CAREGIVER FATIGUE IN THE INTENSIVE CARE UNIT:

AN INTEGRATIVE REVIEW

by

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ABSTRACT

Caregiver fatigue is a real problem facing critical care nurses. The causes need to be identified and addressed in a timely manner so prevention strategies can be developed. Reduction of caregiver fatigue may subsequently prevent burnout and keep nurses from leaving the profession or experiencing distress in their personal and professional lives. The purpose of this integrative review was to explore the causes of caregiver fatigue among critical care nurses working in intensive care units. Inclusion and exclusion criteria were established prior to the integrative review and five empirical studies were identified that met the criteria. Potential causes of caregiver fatigue identified in the evidence were staffing concerns, shortage of nurses, overtime, increased work load, scheduling conflicts, communication barriers, younger age of patient, severity of injury, polytrauma, family grief and anger, inadequate pain control, medication errors, emotional distress, constancy of presence, burden of responsibility, negotiating hierarchical power, engaging in bodily caring, being mothers, daughters, aunts, sisters, and increased personal stressors. Better understanding of the causes of caregiver fatigue will hopefully lead to the development and implementation of interventions to preserve the mental health of nurses and prevent further decline and burnout.

CHAPTER I - INTRODUCTION

Background

Caregiver fatigue is sometimes referred to as compassion fatigue, caregiver role fatigue, secondary traumatic stress, and vicarious trauma, and is an increasingly important topic among the nursing community. Secondary traumatization, secondary traumatic stress, secondary victimization or vicarious trauma are also terms that researchers use interchangeably with caregiver fatigue. Fatigue is defined as weariness or exhaustion from labor, exertion, or stress (Merriam-Webster, 2012). The caregiver is defined as a person who provides direct care (Merriam-Webster, 2012). Therefore, caregiver fatigue is the weariness or exhaustion of the person who provides direct care, in this case, the nurse. According to Landro (2012), "compassion fatigue is a combination of secondary traumatic stress from witnessing the suffering of others and burnout [that] can lead nurses to feel sadness and despair that impair their health and well-being" (p. 1). According to Portnoy (2011), "compassion fatigue is caused by empathy….it is the natural consequence of stress resulting from caring for and helping traumatized or suffering people" (p. 49). Since nurses care for those who are suffering or who have experienced recent trauma, they are at risk for compassion fatigue.

Compassion fatigue symptoms can include "anger, depression, difficulty sleeping, fear, and indifference towards patients as caregivers distance themselves" (Kenny & Hull, 2008). If not recognized and managed appropriately, caregiver fatigue may lead to caregiver burnout. According to Portnoy (2011), caregiver fatigue is a type of early

burnout that emerges suddenly, and the person may feel a loss of meaning and hope. The caregiver may also have reactions associated with Post Traumatic Stress Disorder (PTSD), such as “strong feelings of anxiety, difficulty concentrating, being jumpy or easily startled, irritability, difficulty sleeping, excessive emotional numbing, or intrusive images of another’s traumatic material” (p. 49). Early signs of caregiver burnout symptoms include frequent colds, reduced sense of accomplishment, headaches, fatigue, lowered resiliency, moodiness, and increased interpersonal conflicts (Portnoy, 2011). As the nurse approaches burnout he or she may experience physical and psychological changes which gain momentum until interpersonal and job performance changes occur (Bartz & Maloney, 1986). Bartz and Maloney (1986) define burnout as a “syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment” (p. 147). If there is not an early intervention, such as at the caregiver fatigue state, burnout can lead to somatic complaints, social withdrawal, cynicism, exhaustion, irritability, low energy, and feeling underappreciated and overworked (Portnoy, 2011). Once a nurse’s fatigue has reached burnout, he or she may be driven to the point of leaving the profession completely.

The care of critically ill patients, especially those with a poor prognosis, may lead to caregiver fatigue in critical care nurses. Caregiver fatigue may cause the nurse to experience emotions not previously felt, such as anger, worthlessness, and indifference, when caring for patients. Caregiver fatigue can “reduce nurses' empathy and lead them to dread or even avoid certain patients, raising the risk of substandard care” (Landro, 2012, p. 1).

It takes long hours and extensive training to become a well-versed and competent nurse. Adequate training and continuing education for ever changing technology and other healthcare advances is paramount to success. It is not financially responsible, time savvy, or safe to continually hire novice nurses. The Society of Critical Care Medicine (SCCM) states that "according to the Robert Wood Johnson Foundation (RWJF), the cost of replacing a specialty registered nurse (considering such costs as recruitment, training and lost productivity) can be as high as two times a nurse's average salary" (2012, p. 1). This amount could be up to $145,000 to replace a single experienced nurse (SCCM, 2012). Therefore, if the causes of caregiver fatigue can be identified and addressed, the incidence of caregiver fatigue could be reduced, and there potentially would be less nurse turnover, higher quality of care and improved cost savings.

