HAIGAZIAN UNIVERSITY

In the Face of Death: Years of Experience and Coping Strategies as Predictors of Compassion Fatigue in Pediatric and Neonatal Nurses in Lebanon

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A Thesis submitted to the Faculty of Social and Behavioral Sciences in partial fulfillment of the requirements for the Master of Art in Psychology – Emphasis: Clinical at Haigazian University.

Beirut - Lebanon

May 2021

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In the Face of Death: Years of Experience and Coping Strategies as Predictors of Compassion Fatigue in Pediatric and Neonatal Nurses in Lebanon

By Rebecca Cattan

is accepted by the Graduate Thesis Committee as satisfying the thesis requirements for the degree Master of Arts/ Clinical Psychology

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May 2021

DEDICATION

I would like to dedicate this thesis to Neonatal and Pediatric nurses in Lebanon. In hopes that your efforts and hardships will not be left unnoticed.

ACKNOWLEDGMENTS

Foremost, I would like to express my sincere gratitude to my advisor Dr. Hanine Hout for her continuous support, patience, and guidance throughout the period of researching and writing of my thesis.

I would also like to thank the rest of the committee members, Dr. Marwan Gharzeddine and Dr. Ahlam Klailat, for their insightful feedback and comments.

My sincere thanks also goes to my parents and sisters who had been supportive this whole time and had been a sympathetic ear. I would like to thank my dear friends and family who always had my back, provided enormous support, and celebrated the small victories with me.

I would also want to thank God for the strength and blessings throughout my journey.

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Abstract

The purpose of this quantitative study was to investigate the relationship between the specific coping skills, namely, avoidance, seeking social support, positive thinking, and problem solving as well as years of work experience on one hand, and compassion fatigue on the other, among Lebanese pediatric and neonatal intensive care unit nurses (PICU/NICU) nurses dealing with the death of their pediatric/neonatal patient. A purposeful and convenient sample of 97 registered Lebanese PICU/NICU nurses participated in the study. The cross-sectional survey included a demographic questionnaire, the "Brief COPE" Scale and the "Compassion Fatigue Short Scale." A hierarchical multiple regression analysis was used to determine the relationships between the variables, while controlling for other variables. The results showed that, as hypothesized, avoidance was a strong positive predictor of compassion fatigue however positive thinking, problem solving, and years of work experience were not. Also, contrary to the hypothesis, seeking social support turned out to be a significant positive predictor instead of a negative one. We concluded that providing nurses with the appropriate type of social support by the right people is essential if support were to make a difference. Future studies should aim to understand what positive thinking and problem solving really mean for Lebanese nurses.

Keywords: Compassion fatigue, neonatal and pediatric intensive care unit nurses, patient death, coping strategies, years of professional experience

In the Face of Death: Years of Experience and Coping Strategies as Predictors of Compassion Fatigue in Pediatric and Neonatal Nurses in Lebanon

Nurses are known to be the first-line patient care providers at hospitals. They are the healthcare providers who are most in contact with patients in each phase of their treatment and hospitalization. Nursing is described as a "caring profession" that is based on universal values of being helpful and compassionate (Yilmaz & Ustun, 2018). There are various units that nurses may work in such as, intensive care units, oncology units, emergency rooms, etc. Nurses working in intensive care units are placed under substantial stress because of the nature of the intensive care environment, possible long hours, acuity of their patients, their advanced medical responsibilities and exposures to patient suffering and death (Mu et al., 2019). Nurses working in these units witness numerous patient deaths; statistics show that most of these deaths that occur at hospitals take place in the intensive care units (e.g. coronary care unit, neuro-intensive care unit, neonatal intensive care unit, etc. (Velarde-García et al., 2016). This study focused on the relationship between patient death as being the stressful situation experienced by neonatal and pediatric intensive care nurses and the development of compassion fatigue.

Compassion fatigue is defined as the caregiver's inability or/and decreased interest in being empathetic with the client/patient. For instance, caregivers with compassion fatigue have "decreased nurturing ability". According to Coetzee and Klopper (2017), compassion fatigue is distinguished as a loss of the nurturing ability that is vital to compassionate care. On another note, compassion fatigue is also considered to be a natural behavioral and emotional result of the chronic exposure to an individual's suffering or traumatization (Figley, 1995; Figley, 2002).

