nursing staff. No ethical issues were identified.

Methodology

Population

The population for the study was oncology nurses in the United States. Inclusion criteria included that participants must be 18 years old or older, with at least 1 year of oncology experience, and actively working full-time or part-time in the oncology setting. Exclusion criteria were less than 18 years old, with less than 1 year of experience in the oncology setting, and not currently working in oncology.

Sampling Procedures

The sampling method I used was purposive sampling because I am focusing on a specific phenomenon in a particular population; compassion fatigue and general health in oncology nurses (see Gray et al, 2018).

The included sample was used for both the qualitative and quantitative sections. The sample sizes were different for the two sections. Creswell and Plano-Clark (2018) noted that having a smaller qualitative sample and a larger quantitative sample helps the researcher “obtain a rigorous and in-depth qualitative exploration and a rigorous high power quantitative examination of the topic” (p. 188). Even though the sample was purposeful, I aimed for at least 55 individuals in the quantitative portion of the study. This number was decided based on G*Power analysis (see Faul, 2020). G*Power analysis

revealed a minimum sample size of 42 based on a large effect size (d = .5), a power of .95, and an alpha error probability of .05. The number 55 was chosen to allow an attrition rate of 20%. Concerning the qualitative data, there needed to be an adequate sample size to achieve saturation. Saturation with qualitative data is defined as the point in qualitative data collection when no new information is being revealed (Rubin & Rubin, 2012). Due to this, there was no preset minimum number of participants in qualitative data collection as there was in quantitative data collection to achieve statistical power.

Procedures for Recruitment, Participation, and Data Collection

To recruit participants and obtain a diverse demographic, I posted the study to the Oncology Nursing Society community digest board and provided information about the study (see Appendix C). This post reached up to over 10,000 RNs. All eligible participants could read about the study purpose and decide if they wanted to participate. There were two different links available, one had the quantitative tools only while the second one had the quantitative tools and the qualitative questionnaire. Both links were available as a one or a two and the participant randomly selected a link to complete the study. Informed consent was implied if the participants completed the questionnaire and tools.

Instrumentation

Qualitative Components

Qualitative data collection was undertaken via eight open-ended questions with written responses (see Appendix A). These questions focused on compassion fatigue and general health. To address threats to validity the same concepts of compassion fatigue

and general health were addressed in quantitative and qualitative data collection (see Creswell & Plano-Clark, 2018). To address the issues of authenticity and trustworthiness, the questionnaires were analyzed and saved by myself only and made available for audit to the university as warranted.

Quantitative Components

ProQOL 5 Tool.

The ProQOL5 tool was originally developed by Dr. Charles Figley in the late 1980s and has since gone under revision and refinement. The scale measures compassion fatigue via burnout and secondary traumatic stress and then compassion satisfaction. The compassion fatigue scale is distinct. I collected data on all three parts of the scale as it is the best way to support its validity and reliability. Measurement of the ProQOL5 has 30 questions on a Likert scale and the directions on how to score it are in the manual that accompanies it. The reliability is 0.88. Burnout scores less than 23 are reflective of positive feelings in the workplace, whereas scores greater than 41 indicate a higher risk of burnout. A secondary traumatic stress score greater than 43 indicates a high level of STS and the need for intervention. The two scales, burnout and secondary traumatic stress, equal the compassion fatigue scale. There is no statistical difference across gender, age, race, income, years in the current position or field (Stamm, 2010). This tool has proven both valid and reliable with over 200 published articles and more than 100,000 articles on the internet (see Appendix A for tool and statement of permission).

GBB-8.

The GBB-8 was adapted from the GBB-24, a German measure of subjective health complaints (Kliem et al, 2017). The GBB-8 has eight items rated on a Likert scale ranging from 0 (*not at all*) to 4 (*very much*), indicating how troubling each complaint is perceived. This adaption was developed and validated in a large population study with over 2000 participants. The psychometric analyses included confirmation of factor structure, classical item analysis, and measurement invariance tests. The sample was deemed to serve as a normal group for the population. To determine construct validity, correlations with measures of anxiety, depression, alexithymia, and primary care contact were computed. Analyses revealed a Cronbach's alpha of .88, the comparative fit index was .980. This applies to the four-factor model represented in the GBB-8 (i.e., exhaustion, gastrointestinal complaints, musculoskeletal complaints, and cardiovascular complaints). Construct validity of the scale is evidenced by the correlation coefficients of the GBB-8 total score with depression and anxiety were $r = .56$. The GBB-8 (see Appendix A for tool and statement of permission) score also showed high correlations ($r = .44$, $p < .001$) with the number of primary care provider contacts in the previous year, as well as the number of physician consultations ($r = .45$, $p < .001$; see Kliem et al., 2017).

Demographic Questionnaire.

The third quantitative tool was a basic demographic questionnaire (see Appendix A) developed by me. I used this questionnaire to collect basic demographic data such as age, years of nursing experience, years of oncology-specific experience, marital status,

and gender identification. This was used to establish the population being studied. These instruments, both quantitative and qualitative, provided sufficient data to answer the research questions.

Data Analysis Plan

The data were analyzed separately and then merged to answer the research questions. The data were analyzed quantitatively using SPSS (Version 27) software and qualitatively by using Saldana's first- and second-level coding methods. The research questions were as follows:

RQ1 (qualitative): What are the perceptions of oncology nurses regarding compassion fatigue?

RQ2 (quantitative What is the correlation between compassion fatigue and general health complaints in oncology nurses as measured by the ProQOL 5 and the GBB-8?

$H_0$2: There is no correlation between compassion fatigue and general health complaints.

$H_1$2: There is a correlation between compassion fatigue and general health complaints.

Quantitative Data Analysis Plan

The quantitative analysis plan included the demographic questionnaire to establish the population, the ProQOL 5 and GBB-8 data. The data were cleansed by reviewing all the tools to ensure they are filled out. Any quantitative tools not completed 100% were not included in the final data set. All data were entered into SPSS by me.