Problem

Compassion fatigue is a condition that can affect the nurse's cognition, emotions, behaviors, spirituality, and physical wellbeing (Portnoy, 2011). Therefore, quality of patient care may also be affected. Early recognition is paramount to preventing caregiver fatigue. The various causes of caregiver fatigue need to be investigated so that prevention strategies can be identified. Although research has been done on a variety of aspects of caregiver fatigue, an integrative review of the causes of caregiver fatigue is lacking. Therefore, the purpose of this project is to conduct an integrative review of the literature on the causes of caregiver fatigue in Intensive Care Units and among critical care nurses.

Theoretical Framework

While there are various recognized approaches to an in depth exploration of the literature, "an integrative review is a specific review method that summarizes past empirical or theoretical literature to provide a more comprehensive understanding of a particular phenomenon or health care problem" (Whittemore & Knafl, 2005, p. 546). The theoretical framework that was used to guide the integrative review process was Whittemore and Knafl's (2005) revised integrative review method. The steps of an integrative review include formulating a problem of interest, searching the literature, evaluating the data from primary sources, analyzing data, and presenting the results (Whittemore & Knafl, 2005). The major components of the framework will be discussed in more detail in Chapter II.

Definitions

The terms caregiver fatigue and compassion fatigue were used interchangeably for the purposes of this integrative review. Additionally, the following definitions were used. Caregiver fatigue is defined as "the natural consequence of stress resulting from caring for and helping traumatized or suffering people" (Portnoy, 2011, p.48). Compassion or caregiver fatigue "can be described as the physical, emotional, social, and spiritual exhaustion that overtakes an individual and leads to a pervasive decline in the ability, desire, and energy to care and empathize with others" (Young, Denise, Cicchillo & Bressler, 2011, p.2). Furthermore, "compassion fatigue is where a person loses the ability to provide the same level of compassion and care for another person following

repeated exposures to traumatization" (Meadors & Lamson, 2008, p. 3). The term secondary traumatic stress is used to describe compassion fatigue. "Secondary traumatic stress is caused when providing care and services to people who have undergone a traumatic event. Compassion fatigue and [secondary traumatic stress] are both acceptable terms used to describe the negative effects associated with an individual's work life quality (Young et al., 2011). Similarly, vicarious trauma can result in "challenges to beliefs, spirituality, and faith; increased sense of personal vulnerability; fear, distrust, and rage; cynicism and pessimism; and empathetic sharing of helplessness leading to intense feelings of incompetence and helplessness" (McGibbon, Peter & Gallop, 2010, p. 1354).

For this professional project, the registered nurse is defined as the primary care giver and is employed in an Intensive Care Unit. The dictionary definition of a nurse is "a licensed health-care professional who practices independently or is supervised by a physician, surgeon, or dentist and who is skilled in promoting and maintaining health" (Merriam-Webster, 2012). An intensive care unit is defined as a specialized section of a hospital containing the equipment, medical and nursing staff, and monitoring devices necessary to provide critical care (Stedman's Medical Dictionary, 2002). Western medicine is defined as "a system in which medical doctors and other healthcare professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases using drugs, radiation, or surgery" (NCI dictionary, 2012). Western medicine is also known as allopathic medicine, biomedicine, conventional medicine, mainstream medicine, and orthodox medicine.

Research about caregiver fatigue in intensive care units, will be reviewed and categorized based on the findings of caregiver fatigue. Part II will discuss the methods used to gather the research material.

CHAPTER II: METHODS

Drawing on the framework provided by Whittemore and Knafl (2005), an integrative review of the literature was conducted to establish the causes of caregiver fatigue among critical care nurses in Intensive Care Units as described in the literature. "Conducting reviews of the healthcare literature have been used since the 1970s in an effort to synthesize findings from discrete primary studies and to increase the generalizability of data about a phenomenon" (Whittemore & Knafl, 2005, p. 547). The causes of caregiver fatigue should be identified as a way to potentially prevent and treat burnout. Caregiver fatigue was first described as a unique form of burnout and is linked to care-giving professionals including nurses (Young et al., 2011).

Inclusion/Exclusion Criteria

Only evidence that has been published was used to gather information on caregiver fatigue. Literature review was conducted based on a "simultaneous inclusion of experimental and non-experimental research in order to fully understand a phenomenon of concern" which in this case was caregiver fatigue (Whittemore & Knafl, 2005). Theoretical literature was not included, as it discusses the theories behind caregiver fatigue but not the actual, definitive reasons for caregiver fatigue. When conducting the research, quantitative and qualitative studies were used. Peer reviewed articles were incorporated. Peer reviewed articles are theoretically reliable sources of information because the methods used and conclusions drawn are validated by scholars in the same field in which the article was written. Articles that were published since 1950

were eligible for inclusion because this is when the first intensive care units were created. According to the Society of Critical Care Medicine (2012), during the 1950s, the development of mechanical ventilation led to the organization of respiratory intensive care units and general intensive care units were created for very sick patients including postoperative patients. Research gathered and studies conducted were limited to Western Medicine, including North America and Western Europe, and were only written in English. The abstracts were reviewed prior to reading the article to determine if it met the inclusion criteria. If inclusion could not be determined by reading the abstract, the article was read in its entirety to determine if it met criteria.