In the context of neonatal and pediatric intensive care units (NICU and PICU), nurses working in these units are subjected to the death of infants and children ranging from the age of 1 day till 18 years; an intense stressful situation that goes against the order of nature (Conte, 2014). Nurses working in these units, especially those providing end of life care, deal with various additional stressors. For instance, they have a responsibility to provide medical, emotional, and psychological support for the families and their patients, causing a possible heavy burden on nurses (Mu et al., 2019). In other words, they have the obligation of facing the grieving parents and the dying patients and providing them with the emotional, spiritual, and psychological support needed (Mu et al., 2019). Nurses can be uncomfortable in talking with dying patients and family members. It can also be difficult for them to care for the deceased (Cevik & Kav, 2013; Lange et al., 2008; Peterson et al., 2010; Zheng et al., 2015). In addition to the stressors associated with dealing with patient death, the loss in itself can be a stressor. Nonetheless, nurses are not expected to grieve the death of their patient; the grieving process is only validated by society for the family of the deceased (Green, 2004; Houk, 2014).

Overall, working in emotionally charged situations like patient death, if not coped with appropriately, can have a negative toll on nurses (Yilmaz, & Ustun, 2018). Nurses may carry an emotional burden that impacts them emotionally, interpersonally, and psychologically. They may feel helpless, sad, and even depressed (Mu et al., 2019; Zheng, Lee, & Bloomer, 2017). All these symptoms mentioned can be related to feelings of compassion fatigue (Mu et al., 2019).

To elaborate more, the response to stressors varies on a continuum that starts with compassion stress that may escalate to the development of compassion fatigue (Sprang, Clark, & Whitt-Woosley, 2007). Compassion fatigue, the dependent variable of this study, is defined as a repercussion of accumulated undealt with stress. It is a complex consequence that is triggered by

burnout and secondary trauma and is measured accordingly by the ProQOL self-report score (Sabo, 2006; Stamm, 2002; Stamm, 2010). Figley's causal compassion stress and fatigue model suggests that various factors can lead to the development of compassion fatigue. These factors include aspects related to a traumatic exposure that include the person's capacity for empathic engagement, prolonged exposure, traumatic recollections, and life disruption. These factors exacerbate stress reactions that may lead to the development of compassion fatigue (Figley, 2002).

In nurses, compassion fatigue is associated with exposure to prolonged suffering and patient death (Sabo, 2006). The prolonged exposure can lead to inappropriate internalization of the patient's suffering that can cause emotions of self-accusation, indecisiveness, weakness, and feeling like nothing is being accomplished. Compassion fatigue influences the nurses' ability to provide unbiased professional care tampering their ability to provide compassion to patients and their families (Dinda, Edwards, & Mikkonen, 2017; Yilmaz, & Besti, 2018). This eventually compromises the quality of care that the patient is receiving (Houk, 2014). Therefore, compassion fatigue is a significant negative outcome observed in nurses (Houk, 2014; Zheng, Lee, & Bloomer, 2017).

It is important to note, however, that not all nurses who are exposed to pediatric patient death develop compassion fatigue (Richardson, & Greenle, 2020). In order to avoid the escalation to compassion fatigue, it is important to study the factors that may affect it and contribute to its development. There are four significant factors that place healthcare workers at higher risk for compassion fatigue which are, lack of coping and self-care, having unresolved trauma, failure to control job stress, and decrease in work satisfaction (Yilzam, & Ustun, 2018).

One factor relates to the coping skills used to deal with stressors. When symptoms of stress start to be visible in nurses, coping methods are utilized for self-care. The use of coping strategies are significant predictors of the development of compassion fatigue (Al Barmawi et al., 2019), and are the independent variables in this study. If the coping skills are ineffective or the necessary support is not received, the final stage of this chronic undealt stress leads to the development of compassion fatigue (Yilmaz, & Ustun, 2018).

Coping skills are the skills that people use in order to face difficulties and to minimize the negative effects of a certain stressor (Litman, 2006). The coping process is defined as the constant cognitive and behavioral efforts undertaken by an individual in order to deal with stressors which are challenging and beyond the individuals' capacities (Lazarus and Folkman, 1984). There are various coping skills that an individual may utilize. In this study these skills will be measured using the Brief cope which is a multi-dimensional and popular self-report scale that measure coping according to 14-subscales. These subscales could be grouped into four categories. The subscales include seeking social support, problem solving, avoidance, and positive thinking (Baumstarck et al., 2017).