Demographic data are displayed as tables to establish the population (see table 1 demographic data; see table 2 demographic data from qualitative subset). Both inferential and descriptive statistics were used to answer the research questions (Frankfort-Nachmais et al., 2021).

For RQ2, I used Pearson's correlation to look at the relationship between the variables to start to interpret the data and determine if there was a relationship in the data. Pearson's correlation was used to determine the strength of that relationship, determining if we accepted the hypothesis and rejected the null. The p-value was set to $p = .025$.

Qualitative Data Analysis Plan

Qualitative data were collected through written responses to eight open-ended questions that explored the perceptions of oncology nurses regarding compassion fatigue and their general health.

These questions were evaluated and coded for any recurring codes or themes using Saldana's (2021) coding methods. First-level coding was conducted by manual in vivo coding (not the software). This coding method is also known as literal or verbatim coding and applies to all forms of qualitative research (Saldana, 2021). In vivo coding helps "to preserve the participants' meanings and actions" (Chasm, 2014, as cited by Saldana, 2021, p.14). Second-level coding was undertaken using pattern or thematic coding (Saldana, 2021). Pattern codes are "explanatory or inferential codes" (Saldana, 2021, p.322). Pattern coding was appropriate in this instance because it condenses a large amount of information into different analytical units (categories/themes) and looks for causes and explanations in the data.

The data were then integrated to draw additional insights into compassion fatigue and general health in oncology nurses. Using the quantitative results with the qualitative analysis enhanced understanding and provided insight into the research problem. The mixed results are presented in a comparison joint display (see figure 2; see Creswell & Plano Clark, 2018).

Threats to Validity

External threats to validity limit the ability of the results to be generalizable to other settings and populations (Gray et al., 2017). Some threats that may have been seen and were addressed in this study were with sampling and attrition rate. Using purposeful sampling does decrease the possibility of generalizability; however, the sample size was large enough to ensure that the needed number of participants was above what was determined by G*Power analysis to achieve statistical results.

Internal validity refers to the degree to which one variable affects the other (Gray et al., 2017). One threat to internal validity with this study could have been treatment effect. Participants knew that they were being evaluated for health complaints and compassion fatigue, and knowing this may have caused them to answer differently; however, this does not seem to be the case based on the data. Since all questionnaires were anonymous, there was no risk to the participants based on their results. Attrition also falls into internal validity and was covered in the discussion on external validity.

Threats to construct validity involve design, measurement, and social interplay (Gray et al., 2017). To control for these, all definitions were clearly defined, the design applied to the study, all measurement tools have been thoroughly tested and validated.

Threats to statistical conclusion validity include violated assumptions of statistical tests, low statistical power, and fishing (Gray et al., 2017). To control for this, the statistical tests that were used had already been determined and discussed; this addressed fishing. A G*Power analysis was completed to ensure adequate power and a larger sample size was obtained to allow for a 20% attrition rate and thus maintain statistical power.

Issues of Trustworthiness

Issues of trustworthiness are important to discuss because they can assure that I have a reliable and valid study. The issues discussed include credibility, transferability, dependability, and confirmability (Houser, 2018). Credibility was established due to prolonged time spent with the data and documented in an analytic report. Triangulation helped maintain credibility by having provided an extensive literature review to support the study variables. Transferability was established by providing an in-depth description of the study design, methods, and data for others to replicate the study. Dependability was exhibited through extensive discussion about the research method and questions, why they were chosen and how the methods answered the research questions. My research design and methods were discussed with both quantitative and qualitative statisticians at Walden University. One aspect of the study results that could be questioned would be the coding portion of the qualitative data; to ensure dependability my qualitative data is available for audit by my committee and the institutional review board (IRB) as applicable or requested. Confirmability is an issue with qualitative data collection; to help avoid this I used direct quotes from the data. I also used constant

comparative methods to ensure I was quoting the data correctly to ensure confirmability and dependability. I also kept a decision trail to assist with any audit (see Houser, 2018).

Ethical Procedures

Ethics in research are extremely important to discuss. Throughout my entire study I followed the ethical principles laid out in the Belmont report; respect for persons, beneficence, and justice (Gray et al., 2017). With regards to respect for persons, all participation was entirely voluntary and they had the right to withdraw from study, at any point, without any consequence. No participants were forced or coerced into participating. Regarding the principle of beneficence, there was no intervention and all tools and questionnaire were designed to do no harm. Regarding the principle of justice, all oncology nurses could participate if they met inclusion criteria. All participants were treated equally and fairly. There were no vulnerable populations in this study. There were no power relationships involved. There was no personal data noted on any of the tools. There were no participant's names on any of the data. All data will be kept secure on a flash drive that will always remain in my possession or in my home. All data will be kept for a total of 5 years as per university guidelines and then destroyed. I received institutional permissions from the university IRB (Approval No. 12-02-22-1041971). All data will be made available to the university following their guidelines.

Summary

In this chapter, I have discussed the methodology of the proposed research study. There has been a detailed discussion about the population, the setting, and the sample size. The various tools that will be used in the study, along with their data collection

methods were also discussed. This chapter concluded with a review of threats to internal and external validity, issues of trustworthiness and ethical considerations.

Chapter 4: Results

The purpose of this mixed methods convergent concurrent study was twofold. The quantitative purpose was to examine the relationship between compassion fatigue and health complaints. The qualitative purpose was to explore nurses' perceptions of compassion fatigue. The following research questions and hypotheses were used to guide this study:

RQ1: What are the perceptions of oncology nurses regarding compassion fatigue?

RQ2: What is the correlation between compassion fatigue and general health complaints in oncology nurses as measured by the ProQOL 5 and the GBB-8?