Search Strategy

The librarian at Montana State University's Renne Library was consulted for guidance in conducting the search and also provided tutoring on database specific methods. The following online databases were searched: CINAHL, Cochrane Library, Medline Health and Wellness Resource Center, Global Health, Medline/First Search and PubMed. Keywords that were used in the search engines were: *nurse, caregiver fatigue, compassion fatigue, secondary traumatic stress, secondary traumatization, secondary stress reaction, secondary victimization, vicarious trauma, intensive care, and critical care*. In addition to other criteria, only articles written in the English language were included. Reference lists were mined to obtain further studies relevant to the review. These articles were then examined to determine if they met inclusion criteria.

Review Process

Whittemore and Knafl's (2005) revised integrative review method was used to guide the review process. Integrative reviews are used to analyze existing literature and provide a more comprehensive understanding of the subject. The problem, caregiver fatigue of critical care nurses in intensive care units, has been identified as a growing problem. The literature was searched as described previously. Data were reviewed and analyzed, without bias, for causes of caregiver fatigue. Initially, during the data reduction stage, common characteristics of the literature were analyzed which included: sample size, group assignment methods, measurement of variables, attrition, data analysis methods, conceptual framework used, and significance of findings. The literature was also analyzed for gaps in research and problems that may have been encountered during the research process. The next part of data reduction "involve[d] techniques of extracting…data from primary sources to simplify, abstract, focus and organize data into a manageable framework" (Whittemore & Knafl, 2005, p. 550). The data was then displayed in a table to "enhance the visualization of patterns and relationships within and across primary data sources and serve as a starting point for interpretation" (Whittemore & Knafl, 2005, p. 551). The components included in the evidence table included author/country, design, purpose, sample, intervention, instrumentation/data collection procedures, results and limitations. Data comparison were made in which patterns, themes or relationships were identified (Whittemore & Knafl, 2005).

Caregiver fatigue is a growing problem. This integrative review discusses and evaluates the common causes of caregiver fatigue among critical care nurses. The

outcomes of the integrative literature review may prove be a contribution to finding ways to recognize and prevent caregiver fatigue among critical care nurses and contribute to practice and research.

CHAPTER III: RESULTS

After doing a thorough literature search, five research articles were identified that met the inclusion and exclusion criteria and each of these studies was less than 10 years old. The initial search was in Cumulative Index to Nursing and Allied Health Literature (CINAHL) using the search terms outlined in the Methods section. The search returned nine articles but only five met the search criteria. Cochrane Library, Global Health and Health and Wellness Resource Center all returned zero articles each. Medline on Web of Science returned two pertinent articles. Upon further evaluation of these articles, one was determined to be theoretical paper instead of empirical research and the other was a discussion of a previously found research article. Medline/First Search returned one article that was a possibility for inclusion but was eliminated because it was determined to be a reflection paper and not empirical research. PubMed returned one article but was also not included because it was not empirical research.

Both qualitative and quantitative evidence was uncovered. This evidence consisted of a simple qualitative study, quantitative survey with a small qualitative focus group, an institutional ethnography, a quantitative study, and an exploratory descriptive study. An evidence table was constructed to organize the evidence (Appendix A).

Summary of the Evidence

The review of literature and results of each research article suggested a variety of potential causes of caregiver fatigue. The potential causes included: shortage of nurses and staffing patterns, overtime, increased workloads and schedule conflicts (Kenny &

Hull, 2008). Communication barriers (Kenny & Hull, 2008) and negotiating hierarchical power (McGibbon et al., 2010) are other causes for caregiver fatigue among critical care nurses.

Potential causes of caregiver fatigue also included caring for a younger patient population, poor patient pain control, and severity of injury or polytrauma (Kenny & Hull, 2008). Emotional distress was a common theme associated with caregiver fatigue. McGibbon et al. (2010) found that nurses experience their own emotional distress as well as the patient's and their families. Some causes of caregiver fatigue had to do with the patient's family's grief and anger (Kenny & Hull, 2008). Caregiver fatigue can also be caused by constancy of presence, burden of responsibility, and being mothers, daughters, aunts and sisters (McGibbon et al., 2010).

Medication errors were found to be associated with caregiver fatigue, and therefore should be further explored as a potential cause. The specific reasons for the medication errors identified in this study included pharmacy process, physician communication, medication packaging, inadequate staffing and transcription related problems (Maiden, Georges & Connelly, 2011). Other personal stressors are also associated with increased rate of caregiver fatigue among ICU nurses. These personal stressors were found to include: the Christmas season, mortgage over $10,000, vacation, change in sleeping habits, and change in work responsibilities (Meadors & Lamson, 2008).

The research articles that met inclusion criteria are discussed in more detail below.