Coping is a response specific to a problem faced by an individual (Lazarus, 1966). According to empirical evidence, coping strategies may be classified as adaptive or maladaptive depending on various factors mainly whether they are related to emotional distress or well-being (Alveal, & Barraza, 2015; Carver, & Schaier, 2002; García et al., 2018; Meyer, 2001). The main effects model proposes that coping resources and strategies have a direct effect on well-being (Callan, Terry, & Schweitzer, 2007). Thus, one way in identifying maladaptive coping strategies, when dealing with the death of patient stressor, would be in reference to the occurrence of compassion fatigue. A study by Al Barmawi et al. (2019) on critical nurses showed that

avoidance significantly predicted secondary traumatic experience, which is one of the identifiers used to measure compassion fatigue. As for problem-solving, it significantly predicted compassion satisfaction which correlates negatively with compassion fatigue.

Thus, in this study the focus was to determine the adaptive coping skills when it comes to dealing with death of a pediatric/neonatal patient. As mentioned earlier, nurses' grief is neither socially validated nor publicly acknowledged (Wilson & Kirshbaum, 2011). Hence, nurses who are affected by the death of their patient are socially pressured to the inability to express their emotions regarding their grief openly and pretend to act normally; they do so to conform with what is socially acceptable (Erickson, & Grove, 2007; Wilson, & Kirshbaun, 2011). They utilize these socially suitable and available "coping responses" to deal with the death of their patient. Examples are repression, covering up emotions, and/or showing emotions that are unfelt, such as, feelings of numbness and indifference (Erickson, & Grove, 2007). All those attempts at managing emotions may cause additional stress in nurses because they would not be expressing how they are truly feeling (Erickson, & Grove, 2007). That said, it seemed important to determine the adaptive coping skills that are associated with diminished consequences of patient deaths, which in this study is compassion fatigue.

Beside maladaptive coping skills, another factor that may affect the development of compassion fatigue is the years of professional experience of the nurses. Nurses' years of experience in a certain unit influences their level of expertise in the field. According to Benner (1982) for nurses to be considered as experts they should have exceeded 5 years working in the same unit.

Nurses' years of experience seem to have an influence on the coping skill selection (Peters et al., 2013). It was also correlated positively with the compassion fatigue when it comes

to exposure to pediatric patient death (Richardson, & Greenle, 2020). In addition, the effect of patient death on younger nurses is reported to be greater than those of more experience, as the younger nurses' approach to death is driven by stronger fear and negative attitudes (Peters et al., 2013). More experienced nurses reported having advanced perceptions of coping skills (Peters et al., 2013; Zheng et al., 2017). They cope better with patient death as their clinical experience increased (Forest 1999; Green 2004; Hinderer 2012; Peters et al. 2013; Peterson et al. 2010; Thompson 2007; Blasiak 2010; Zheng et al., 2017). As for novice oncology nurses, they were found to utilize fewer adaptive coping strategies than experienced nurses (Meyer et al., 2020).

Purpose of this Study

The purpose of this study was to determine the adaptive coping skills, utilized by Lebanese NICU and PICU nurses when exposed to the death of their young patient, that coincide with less compassion fatigue. Another factor that was taken into consideration are the years of experience of the nurse, and their association with compassion fatigue. In this study, a hierarchical multiple regression was used. It is used to evaluate the predictive relationship between the five independent variables and the dependent variable while controlling for other variables. It consists of two blocks, the first including the personal characteristics which are age, approximate number of exposures to patient death, sex, educational level, access to mental health services, and marital status. The second block includes the variables of interest which are the different coping strategies which are seeking social support, problem solving, avoidance, and positive thinking, and years of experience.

Rationale

In reference to death and its impact, most studies target families and patients when dealing with this major stressor but not typically nurses (Wilson & Kirshbaum, 2011). Only a few studies targeted the impact of the death of patients on neonatal and pediatric nurses. As for the coping skills, various studies explored them, yet very few determined the effective ones that can be used in this specific situation. Most studies tackling coping skills used by nurses when faced with patient death are qualitative and are not linked specifically to the existence of compassion fatigue. That said, determining the most effective coping skills, that play a role in decreasing compassion fatigue, became even more needed. It is important to note that the focus on effective coping mechanisms is an essential initiative that researchers have suggested for future studies (Zheng et al., 2016).