$H_0$2: There is no correlation between compassion fatigue and general health complaints.

$H_1$2: There is a correlation between compassion fatigue and general health complaints.

The variables studied were nurses' compassion fatigue and general health complaints.

Setting

The setting for this study was an online survey comprised of two different study links: one with the quantitative survey questions only and a second with both quantitative tools and the qualitative questionnaire. These links were posted to the Oncology Nursing Society community digest board once permission was received from the governing organization. Data collection began on December 5, 2022. This forum reaches over 10,000 oncology nurses across the United States. Since this was an online study, personal

or organizational conditions that may have affected participation could not be interpreted. Participants self-selected if they were able to participate or not. Data collection concluded on December 19, 2022, when the target number of participants of 55 was achieved.

Demographics

Demographic data were collected on a total of 55 participants. Analysis of the demographic data revealed that 98% of respondents were female (n = 54) and 2% were male (n = 1). In terms of employment status, 84% worked full time (n = 46), whereas 16% worked part time (n = 9). Data revealed that 76% of the respondents were white (n = 42). Ages ranged from 25 to 65 plus with no respondents under age 25; most respondents fell into the 45 to 64 age group (n = 30). With regards to years of experience, 45% of the respondents had been in nursing over 25 years (n = 25); 17 of those respondents had spent that time working in oncology. See Table 1 for demographic data for the total sample. The demographic data on the subset of participants who completed the qualitative questionnaires in presented in Table 2.

Table 1

*Demographic Data (*N = *51)*

Characteristic	*n*	%
Age of respondent		
25-34	10	18
35-44	9	16
45-54	14	26
55-64	16	29
65+	6	11
Gender		
Male	1	2
Female	54	98
Ethnicity		
Caucasian	42	76
African American	5	9
Hispanic/Latino	2	4
Asian American	2	4
Other	3	6
Prefer not to answer	1	2
Marital status		
Single	11	20
Married	35	64
Divorced	4	7
Widowed	3	6
Prefer not to answer	2	4
Number of children		
0	22	40
1-2	22	40
3-4	9	16
5+	2	4
Highest level of education		
Diploma	1	2
Associates	4	7
Bachelors	23	42
Masters	21	38
PhD/DNP	6	11
Nurse of years as a nurse		
1-4	4	7
5-9	10	18
10-14	3	6
15-19	8	15
20-24	5	9
25+	25	46
Number of years as an oncology nurse		
1-4	10	18
5-9	11	20
10-14	6	11
15-19	6	11
20-24	5	9
25+	17	31

Table 2

*Demographic Data From Qualitative Subset (*n = *15)*

Characteristic	*n*	%
Age of respondent		
25-34	3	20.0
35-44	3	20.0
45-54	2	13.3
55-64	3	20.0
65+	4	26.7
Gender		
female	15	100
Ethnicity		
Caucasian	10	66.7
African American	2	13.3
Asian American	1	6.7
Other	2	13.3
Marital status		
Single	2	13.3
Married	9	60
Divorced	1	6.7
Widowed	2	13.3
Prefer not to answer	1	6.7
Number of children		
0	5	33.3
1-2	7	46.7
3-4	2	13.3
5+	1	6.7
Highest level of education		
Associates	1	6.7
Bachelors	6	40
Masters	7	46.7
PhD/DNP	1	6.7
Number of years as a nurse		
1-4	1	6.7
5-9	2	13.3
10-14	1	6.7
15-19	3	20.0
20-24	1	6.7
25+	7	46.7
Number of years as an oncology nurse		
1-4	3	20.0
5-9	2	13.3
10-14	4	26.7
15-19	1	6.7
25+	5	33.3

Data Collection

Data were collected via SurveyMonkey on a total of 55 participants; all 55 completed the quantitative data, whereas 15 completed the qualitative data. I posted two survey links on the Oncology Nursing Society community digest board that had the potential to reach over 10,000 oncology nurses. Participants self-selected one of the two links to complete the surveys. One link contained only the quantitative tools, whereas the other link had both quantitative tools and the qualitative questionnaire. Thirty-nine participants self-selected the first link which was only quantitative tools while 16 selected the second link that had both quantitative tools and the qualitative questionnaire. Only 15 of the 16 participants that selected Link 2 completed the qualitative questions; one participant did not answer any of the qualitative questions but did complete the quantitative portion and was therefore only included in the quantitative data analysis.

The study was posted on December 5, 2022, and stayed open and available on the forum until the desired number of participants was reached ($N = 55$). It took 14 days to reach that number. Data were recorded through SurveyMonkey. All data were collected according to the plan laid out in Chapter 3; there were no variations. There were also no unusual circumstances encountered with collecting the data. The study closed on December 19, 2022.

Data Analysis

The collected data were exported from SurveyMonkey to Microsoft Excel where they were cleaned before being transferred to SPSS 27 for data analysis of the quantitative tools. Of the 55 quantitative surveys collected, four were incomplete; three

were missing data to complete scoring of the compassion fatigue levels, and one was missing one question on the health complaint tool. These four surveys were not used in the final data analysis for compassion fatigue and general health complaints; they were only used for demographic purposes.

Qualitative data analysis was undertaken through Saldana's (2021) first- and second-level coding. The first-level coding techniques that was used is called in vivo coding also known as "verbatim coding" (Saldana, 2021, p.137). This method uses words or short phrases from the actual participants responses. This allowed me to pull the actual words and phrases that stood out. After first-level coding was completed, I waited a few days before going back to complete second-level coding. The second-level coding I used was pattern coding, also by Saldana (2021). Pattern coding is used to look for inferential codes in the data to develop a theme. In this instance, several different themes presented themselves in the data: fatigue, overwhelming, irritability, anxiety, depression, muscle pain and body aches, sense of purpose, and fulfillment. See Table 3 for a list of the qualitative themes. See Figure 1 for a visual representation of these themes; the word sizing is representative of how often the words were mentioned in the qualitative data. There were no significantly discrepant cases in the data.