"Critical Care Nurses' Experiences Caring for the Casualties of War Evacuated From the Front Line: Lessons Learned and Needs Identified"

Kenny and Hull (2008) compared stressors and coping mechanisms of intensive care unit and civilian nurses working in medical treatment facilities (MTFs) before and after the beginning of Operation Iraqi Freedom and Operation Enduring Freedom in Afghanistan. Qualitative date was collected via long-answer questionnaires distributed on intensive care units of MTFs located both stateside and in Europe. One hundred questionnaires were distributed and ultimately nine participants from stateside medical treatment facilities and nine participants from medical treatment facilities in Europe provided feedback. Pre-war stressors, such as staffing concerns, overtime, increased work load, scheduling conflicts, and communication barriers, continued, but with the onset of war, additional stressors were identified. The additional stressors included younger ages of patients, severity of injury or polytrauma, family grief, and anger and inadequate pain control. Increased stress levels appeared to result in secondary traumatization and compassion fatigue. Although only 18 of 100 eligible nurses participated, the authors believe important new information was elicited that merits further investigation (Kenny & Hull, 2008).

"Moral Distress, Compassion Fatigue, and Perceptions About Medication Errors in Certified Critical Care Nurses"

Maiden et al. (2011) examined "relationships between moral distress, compassion fatigue, perceptions about medication errors, and nurse characteristics in a national sample of 205 certified critical care nurses [CCRNs]" (p.1). The researchers utilized a

mixed methods approach consisting of a questionnaire plus a small focus group. Overall response rate was approximately 20%. Perceived causes of medication errors and reasons for not reporting medication errors were investigated. A statistically significant moderate relationship was found between moral distress and caregiver fatigue which indicated that "the more morally distressed the CCRNs felt, the higher their perceptions of caregiver fatigue" (Maiden et al., 2011, p. 4). Statistically significant correlations between moral distress, compassion fatigue, and perceptions about medication errors were identified. Physician communication and medication packaging were reported as the most important reasons that medication errors occurred. The group of CCRNs endorsing intent to resign, reported higher mean compassion fatigue scores and were in greater agreement that inadequate nurse staffing was the reason for medication error. Because of the association between medication errors and compassion fatigue, there is reason to believe errors and factors believed to result in them, may contribute to the development of caregiver fatigue. The medication errors could have been caused by pharmacy process, physician communication, medication packaging, inadequate staffing, and transcription related problems.

"An Institutional Ethnography of Nurses' Stress"

McGibbon et al. (2010) carried out an institutional ethnography that focused on reformulating the nature of stress in nursing, with attention to important contextual aspects of nurses' practice. Twenty-three participants were included in the study and six themes of nurses' stress were identified: emotional distress, constancy of presence,

burden of responsibility, negotiating hierarchical power, engaging in bodily caring, and being mothers/daughters/aunts and sisters. Nurses recalled their own emotional distress as well as that of patients and families. Constancy of presence is indicative of a nurse being at the bedside for 12 hours per day. Burden of responsibility referred to "monitoring and doing the work of other clinicians, and negotiating a power-based hierarchy to get the work done" (McGibbon et al., 2010, p. 1358). Negotiating hierarchical power referred to navigating and negotiating patient care as well as working with physicians. Engaging in bodily caring referred to the clinical hands on work performed by the nurses for their patients. Eleven of the twelve nurses discussed how their relationships with their families, being a mother/aunt/daughter or sister, were connected at times to their experiences of stressful situations at work. Nurses' personal accounts and experiences were discussed though out.

"Compassion Fatigue and Secondary Traumatization:
Provider Self Care on Intensive Care Units for Children"

Meadors and Lamson (2008) described the scope of compassion fatigue in 185 health care providers and staff working in critical care units, including neonatal intensive care units, pediatric intensive care units and pediatric units. Of the study participants, 62% were nurses. Using a quantitative descriptive design, the researchers determined that nurses with higher levels of personal stressors also had a higher level of clinical stress and compassion fatigue. The top five personal stressors that impacted the participants were the Christmas season, mortgage over $10,000, vacation, change in sleeping habits, and changes in work responsibilities. Participants who were designated

as the high stress group were more likely to show signs of clinical stress and compassion fatigue. Additionally, the researchers implemented an educational seminar and conducted pre and post testing which demonstrated that the educational seminar was beneficial for raising awareness on compassion fatigue and reducing clinical stress. Participants reported increased knowledge of the warning signs of compassion fatigue following the seminar. "Those in the high-stress group exhibited more negative behaviors than did the low-stress group and had a more difficult time separating work from personal life, and they tended to bring negative feelings from work to their house and family" (Meadors & Lamson, 2008, p. 7). The main cause of caregiver fatigue outlined in this article was that personal life stressors and disruptions could have negatively impacted them as a caregiver.