Moreover, it was important to consider that most of the coping strategies can be easily identified and even introduced to nurses. This is why this study was crucial because it clarified which coping strategies are effective and hence could be implemented in the cases of patient death in order to diminish the development of compassion fatigue (Zheng et al., 2017).

In Lebanon, there are no studies that address compassion fatigue in nurses. However, there is a study that focuses on burnout in Lebanese nurses, which, as we previously mentioned, is one aspect of compassions fatigue (Talih et al., 2018). It was a cross-sectional study conducted on 91 nurses working at the American University of Beirut Medical. In this study, the aim was to assess the prevalence of depressive symptoms and severity of burnout among nurses in a Lebanese academic medical center. The results indicated high rates of depression and burnout among nurses (Talih et al., 2018). That said, it became important in this study to understand in

more depth the concept of compassion fatigue in Lebanese nurses as it was a more comprehensive concept to investigate than just burnout.

Finally, and as mentioned previously, compassion fatigue is a serious issue identified in NICU and PICU nurses. One way to control this problem is through determining and understanding healthy coping skills that allow nurses to properly deal with death, which is one of the precedents of this problem. Hence, researching such effective coping strategies is needed in an attempt to confirm their significance in predicting lower levels of compassion fatigue among Lebanese nurses.

Research Question

Based on the above, the research question that this study attempted to answer is the following**:** Are length of professional experience and types of coping strategies, used by Lebanese NICU and PICU nurses, predictors of compassion fatigue?

Significance

Nurses are the healthcare providers that are mostly in contact with the inpatients. They have an essential role in the treatment and well-being of the patients. Nurses who suffer from compassion fatigue show a decreased ability to empathize with their patients. In addition, empathy in nurses when dealing with patients has been linked with better patient care (Crowe, Sullivant, Miller-Smith, & Lantos, 2017). When the accumulated stress caused by patient death occurs, the nurse does not have the required resources (coping skills and organizational support) to deal with this stressor, so compassion fatigue develops (Coetzee & Laschinger, 2017). On an organizational level this would cause performance issues that decrease the quality of care provided for the patients. Likewise, it would also increase staff turnover and finally increase in

absenteeism (Wilson & Kirshbaum, 2011). Undealt with stress on the job can lower the quality of patient care and patient satisfaction (Meyer, Li, Klaristenfeld, & Gold, 2020). This study attempted to shed light on means of controlling for compassion fatigue by identifying predictors that are adjustable and can be tackled by nursing educational systems, psychologists, and hospitals/organizations.

The stress resulting from the death of a young patient that NICU and PICU nurses experience is inevitable due to the nature of their occupation. Thus, understanding compassion fatigue and effective coping mechanism can help nurses discover healthy adaptive strategies to deal with work related to patient death as well as diminish consequences like feelings of helpless, loss of empathy, hopelessness, numbness which are related to compassion fatigue (Zheng et al., 2017) This in turn can have an important effect on nurse's retention (Yoder, 2010) as well as allow organizations to develop appropriate formal interventions, such as balint groups to allow the proper and healthy coping of nurses (Houck, 2014).

On another note, this study emphasized the role of the years of experience, and the decrease in levels of compassion fatigue. This should allow organizations to manage staffing in a more effective manner so that new nurses benefit from nurses with more experience. In the case of novice nurses, they may not be aware of proper coping strategies, which can negatively impact their performance in the first few months in their job which are considered to be crucial in developing long-term job satisfaction (Meyer et al., 2020).

Chapter 2

Literature Review

This purpose of this chapter is to view previous theoretical backgrounds and evidenced-based studies that tackled the concept of compassion fatigue, its predictors, and factors that may have influenced its occurrence in registered nurses when faced with patient death. This chapter will also demonstrate background information about the hypothesis examined in this study.

NICU/PICU Nurses

Among all the healthcare providers working at the hospital, nurses are considered to be the most who are in contact with their patients (Costello, 2001). The patients in the neonatal and pediatric intensive care units range from newborns and infants all the way to teenagers (1 day- 18 years). Patients in the neonatal and pediatric intensive care units are exposed to high risks of multiple admissions and/or prolonged stays at the hospital (e.g. patients in the NICU spend an average of 70 days of hospitalization) (Lee et al., 2013). A study targeting healthcare providers working in long term care institutions showed that the healthcare providers who experienced most grief related symptoms (e.g. sleep disturbances, anger, anxiety) are those who had closer and longer contact with the patients who died (Rickerson et al., 2005). Hence, nurses working in the NICU and PICU for a long period of time with the same young patients are at a high risk for experiencing grief. The death of young patients encountered in these long stay units is considered to be against the laws of nature specifically because of the age factor (Dinda, Edwards, & Mikkonen, 2017). Therefore, nurses working with this particular population may be more affected with the death of their patient than the nurses who work with adult patients. NICU/PICU nurses are also more likely to feel that they have failed their patient and his/her