Table 3

Qualitative Themes

Qualitative themes	Number of times mentioned
Fatigue	9
Overwhelming	3
Irritability	2
Sense of purpose	1
Fulfillment	1
Muscle pain and body aches	4
Anxiety	2
Depression	3

Figure 1

Qualitative Themes

Results

Results of the study will be discussed in the following section. As this was mixed methods research study, I will discuss the results of the research questions separately and then discuss how the data merges to support each other.

Qualitative Results

My first research question was "What are the perceptions of oncology nurses regarding compassion fatigue?" I had a total of 14 respondents answer this question. First-level coding as described above revealed that all the participants who responded to the question believed that it was a very real phenomenon. Respondent 1 stated that she felt it was "huey [*sic*] until it started to affect me." Respondent 8 felt that it was "giving more of yourself than you can refill." Based on respondent comments, they felt that compassion fatigue was a real phenomenon that needs to be addressed.

Second-level coding revealed that compassion fatigue is a "very real phenomenon" (Respondent 9), where nurses are "losing interest and joy in caring for patients" (Respondent 2). Respondent 1 stated that "it's more of a chore to interact with people anymore and to go work." Respondent 3 stated that compassion fatigue "is a very real, multi-factorial experience," while Respondent 5 called it a "genuine ailment." Respondent 7's perception of compassion fatigue was that it is "a real issue that happens often and quickly with a certain patient population." Respondent 8's perception of compassion fatigue was that it was "giving of yourself more than you can refill." She went on to state that "the compassion is gone and despite the person's desire to give compassion, their tank is just empty and they have nothing left to give." Respondent 14's perception of compassion fatigue was one of "burnout; numbness." She also stated that she "believes that compassion fatigue negatively impacts health." Respondent 16's perception of compassion fatigue is one of "hopelessness and detachment."

Additional data were collected from participants about whether they felt they suffered from compassion fatigue and why they felt that way. Forty-seven percent of participants reported feeling that they did suffer from compassion fatigue, while 40% stated that no they did not, and 13% said that sometimes they thought they suffered from it (n = 7, 6, and 2, respectively). Among the seven respondents who reported suffering from compassion fatigue, Respondent 1 wrote that she knew she suffered from compassion fatigue because "I cry at the drop of a hat, could spend all day in bed, it's more of a chore to interact with people anymore and go to work." Respondent 13 reported knowing that she suffered from compassion fatigue because she "felt she had nothing left to give to anyone." One of the six participants who reported that they did not suffer from compassion fatigue, Respondent 4, stated that "I meditate, do yoga and pray and I find those activities help me stay focused." Respondent 14 also replied "no" to feeling like she suffered from compassion fatigue and as to why she stated "I feel fulfilled and energized by my work." See Table 4 for details of this data.

Table 4

Do You Believe You Suffer From Compassion Fatigue and Why Do You Think That?

Do you believe you suffer from compassion fatigue?	Why do you think that?
Yes (*n* = 7)	"Cried" (1)
	"Stay in bed" (1)
	"Nothing left to give" (13)
	"Chore to interact with people" (1)
	"Do not feel as caring" (3)
	"Not as excited about nursing" (6)
No (*n* = 6)	"Pray" (4)
	"Meditate" (4)
	"Practice yoga" (4)
	"Work makes me feel fulfilled" (6)
	"Work makes me feel energized" (14)
	"Work keeps me focused" (4)

Note. The number in parentheses is the respondent who stated that response.

In summary, the answer to the first research question was that oncology nurses do believe compassion fatigue is a very real phenomenon that needs to be addressed. They also believe it is exhibited by multiple factors including fatigue, irritability, anxiety, and depression. They also stated that nurses exhibiting compassion fatigue are physically exhausted and mentally drained, overwhelmed, and exhibit a lack of interest in their patients. Respondent 7 stated that nurses exhibiting compassion fatigue seemed to be just "going through the motions."

Quantitative Results

Quantitative data analysis was undertaken to explore a correlation between compassion fatigue levels and general health complaints. The research question answered here was "What is the correlation between compassion fatigue and general health complaints in oncology nurses as measured by the ProQOL 5 and the GBB-8?" GBB-8 scores general health complaints on a Likert scale from 0 (*not at all*) to 4 (*very much*).

There are four symptom clusters measured: exhaustion, gastrointestinal complaints, musculoskeletal complaints, and cardiovascular complaints (see Kliem et al., 2017).

Bivariate correlation analysis was done on each of these four symptom clusters against burnout and STS, the two components of compassion fatigue as measured by the ProQOL 5 (Stamm, 2010). G*Power analysis revealed that the minimum number of participants needed for a large effect size (d = .5), a power of .95 and an alpha error probability of .05 was 42. A total of 55 participants completed the tools, but four of these were not fully completed and therefore not utilized in the final data analysis. The final number for data analysis was 51.

In order to answer the research question, four separate correlational tests were run for each of the different system clusters mentioned above.

Exhaustion

A Pearson's correlational analysis was conducted in order to determine if there was a statistically significant relationship between exhaustion, burnout, and secondary traumatic stress (see Table 5). Results revealed that there was a medium but statistically significant positive correlation between exhaustion, burnout, and STS (r = .613, n = 51, p = .000; r = .521, n = 51, p = .000, respectively).

Table 5

*Pearson Correlation Exhaustion, Burnout, and STS (*N = *51)*

	EXH	
Variable	Pearson correlation	Sig. (2-tailed)
BOLEVEL	.613**	0.000
STSLEVEL	.521**	0.000

Note. BOLEVEL = burnout level; EXH = exhaustion; STSLEVEL = secondary traumatic stress level.