"Compassion Satisfaction, Burnout, and Secondary Traumatic Stress in Heart and Vascular Nurses"

Young et al. (2011) discussed the prevalence of compassion satisfaction, burnout and secondary traumatic stress or compassion fatigue in heart and vascular nurses and explored the difference between 45 intensive care and 25 intermediate care unit nurses. Statistically significant differences were found between the nurses on the different units. Eighty-four percent of the intermediate care unit nurses had low levels of burnout and 76% had low levels of secondary traumatic stress with 24% experiencing average levels. Thirty-six percent of the intensive care unit nurses had low levels of burnout and 64% had average levels. Fifty-six percent of intensive care nurses had low levels of secondary traumatic stress with 44% experiencing average levels. Intermediate care nurses had

lower levels of burnout compared to those of intensive care unit nurses and 84% of the nurses in the intermediate care unit had low levels of burnout compared with 36% of the nurses in intensive care. Though no specific causes of caregiver fatigue were investigated for the purpose of this research, several possible reasons for the differences between the secondary traumatic stress, compassion fatigue or burnout between the two units were noted by the authors. For example, causes may potentially be inferred because of intrinsic differences between the two units. Some of these differences include increased workloads, complex technology and technological change, continual change in patient assignment, management of end-of-life care, and experiencing more patients dying. Other possible causes of caregiver fatigue identified were limited interactions with intubated patients, severity of illness, a lack of follow through on patients leaving the ICU and facing ethical and moral issues on a daily basis when compared to the intermediate care unit. The authors noted that the higher significance of caregiver fatigue noted in the ICU may have had to do with sicker patients, higher mortality rates and the expectation to have technical competence with sophisticated technology.

General Limitations to the Evidence

The studies identified for inclusion in this review must be viewed with caution in terms of how they inform our knowledge of the causes of caregiver fatigue. All the studies used descriptive designs. Convenience samples and small response rates enhances the potential for sampling error and non-responder bias. Ultimately, although

relationships have been identified between caregiver fatigue and other specific constructs, direct causal relationships are not evident in this sample of literature.

Conclusion

The results of the integrative review yielded five different research articles that met the inclusion and exclusion criteria. Some of the causes of caregiver fatigue were medication errors, young patient population, constancy of presence, severity of injury, sicker patients, emotional distress, family grief and anger, and inadequate pain control. Other causes of caregiver fatigue were personal life stressors, being mothers, daughters, aunts and sisters, staffing concerns, increased work loads and overtime. Unfortunately, the studies identified for inclusion in this review are all of a descriptive nature and conclusions about true causal relationships must be made with caution.

CHAPTER IV: DISCUSSION

This integrative review has shed some light on the possible causes of caregiver fatigue and this information can help inform prevention efforts. More research on the causes of caregiver fatigue needs to be done so that a better understanding of such can be formulated and evaluated.

Caregiver Fatigue

In order to address caregiver fatigue, one must first acknowledge its existence and the effects it has on the physical and mental well-being of nurses. The nursing profession is an ever changing, growing environment that has high demands of a person physically, mentally, and emotionally. Compassion fatigue can develop for many different and possibly multiple reasons. The reasons may be intertwined and inter-related.

There are many demands in the nursing profession to learn about and keep current in such as new technology, new or advanced findings of diseases and disease processes, new medications and treatment modalities, and new information from research. Nurses must learn and practice behaviors that have a positive influence on their own health and wellbeing in order to hopefully thwart the onset or impact of compassion fatigue. Occasionally, nurses may be thrust into obligatory environments for which they have not been prepared, or worse, having had a prior negative experience. Nurses should believe that the tasks they are performing and goals they are working toward are meaningful, useful, or worthy of their efforts to achieve positive outcome expectations.

Fostering self worth could also decrease the risk of caregiver fatigue and increase

wellbeing. Nurses need motivation to achieve goals and remain persistent in their endeavors to succeed. Occasionally, nurses may feel personally responsible when a patient suffers a setback or a negative outcome. Nurses should focus on realistic goal setting and accept that all diseases are not curable or sometimes treatable. In this case, a nurse should focus on attainable goals to find satisfaction for herself, the patient, and the patient's family. These goals may include comforting measures such as end of life discussion and education, spiritual guidance with clergy and adequate pain management. Attainable goals, personally and professionally, that are clear and specific are prudent to decrease disappointment and frustration that one may feel if failure to reach that goal occurs. A nurse may maintain a healthier outlook by monitoring his/her own behavior and actions, evaluating that the actions are goal directed, and responding to peer and self evaluation by modifying the behavior and actions.

With proper education and support, nurses should have the ability to influence their own behavior and situation in a purposeful, goal-directed fashion. In a catastrophic situation, a well developed nurse should have control over how he/she construes and reacts. Although a nurse may be working in a hostile, poorly organized, or encumbered work environment, by asserting purposeful and goal-directed behavior, he or she could subsequently influence fellow nurses' behavior. For example, a calm, proficient nurse is more likely to better manage a chaotic, stressful situation than an anxious, ill prepared nurse.

Multiple variables within an intensive care unit may be interrelated and lead to caregiver fatigue. A nurse with a bad attitude can come into a healthy work environment,

yet affect the attitudes and behaviors of fellow nurses negatively. A nurse's reaction when caring for a terminally ill patient can be affected if he or she has had a prior negative experience with a dying patient or has had a similar traumatic death within their own family. The prior experiences of that nurse with death and dying, both personally and professionally, can affect him or her, the patient and the family positively or negatively. The reaction of the patient or family to their real or expected experience of death and dying can also make an impact on the nurse. Any of the above examples could contribute to a critical care nurse developing caregiver fatigue.