family; they may feel responsible for not being able to save the child/infant's life (Morgan, 2009). More than half of all deaths at the hospital occur in intensive care units (Velarde-García et al., 2016). Hence, no matter the years of experience it is a usual occurrence for the pediatric and neonatal intensive care unit nurses to witness the death of their patients at high mortality rates.

Hospital Environment.

The overall hospital environment can have an impact on the overall experience of nurses when dealing with the death of their patient. The way that nurses experience the death of a NICU/PICU patient is different from the way the family of the deceased experience it. People who are allowed to grieve the death of a person are strictly his/her family members (Hall, 2011). As for the grief that healthcare providers experience, and in this case NICU and PICU nurses, it is considered to be a disenfranchised grief. Disenfranchised grief is the grief that a person experiences yet is not able to express because it is not socially acknowledged, commonly observed or culturally validated (Wilson & Kirshbaum, 2011). The culture of the working environment, which is the hospital, has an impact on nurses and how they approach the death of their patient. Culture in that case would be the pattern of behavior, customs, beliefs and knowledge of a group of people (Wilson & Kirshbaum, 2011). According to Anderson, & Gaugler (2006), most nurses working at hospitals, believe that grieving the death of their patient is not accepted by their working environment and therefore considered their grief as disenfranchised.

There are some pre-requisites that people should experience to be able to express their grief. They should feel that their grief is accepted by the people surrounding them, and that the cultural norms approve their grief (Hall, 2011). According to Doka (2002) disenfranchised grief may occur in three main situations. First, when the relationship between the person and the

deceased is not acknowledged; for instance, nurses are viewed to have a professional relationship with the patient and not an emotional one, hence their relationship does not justify their grief. Second, is when the loss is not recognized. Nurses may not admit to themselves that they are grieving the death of their patient (i.e. nurses are expected to provide care for the dying patient, and to move on after their professional work without emphasizing on the impact of that death). Third, is when the griever is excluded from attending the after-death rituals (e.g. funeral, memorial) (Wilson & Kirshbaum, 2011). Nurses might feel that their grief is not something that they can openly admit or express in the work field for the reasons mentioned earlier. Grieving the loss of their patient is not a concept that is openly accepted. Healthcare providers might support each other in the case of a patient's death, yet without acknowledging that the death of the patient is an actual loss (Wilson, & Kirshbaum, 2011). For the reasons mentioned earlier, nurses experiencing the loss of their infant/pediatric patient are not allowed to express their grief. Doka (2002) attempted to understand the effect of disenfranchised grief, and he concluded that this type of grief (e.g. as grief experienced by nurses) is intensified in relation to the acknowledged grief (e.g. the grief experienced by parents of the deceased). The resources needed to alleviate it can be limited. Informal and formal support are not provided for the disenfranchised grieving experience because it is unacknowledged or disregarded by the various groups in the person's life like family and friends and even workplace (Wilson, & Kirshbaum, 2011).

Lebanese Culture

The population under study is registered nurses working in Lebanon. The country's culture has an impact on the mentality of the individual and the nurses' work values and how they view themselves in relation to their institute and coworkers. This can impact how

individuals deal with problems and how they cope with problems that arise. To understand how the exposure to death of a patient can impact the nurses it was important to take into consideration some cultural factors that may have a background effect on dealing with stressors. Lebanon is known to have a multicultural legacy as well as multiple religions; it is considered a mixture of the Arab and Western worlds, specifically the U.S.A and France (Nemr et al., 2012). All these influences affect the individuals' overall values, beliefs, views, and norms, including nurses. It is important to note that universities where nurses attain their education can be either French- based (e.g., Université Saint-Joseph, Université La Sagesse) or American-based (e.g., Lebanese American University, American University of Beirut. These educational systems carry norms from western countries, hence influencing the nursing student's approach (Harb, 2010).