** Correlation is significant at the 0.01 level (2-tailed)

Gastrointestinal Complaints

A Pearson's correlational analysis was conducted in order to determine if there was a statistically significant relationship between gastrointestinal complaints, burnout, and secondary traumatic stress (see Table 6). Results revealed that there was a small but statistically significant positive correlation between gastrointestinal complaints and STS (r = .321, n = 51, p = .022) but not with burnout (r = .187, n = 51, p = .189).

Table 6

*Pearson Correlation Gastrointestinal Complaints, Burnout, and STS (*N = *51)*

	GI	
Variable	Pearson correlation	Sig. (2-tailed)
BOLEVEL	.187	.189
STSLEVEL	.321*	.022

Note. BOLEVEL = burnout level; GI = gastrointestinal complaints; STSLEVEL = secondary traumatic stress level.

* Correlation is significant at the 0.05 level (2-tailed)

Musculoskeletal Complaints

A Pearson's correlational analysis was conducted in order to determine if there was a statistically significant relationship between musculoskeletal complaints, burnout, and secondary traumatic stress (see table 7). Results revealed that there was a small but statistically significant positive correlation between musculoskeletal complaints and burnout ($r = .294$, $n = 51$, $p = .036$) but not with STS ($r = .199$, $n = 51$, $p = .163$).

Table 7

*Pearson Correlation Musculoskeletal Complaints, Burnout, and STS (*N = *51)*

	MSCO	
Variable	Pearson correlation	Sig. (2-tailed)
BOLEVEL	.294	.036*
STSLEVEL	.199	.163

Note. BOLEVEL = burnout level; MSCO = musculoskeletal complaints; STSLEVEL = secondary traumatic stress level.

* Correlation is significant at the 0.05 level (2-tailed)

Cardiovascular Complaints

A Pearson's correlational analysis was conducted in order to determine if there was a statistically significant relationship between cardiovascular complaints, burnout, and secondary traumatic stress (see Table 8). Results revealed that there was a small but statistically significant positive correlation between cardiovascular complaints and STS ($r = .370$, $n = 51$, $p = .007$) but not with burnout ($r = .212$, $n = 51$, $p = .135$).

Table 8

Pearson Correlation Cardiovascular Complaints, Burnout, and STS

	CVCO	
Variable	Pearson correlation	Sig. (2-tailed)
BOLEVEL	.212	.135
STSLEVEL	.370**	.007

Note. BOLEVEL = burnout level; CVCO = gastrointestinal complaints; STSLEVEL = secondary traumatic stress level.

** Correlation is significant at the 0.01 level (2-tailed)

Based on the above analysis the null hypothesis would be rejected. There were statistically significant relationships seen with the compassion fatigue scales in reference specifically to burnout in relationship to exhaustion and musculoskeletal complaints (p = 00 and p = .036, respectively) but not with GI complaints or cardiovascular complaints (p = .189 and p = .135, respectively). Secondary traumatic stress levels were statistically significant with exhaustion, gastrointestinal complaints, and cardiovascular complaints (p = .000, p = .022, and p = .007, respectively) but not with musculoskeletal complaints (p = .163).

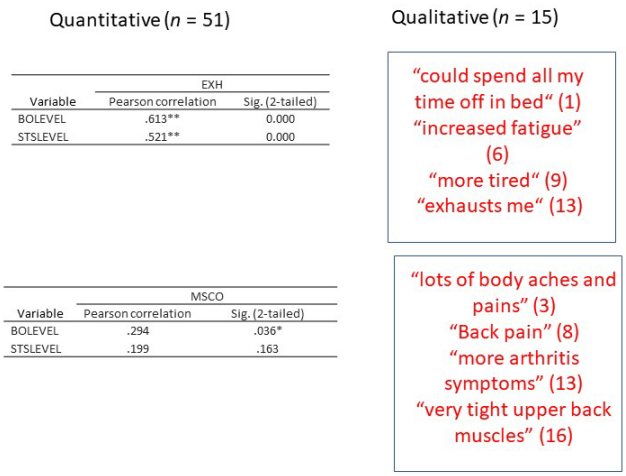
Mixing the Data

The merged results are shown in a joint display (see Figure 2) below but will be discussed narratively for interpretation. In the quantitative correlational data, there is a moderate statistically significant positive relationship between exhaustion and burnout and STS; the qualitative data also reflects this. When respondents were asked what they felt compassion fatigue looked like they responded with “physically exhausted,” “mentally drained,” “tiredness,” and “nothing left to give.” In the relationship between

musculoskeletal complaints and burnout and STS there is a positive correlation with both burnout and STS (r = .294, r = .199, respectively); While this relationship is a small to weak, respectively, there is a statistically significant relationship with burnout (p = .036). The qualitative data portrays a stronger picture. When participants were asked about their general health over the last 6 months, four out of the seven participants who stated that they did suffer from compassion fatigue, listed their health complaints as increasing muscle pain and body aches and fatigue. The specific question regarding health complaints was open-ended and did not ask about specific ailments.

Figure 2

Joint Display of Mixed Results



Note. BOLEVEL = burnout level; EXH = exhaustion; STSLEVEL = secondary traumatic stress level; MSCO = Musculoskeletal complaints

Even though there was quantitative data indicating a statistically significant relationship between cardiovascular complaints and STS levels there were no qualitative responses regarding the two symptoms that fell into that symptom cluster; dizziness and

palpitations. There was also a statistically significant relationship between gastrointestinal complaints and STS levels however there was no qualitative data responses with regards to the symptoms of a stomach ache and feeling bloated that the GBB-8 uses.

Evidence of Trustworthiness

Evidence of trustworthiness of qualitative data is met through credibility, transferability, dependability, and confirmability (Houser, 2018). Credibility of this study was maintained by careful review of the qualitative data. There was extra time spent on the data; after first-level coding I waited a few days before doing second-level to ensure I agreed with the first-level coding. Another way I ensured credibility was to use direct quotes from participants, as seen previously in this chapter. Triangulation also supports credibility of this study as I had an extensive literature review to support the study variables and concepts along with the quantitative tools and the qualitative questionnaire. Transferability was established through ensuring I had detailed documentation of the study design, methods, and procedures and a comprehensive review of the study variables and concepts.