When caregiver fatigue occurs, the functioning of the nurse may be affected. Productivity may decline and dissatisfaction rise. Though the literature included in this review has shed some light on possible causes of caregiver fatigue in general, it may be difficult to pinpoint a specific cause of caregiver fatigue in any individual nurse due to multiple factors that influence people's functionality. Additionally, nurses' reactions to situations, events, behaviors, or other people may have a cumulative effect.

Some of the research demonstrated a possible link between increased stress, either personally or professionally, and an increase in compassion fatigue. The research included in this integrative review not only identified some of the causes of caregiver fatigue, but also some effects and prevention strategies. Effects of caregiver fatigue may have a devastating aftermath if not recognized and managed appropriately.

Effects of Caregiver Fatigue

Some of the effects of caregiver or compassion fatigue were also revealed in this review. The effects of caregiver fatigue can lead to burnout and can be detrimental to the nurse, institution, patient or family. "Secondary traumatic stress can lead to depression, burnout, symptoms of post traumatic stress disorder and increased substance use….it can affect the care that [nurses] provide to their patients." (Young et al., 2011, p. 1). Other effects may include increased work relationship problems, compromised patient care, nurses may leave the unit, a decline in productivity, negative emotions, decreased enthusiasm for one's job, compulsive activities, low morale, difficulty relating to family and friends, fear, intrusive images, and difficulty with sleeping (Young et al., 2011). Similarly, avoidance of thoughts or feelings of the event, avoidance of activities or events reminding the person of the event, anger, sleep problems, difficulty with concentration and hyper-vigilance can be some of the effects of caregiver fatigue (Maiden et al., 2011). Not wanting to go to work, feeling tired with sufficient sleep, increased irritability, anxiety, grief, feeling overwhelmed, lack of motivation and nausea can be a result as well (Kenny & Hull, 2008).

Emotional effects may include tenseness, feeling jittery, feelings of being overwhelmed (Meadors & Lamson, 2008), depression, emotional depletion, callousness, tension, fatigue, decreased overall health, headaches and stomach problems (McGibbon et al., 2010). Other effects may include emotional numbing, nightmares, headaches, irritability, distancing and withdrawal, and spiritual and moral suffering. (McGibbon et al., 2010). Vicarious traumatization can result in challenges to beliefs, spirituality and

faith, an increased sense of personal vulnerability, fear, distrust, rage, cynicism, pessimism and empathic sharing of helplessness leading to intense feelings of incompetence (McGibbon et al., 2010). The effects of caregiver fatigue may possibly affect the nurse's immune system, create stress in personal relationships and lead them to make poor professional decisions. With all of the possible effects of caregiver fatigue it is imperative that the causes be recognized and addressed so that prevention can be implemented.

Overall, institutions need to raise awareness of compassion fatigue by recognizing the detrimental effects it can have on the nurse, institution, patient and family. The detrimental effects of compassion fatigue cannot be overemphasized. To understand the importance of compassion fatigue, early recognition and treatment, one must understand the devastating effects. Techniques are needed to manage or minimize symptoms of stress at professional and personal levels. Further study should be done to develop a concise measure to further explore compassion fatigue and prevention (Meadors & Lamson, 2008).

Prevention of Caregiver Fatigue

Education may be important in increasing knowledge on the prevention of compassion fatigue. The article by Meadors and Lamson (2008) demonstrated that an educational seminar was beneficial for raising awareness of caregiver fatigue and reducing clinical stress. Perhaps, if compassion fatigue can be prevented or managed, then there would be less staff burnout and consequently turnover. Efforts should be made

to better understand burnout and secondary traumatic stress and implement strategies that will benefit nurses. Some ways to do this would be to formulate prevention strategies, alleviate symptoms once it is present, and raise awareness of caregiver fatigue through education (Young et al., 2011).

Enhancing patient outcomes would potentially help to lower secondary traumatic stress and burnout (Young et al., 2011). Some possible ways to prevent caregiver fatigue are incident debriefing after each death, multi-disciplinary meetings, and sessions of lessons learned. Following through to see patients outcomes when they leave ICU, fostering good working relationships, debriefing after stressful events, show of support during work hours, hobbies outside of work, sleep, exercise, praying, meditation and learning from mistakes are all possibilities to help prevent caregiver fatigue (Young et al., 2011). Nurses should "take time to themselves with meditation, massages, healthy eating habits, time away from work, self-assertive behaviors and setting limits at work, and rituals for situations dealing with a loss" (Meadors & Lamson, 2008). Kenny and Hull (2008) suggest ventilating and debriefing, implementing personal emotional support, in-services on compassion fatigue and PTSD, informal group sessions, fostering resiliency, self care plan (i.e. journal writing), and internal support from the organization. A conscious shift to a blame free culture to correct systemic problems rather than individual failure and improved work place processes could also help prevent caregiver fatigue and burnout (Maiden et al., 2011).