My design and methods were discussed at length with both quantitative and qualitative statisticians at Walden University ensuring dependability of my data along with providing a detailed report of my research methods. Confirmability of the qualitative data were met through journal notes that helped me to stay focused on the coding process along with constant comparative checking. These notes are available upon request to my dissertation committee or the IRB.

Threats to Validity

Threats to external validity were minimized in that my sample size was greater than what was determined by G*Power analysis to meet statistical significance ($N = 55$). One threat to internal validity that was previously noted was the possibility of treatment effect. Participants knew that they were being evaluated for compassion fatigue and health complaints however this did not seem to affect responses, 47% said that they thought they did suffer from compassion fatigue while 40% responded that they did not, 13% said that they thought sometimes they suffered from compassion fatigue ($n = 7,6,2$, respectively). Attrition also is an internal validity threat and was met by having a total number of responses ($N = 55$) which is higher than what G*Power analysis revealed would be needed ($n = 42$) to achieve statistical power.

Threats to construct validity were also met in that all definitions and procedures were clearly defined. I did not deviate from the statistical procedures and testing that were outlined prior to data collection and analysis. Though I had 55 participants, only 51 had completed the quantitative tools at 100%, the remaining four participant responses that were incomplete, were used for demographic data only.

Another potential threat to validity that was controlled for was that the participants self-selected their participation link; this ensured that participation in the study was random in the two arms (Quantitative only vs. Quantitative with Qualitative). The study links were available for up to 10,000 oncology nurses through the Oncology Nursing Society community digest board. The data were collected through SurveyMonkey, this way the data could not be altered by myself. Since the study was

conducted online and not as independent interviews or focus groups there was no risk of the me inflicting my own views upon the responses from the participants; thus, decreasing the risk of researcher influence. All these above-mentioned items ensure that I have a valid and reliable study.

Summary

According to the qualitative data that was collected from 15 oncology nurses, the perception of compassion fatigue is that it is a very real phenomenon that is characterized by feelings of exhaustion, tiredness, being mentally drained, having increased muscle aches and pains, along with an increase in irritability, anxiety, and depression. Forty-seven percent of participants felt that they did in fact suffer from compassion fatigue.

Quantitative data was measured using the ProQOL 5 tool and the GBB-8. The ProQOL 5 measures compassion fatigue with two separate and distinct scales, burnout, and secondary traumatic stress. Data analysis revealed statistically significant positive correlations between burnout with regards to exhaustion and musculoskeletal complaints (p = .000 and .036, respectively). Statistically significant positive correlation results were found between STS with regards to exhaustion, gastrointestinal complaints, and cardiovascular complaints (p = .000, .022, and .007, respectively). Based on these testing results we would reject the null hypothesis; there are statistically significant correlations with compassion fatigue and general health complaints in oncology nurses.

In summary, this chapter covered the study setting, demographic data of participants, and data collection methods. It also covered data analysis and results along

with issues of trustworthiness and validity. The next chapter will cover interpretation of findings, limitations to the study, recommendations, and implications.

Chapter 5: Discussion, Conclusions and Recommendations

The purpose of this mixed methods study was twofold: to investigate the perceptions of oncology nurses regarding compassion fatigue and to evaluate for correlation between compassion fatigue levels and general health complaints in oncology nurses. The study was conducted because research has shown that oncology nurses may be at a higher risk of developing compassion fatigue due to the nature of their profession (Kohli & Padmakumari, 2020; Reiser & Gonzalez, 2020).

Key findings from this study include that oncology nurses do believe compassion fatigue is a very real phenomenon characterized by feelings of mental and physical exhaustion, anxiety, depression, and irritability. The qualitative responses from oncology nurses revealed they felt this way because they have "cried," "stayed in bed," and "felt it was a chore to interact with people." Quantitative data revealed a statistically significant positive correlation with burnout and secondary traumatic stress (which are the two components of compassion fatigue) and exhaustion ($r = .613$, $p = .000$, and $r = .521$, $p = .000$, respectively). There was also a positive statistically significant correlation between burnout and musculoskeletal complaints ($r = .294$, $p = .036$). Other positive statistically significant correlations were seen in secondary traumatic stress scores with regards to gastrointestinal complaints and cardiovascular complaints ($r = .321$, $p = .022$, and $r = .370$, $p = .007$, respectively).

Based on these results, the null hypothesis would be rejected because the data do support the findings of statistically significant correlations between compassion fatigue

and general health complaints in oncology nurses. When the data are merged, the qualitative data support and confirm the quantitative data (see Figure 2).

Interpretation of Findings

Interpretation of the findings from this study confirm previous research that indicates oncology nurses may be a higher risk of compassion fatigue. Ortega-Campos et al. (2020) conducted a systematic review and meta-analysis that included 900 oncology nurses with 60% of them reporting moderate to high levels of compassion fatigue. My study, of 51 oncology nurses, confirmed this finding with 56% of participants reporting moderate to high levels of compassion fatigue.

Another finding that this study confirmed was that there are general health complaints associated with compassion fatigue. In a qualitative study, Wentzel et al. (2019) found that oncology nurses defined one of the symptoms of compassion fatigue as emotional exhaustion. Current findings from my studies also confirm this as participants reported symptoms that oncology nurses exhibited that suffered from compassion fatigue to look like being “physically exhausted” and “mentally drained.”

An area of knowledge that may be extended by my study is that oncology nurses are becoming more aware of compassion fatigue and know that it needs to be addressed so that as a profession, oncology nursing does not continue “to lose too many good nurses” as Respondent 14 put it. Participant 6 also stated that “employers really need to take notice and DO SOMETHING to help nurses.” This leads to how Pender’s health promotion model can help to combat compassion fatigue.

The central construct associated with Pender's health promotion model is self-efficacy (Pender, 2011). The participants in the study do realize that compassion fatigue is a real phenomenon that needs to be addressed; however, according to qualitative responses, they are putting all of the responsibility for addressing it on administration. Respondent 6 responded as stated above, and Respondent 14 stated that "it is an area that needs attention. We are at risk to lose too many good nurses to compassion fatigue and burnout." Nurses do need to act themselves and not rely on administration to take action; hence, self-efficacy.

Pender's (2011) health promotion model has several assumptions and propositions that play a role in changing behavior. This study indicates that oncology nurses do believe compassion fatigue is a real problem and that it needs to be addressed. One of the assumptions of Pender's health promotion model is that people will seek to change if they believe it will have a positive impact on their health. By increasing awareness of compassion fatigue and the negative health complaints that are correlated with it, nurses can take steps to combat it and improve their overall health. This ties to one of the model's propositions that people will commit to engage in behaviors if they anticipate personal valued benefits (Pender, 2011). Publishing the findings from this study can show nurses the role that compassion fatigue plays in their health and take steps to change behaviors. This aligns with my conceptual model in that one of my social contexts was to effect change in levels of compassion fatigue, thus impacting oncology nurses physical and mental health. With these data, I can increase awareness of the problem of compassion fatigue and the role it plays on a nurse's health.

Limitations

There are a few limitations to the study. One limitation is that only oncology nurses were targeted, which can affect the generalizability of the study. To decrease the risk of researcher bias, direct quotes from participants were used from the qualitative questionnaires, which supports the credibility of this study. Another limitation to the study is that most participants were female (98%); however, this is somewhat representative of the nursing workforce as, according to the American Nurses Association, 87% of nursing is female (Haines, 2022).

Recommendations

The results of this study support the assertion that compassion fatigue is a very real problem in oncology nurses and that there are positive correlations between compassion fatigue and general health complaints in oncology nurses. One recommendation based on this data would be to look at various easy-to-use interventions to target compassion fatigue that could be implemented in the workplace. Some of these that have been covered in Chapter 2 and that have shown positive results include debriefing sessions (Arbios et al, 2020; Zajac et al., 2017), compassion rounds (Shingler-Nace et al., 2018), knitting (Anderson & Gustavson, 2016) and self-care retreats (Altounji et al., 2012).

Another recommendation is that facilities that employ oncology nurses should educate managers on how to identify nurses suffering from compassion fatigue and to intervene. Unfortunately, this study did not ask participants for recommendations on this. Further research in this area is needed to assist oncology nurses in understanding and

combating compassion fatigue; assist management in recognizing and intervening with compassion and finding ways to implement interventions into the workplace.

Implications

Implications for this study are numerous. The study does support that oncology nurses are at higher risk of compassion fatigue and that compassion fatigue is positively correlated with general health complaints. Currently, nursing is in a critical shortage and oncology nurses as a specialty are not excluded from this (Haines, 2022). According to a report from the Department of Health and Human Services, it is estimated that by the year 2023 the health care industry will be over 100,000 nurses short to meet growing demands (Haines, 2022).

In order to impact positive social change, compassion fatigue must be addressed to help with retention of nurses. As pointed out above, nursing is already experiencing significant shortages, and this is only projected to get worse (Haines, 2022). According to a study by Lee et al. (2018) that evaluated nursing turnover at one Southern California Magnet hospital, they found that in 2015 the turnover rate related to compassion fatigue was 17.2%. Wells-English et al. (2019) evaluated the levels of compassion fatigue and nurses' intent to leave the nursing field, discovering that higher levels of compassion fatigue indicated an increased intent of nurses to leave the field. This is made evident in this study with the statement by Respondent 6 who thought she "would retire at 72 but even now considering retiring early." She was one that responded "yes" to the question asking if she suffered from compassion fatigue.

Pender's health promotion model is a way for people to change behavior and promote healthy behaviors (Pender, 2011). I had chosen this model because compassion fatigue is a health problem that has adverse health effects, including but not limited to headaches, gastrointestinal problems, depression, anxiety, and fatigue (see Harris & Griffin, 2015). Addressing compassion fatigue may have a positive effect on nurses' mental and physical health. Nurses need to be aware of what compassion fatigue is and how they can promote behavioral changes to combat compassion fatigue.

Conclusion

Compassion fatigue is real and needs aggressive intervention to prevent and combat it. This research, as with previous studies by Kohli and Padmakumari (2020) and Reiser and Gonzalez (2020), indicated that oncology nurses are at a high risk for compassion fatigue. Research also reveals that compassion fatigue does lead to turnover (Wells-English et al., 2019), which will contribute to the growing nursing shortage. According to the latest data, which is pre-pandemic, by the year 2030, the projected demands for nurses will be 3,154,218, whereas the actual nurses working in the field are predicted to be at 3,047,530; that leaves a shortage of 106,688 nurses (Haines, 2022). The pandemic has most likely made this number much larger. If compassion fatigue is addressed and combated, we may be able to retain more nurses in the field and positively affect this shortage.

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Appendix A: Data Collection Tools

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*.

1=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.

PsycTESTS®

Giessen Subjective Complaints List--Brief Form

PsycTESTS Citation:
Kliem, S., Lohmann, A., Klatt, T., Mößle, T., Rehbein, F., Hinz, A., Beutel, M., & Brähler, E. (2017). Giessen Subjective Complaints List--Brief Form [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t63780-000

Instrument Type:
Rating Scale

Test Format:
The GBB-8 has 8 items which are rated on a Likert scale ranging from 0 (not at all) to 4 (very much), indicating how troubling each complaint is perceived.