Educational seminars, encouraging providers to take time off, ensuring that providers eat during their shift, and promoting self achievement may also be methods to

help prevent caregiver fatigue (Meadors & Lamson, 2008). Ideas for the prevention of caregiver fatigue may include: positive feedback indicating that work is valued and significant such as a yearly evaluation, stress management workshops, access to an ethics committee, training in communication, work groups or committees, and involvement in development of organizational policies and guidelines on futility and ethical decision making. Prevention of caregiver fatigue may be beneficial for the nurse's mental health, job satisfaction and may therefore decrease staff turnover and create cost savings for the hospital.

Suggestions for Further Study

Further studies on the causes of caregiver fatigue or secondary traumatization among critical care nurses and in intensive care units need to be done to establish more direct causal relationships. Additionally, more information is needed on the relationships between caregiver fatigue and individual personality traits, and presence or absence of a healthy work environment. Prevention strategies need to be studied further so that nurses do not get to the point of fatigue or burnout as some research indicates that caregiver fatigue can lead to depression, burnout and symptoms of posttraumatic stress disorder (Young et al., 2011). According to McGibbon et al. (2010), nurses' stress needs to be addressed through a more critical and contextual analysis. Therefore, each of the causes of caregiver fatigue need to addressed on an individual basis. For example, perceived causes of medication errors are related to workplace processes, therefore; studies regarding institutional processes that increase medication errors and causes of fear that

decrease reporting should be investigated and prevention strategies implemented (Maiden et al., 2011).

Further study needs to be done to prevent medication errors and thus decrease moral distress and compassion fatigue and vice versa (Maiden et al., 2011). Caregiver fatigue could be studied based on the participants age, gender, race, culture or spiritual beliefs to see if a particular group is more affected than another, then that group could be targeted for prevention of fatigue and burnout. Studies on implementing policies on end-of-life care and management and physician support should be further investigated and implemented so that caregiver fatigue can be prevented or reduced. "It would be interesting to see if different levels of providers [such as physicians, nurse practitioners or physician's assistants] from ICUs differ in their ability to cope with compassion fatigue" (Meadors & Lamson, 2008). Also, do providers in ICUs experience more caregiver fatigue than providers in other areas of the healthcare arena such as geriatrics, primary care, emergency medicine or surgery? Does the size of the ICU, nurse to patient ratio, or patient flow affect the prevalence of caregiver fatigue? A study could be done on the benefits of mandatory evaluation or paid leave following a traumatic event for the nurse. Another suggestion for further study would be a patient or family evaluation of the circumstance surrounding the traumatic event that would be returned to the nurse for viewing and analyzing. A study on a nurse attending a patient's funeral following a death versus a nurse who does not and evaluation of their caregiver fatigue surrounding that event could prove to be beneficial.

Limitations

One limitation of this study may have been that there were only five articles returned, a very small number, which met the specific search criteria. The search for intensive care resulted in all ages, from pediatric to adult which may have differed had a search been done only on adult intensive care units. More articles may have returned in the search if it included intensive care units worldwide as the current research only included Westernized medicine including Western Europe, the United States and Canada. The research was limited to the English language and this may have caused some bias. Working as a critical care nurse, personally, in an intensive care unit may also have created some bias as the research was gathered and interpreted. Lastly, the search for evidence included only online databases. It is possible that older literature would not have been indexed using these modern technologies.

Conclusion

Caregiver fatigue has proved to be a significant topic among critical care nurses despite the small amount of research that has been performed on the topic thus far. Caregiver fatigue may affect the nurse, coworkers, employers, patients and family members. It is important to recognize the modifiable and non-modifiable causes of caregiver fatigue. For example, trauma and death are considered some of the non-modifiable causes of caregiver fatigue. The modifiable causes of caregiver fatigue are the ones that further research should focus upon such as responses and resultant feelings following a traumatic event and how the nurse can improve their hardiness and resilience

when caring for those patients. "Ultimately….the passion we have in caring for our patients should be the same passion that we have in caring for ourselves." (Meadors & Lamson, 2008). It may be possible that not only critical care nurses suffer from the effects of caregiver fatigue. Nurses in other specialties and providers such as advanced practice registered nurses may also experience caregiver fatigue. Through this integrative review, the warning signs and causes of caregiver fatigue may be more recognizable among colleagues and in my future profession as a nurse practitioner. If the causes of caregiver fatigue can be identified and addressed, the incidence of caregiver fatigue could be reduced, and there potentially would be less nurse turnover, higher quality of care and improved cost savings. Better understanding of the causes of caregiver fatigue will hopefully lead to the development and implementation of interventions to preserve the mental health of nurses or providers and prevent further decline and burnout.

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APPENDIX A

EVIDENCE TABLE

Evidence Table

Author/ Country	**Design**	**Purpose**	**Sample**	**Intervention**	**Instrumentation/Data Collection Procedures**	**Results**	**Limitations**
Kenny & Hull (2008) USA	Qualitative; data collected by questionnaire	Compare stressors and coping mechanisms of ICU military and civilian nurses working in MTFs before and after the beginning OIF/OEF.	N = 18; 9 from stateside MTF; 9 from MTF in Europe	None	Long-answer questionnaire with 7 questions; distributed on ICU units; collected at 1 and 2 weeks.	Pre-war stressors continued (staffing concerns, shortage of nurses, overtime, increased work load, scheduling conflicts, communication barriers) but with the onset of war additional stressors were identified (younger age of pt, severity of injury/polytrauma, family grief and anger, inadequate pain control). Increased stress levels resulted in secondary traumatization/compassion fatigue.	18 of 100 (18%) response rate. No description of data analysis procedures. High potential for bias.
Maiden, Georges & Connelly (2011) USA	Mixed methods; questionnaire plus focus groups	Examine relationship between moral distress (MD), compassion fatigue (CF), perceptions about medication errors (PME) and nurse characteristics (NC).	N = 205 CCRNs (out of 1000) Subset of sample (N = 5) for focus group	None	Demographic questionnaire for nurse characteristics. Moral Distress Scale with Likert Scale. Professional Quality of Life Scale and Medication Administration Error Survey.	Correlation between those experiencing CF have a higher MD. Perceived causes of med errors are related to workplace processes which show a pattern that promotes burnout and turnover. Institutional processes increase med errors, fear decreases reporting and fosters MD.	20% response rate; potential for non-responder bias. Only surveying CCRNs may have skewed the results. Survey

Evidence Table Continued

		Explore the phenomenon of medication errors and the possible correlation to caregiver fatigue.			Compared MD, CF and NC with perceived reasons that med errors occurred and why they are not reported. Open ended questions to add richness to the data.	Medication errors result from pharmacy process, physician communication, medication packaging, inadequate staffing, transcription related problems.	limited to nurses that worked within the last 12 months, administered nationally (many hospitals) without bias, large sample size.
McGibbon, Peter & Gallop (2010) Canada	Institutional ethnography (qualitative study of exploring cultural phenomena)	Reformulate the nature of stress in nursing, with attention to important contextual aspects of nurses' practice.	Theoretical sample; N = 23 nurses; experience ranged from 2-24 years	None	Tape recorded interviews at time and place convenient for nurses, participant observation for 3 months, focus groups, field notes that incorporated a research journal and the examination of non-confidential texts related to the nurses every day work. Analysis of ideological procedures and discursive practices, engaged with	6 main themes identified: Nurses' stress include: emotional distress, constancy of presence, burden of responsibility, negotiating hierarchical power, engaging in bodily caring, being mothers/daughters/aunts and sisters. Nurses' stress needs to be addressed through a more critical and contextual analysis.	Non-blinded: direct observation of nurses' work so may have altered their regular routine. Small sample size.

Evidence Table Continued

					people's activities, and discovered social relations.		
Meadors & Lamson (2008) USA	Quantitative Study; descriptive	Describe the scope of compassion fatigue (CF) in health care providers working in CCUs (NICU, PICU and PEDS) with children. Investigate if personal stressors contributed to clinical stress and compassion fatigue at work.	N = 185 providers and staff (62.2% nurses)	Educational seminar on compassion fatigue	Modified version of the Social Readjustment Rating Scale (measures stress surrounding major life events in last 12 months) Index of Clinical Stress (to measure how individual feels about amount of person stress experienced); reliability reported at 0.96, compassion fatigue measure developed by the researchers (18 items on 5 point Likert Scale) Seminar pre-test and post-test (10 items, 5 of which were from ICS)	Educational seminar beneficial for raising awareness on CF and reducing clinical stress. Higher level of personal stressors also had a higher level of clinical stress and compassion fatigue. ($p<0.001$) Increased personal stressors: Christmas season, mortgage over $10,000, vacation, change in sleeping habits, and change in work responsibilities.	Convenience sample; Large sample size (unknown total population number) but pool primarily female. Included participants with 1 month to 28 yrs experience Multiple professions in sample group; not just RNs. More NICU than PICU participants so may skew results. No control of variables.

Evidence Table Continued

Young, Derr, Cicchillo & Bressler (2011) USA	Descriptive Study	Determine the prevalence of compassion satisfaction (CS), burnout (BO) and secondary traumatic stress (STS)/compassion fatigue (CF) in heart/vascular nurses and explore the difference between ICU and IMC nurses	ICU N = 45 IMCU N = 25	None	Professional Quality of Life Scale Compassion Satisfaction and Compassion Fatigue: Version 5 using a Likert Scale 1 (never) to 5 (very often) to measure the statements. Alpha reliability for the three scales = 0.75-0.88 Email invitation to all heart and vascular ICU and intermediate care nurses.	All nurses in the study experienced average to high levels of CS and low to average BO but differences were noted between IMC and ICU. Significantly higher levels of BO in ICU compared to IMC. (p.=0.000) IMC nurses have higher CS and lower BO than ICU nurses. STS/CF in IMC vs ICU nurses was not statistically different.	Compared IMCU and ICU nurses and did not focus primarily on ICU nurse. Small convenience sample at one institution. Moderate potential for bias.