Source:
Kliem, Sören, Lohmann, Anna, Klatt, Thimna, Mößle, Thomas, Rehbein, Florian, Hinz, Andreas, Beutel, Manfred, & Brähler, Elmar. (2017). Brief assessment of subjective health complaints: Development, validation and population norms of a brief form of the Giessen Subjective Complaints List (GBB-8). Journal of Psychosomatic Research, Vol 95, 33-43. doi: https://dx.doi.org/10.1016/j.jpsychores.2017.02.003, © 2017 by Elsevier. Reproduced by Permission of Elsevier.

doi: http://dx.doi.org/10.1037/t63780-000

Giessen Subjective Complaints List--Brief Form
GBB-8

I suffer from the following:		not at all	slightly	somewhat	considerably	very much
1.	Being easily exhausted	□0	□1	□2	□3	□4
2.	Feeling bloated or distended	□0	□1	□2	□3	□4
3.	Backache	□0	□1	□2	□3	□4
4.	Palpitations or heart pounding	□0	□1	□2	□3	□4
5.	Tiredness	□0	□1	□2	□3	□4
6.	Stomachache	□0	□1	□2	□3	□4
7.	Neck or shoulder pain	□0	□1	□2	□3	□4
8.	Dizziness	□0	□1	□2	□3	□4

Basic Demographic Questionnaire

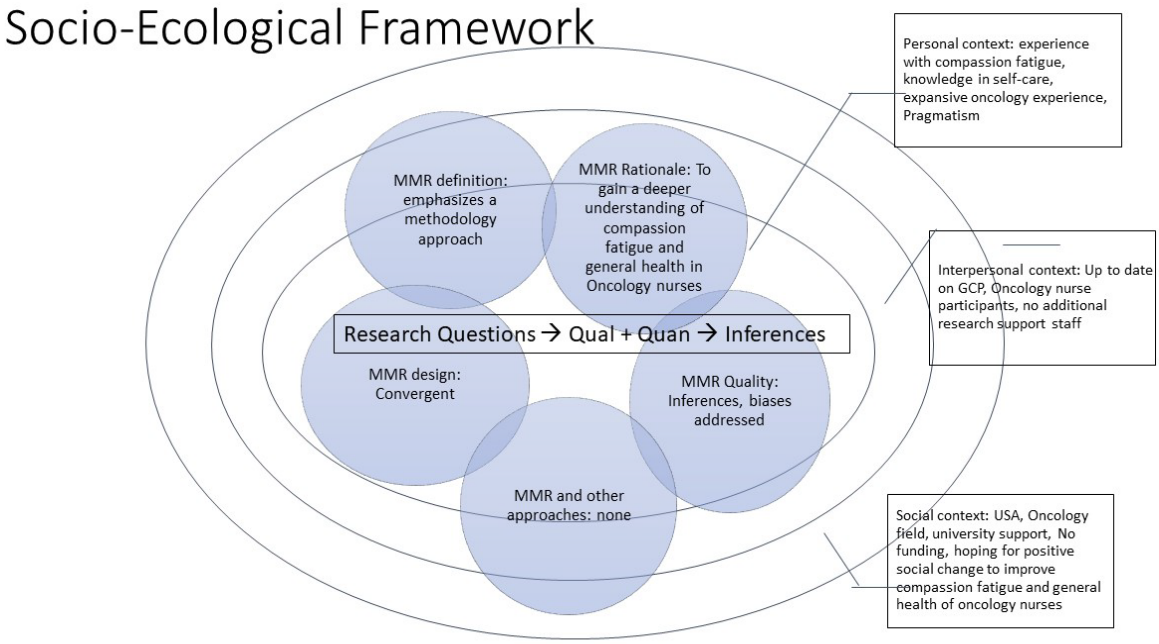
The below information is being collected in conjunction with other quantitative and qualitative tools to answer the research questions proposed in this study. The purpose of collecting demographical data is to establish the study population.

1. What is your age range?
    a. 18-24
    b. 25-34
    c. 35-44
    d. 45-54
    e. 55-64
    f. 65+
2. What gender do you identify with?
    a. Male
    b. Female
    c. Prefer to not answer
3. What is your marital status?
    a. Single
    b. Married
    c. Divorced
    d. Widowed
    e. Prefer not to answer
4. How many children do you have?
    a. 0
    b. 1-2
    c. 3-4
    d. 4+
5. What is your highest level of education?
    a. Diploma program
    b. Associates
    c. Bachelors
    d. Masters
    e. Post Masters Certificate
    f. PhD
6. What is your ethnicity?
    a. Caucasion
    b. African-American
    c. Hispaic/Latino
    d. Asian American
    e. Other
7. How many years have you been a nurse?
    a. 1-4
    b. 5-9
    c. 10-14
    d. 15-19
    e. 20-24
    f. 25+
8. How many years have you been an oncology nurse?
    a. 1-4
    b. 5-9
    c. 10-14
    d. 15-19
    e. 20-24
    f. 25+
9. What is your employment status?
    a. Full time
    b. Part time

Qualitative Data Collection Tool

1. How do you feel your profession as an oncology nurse affects you?
2. What is your perception of compassion fatigue?
3. Can you tell me what you believe compassion fatigue looks like?
4. Can you tell me if you believe suffer from compassion fatigue and why?
5. Tell me how your general health has been the last 6 months?
6. Have you noticed any changes in your general health complaints? If so, what do you feel is attributing to this?
7. What are your thoughts about compassion fatigue and general health?
8. Please tell me anything else you feel is important to know about compassion fatigue and the general health of an Oncology nurses?

Appendix B: Socioecological Framework



Note: Socio-Ecological Framework from Plano Clark, V. L., & Ivankova, N. V. (2016). *Mixed methods research: A guide to the field.* Sage. Copyright 2016 Sage Publication.