To elaborate more on the influence of cultural factors, it is known that individualism and collectivism may have an impact on the individual's personality, their interpersonal behavior as well as their intrapersonal behavior and self-construal (Giacomin, & Jordan, 2017). In a collectivistic society, individuals tend to see themselves as part of collectives which means that they are propelled by social norms, obligations and duties imposed by the collectives they belong to (Kuo, & Gingrich, 2005). Individuals also sacrifice their personal interests for collective interests. Individuals think in terms of "we" to emphasize the connectedness between individuals. On the contrary, the individualistic orientation includes individuals who perceive themselves as independent from the collective and think in terms of "I" and have their own. They are also focused on their individual growth and are driven by their own personal beliefs, values and attitudes. A self-construal refers to how individuals view themselves at themselves as separate from or integrally connected to others (Markus and Kitayama 1991). These self-

construals differ in the extent to which the individual represents the self as connected to or distinct from others (Giacomin, & Jordan, 2017).

The self-construal influences the coping strategies adopted by the individual when faced with a stressor. For instance, collective coping and avoidance engagement are significant predictors for interdependence. Interdependent individuals also identify social stressors to be more intense in comparison to more independent individuals. They are more sensitive to social rejection or embarrassment. As for independent individuals they have been found to utilize active coping like planning, positive thinking, and relaxation. Thus there is a strong relationship between self-focused coping strategies and individualistic tendency (Kuo & Gingrich, 2005).

That said, a study conducted by Dirani (2008) on 161 Lebanese diverse individuals, of different ages, educational levels, socioeconomic status, incomes, and place of residency, aimed to assess the degree of individualism and collectivism of social patterns in Lebanon. This study showed that the majority of the participants tended to be individualistic in their choices, and this suggested that the previous efforts found in the literature that classified the Lebanese as collectivists was based on the fact that there was no disproving information (Dirani, 2008).

Despite the mentioned information, the Lebanese culture's influence does not necessarily dictate the self-construal tendencies in the workplace. A study by Voyer & Reader (2013) examined self-construal in a hospital setting on102 nurses and doctors working in Belgium. It is important to note here that Belgium is considered an individualistic society (Voyer, & Reader, 2013). This Belgian study focused on the differences between nurses and doctors and concluded that nurses do not report a dominant independent self-construal and are more interdependent when compared to the doctors (Voyer, & Reader, 2013).

One can conclude that the hospital environment does not encourage the expression of grief of a patient's death. Nurses in the hospital usually have a sense of belonging to the group, since they usually adopt an interdependent self-construal (Kuo & Gingrich, 2005). The nurses are then required to stick to the group's norms (e.g. Nurses are expected to move on with the job and not to express) and thus silence their grief and struggle with the death of their patient. All this environmental and cultural background information discussed above may have an overall impact on how Lebanese nurses in this study deal with the death of their patients. Finally, it is important to note though that the exposure to patient death, does not come without possible negative consequences on the nurses.

Negative Outcomes of the Patient Death on Nurses

Nurses who are constantly exposed to the death of their patients are at risk for overwhelming emotional and psychological distress (Cevik & Kav, 2013; Hopkinson, Hallett, & Luker, 2005). They also at times can suffer from anxiety, grief, feelings of helplessness and frustration, resulting from the inability to cope with stress (mentioned earlier) (Cevik & Kav, 2013; Peterson et al., 2010; Zheng et al., 2015). A study conducted by Rickerson (2005) on healthcare providers showed that nurses who have a close contact with their patient were grieving the most, which is the case in the NICU and PICU nurses (as mentioned earlier). They also showed various negative symptoms that were emotional and physical. These had an impact on the nurses' interpersonal relationships (e.g., family, friends…) and work performance. The most common manifestations were feeling sad and crying (Rickerson et al., 2005). More serious complications that nurses exposed to death of patients might suffer from are burnout, death anxiety and compassion fatigue (Payne, Dean, & Kalus, 1998; Zheng et al., 2015).

Compassion fatigue

A common consequence that is witnessed in NICU and PICU nurses can result from accumulated stress that has not been effectively coped with, is compassion fatigue. This is a major problem that is prevalent in this nursing population. Figley (1983) introduced the concept of compassion fatigue; it is when the healthcare providers are unable to feel compassion and empathy towards their patients, after being exposed to the stress that results from helping and/or wanting to help a suffering person (e.g., caring for a newborn with a congenital fatal disease; death of a patient that) (Figley, 1983; Blasiak, 2010). It also affects the care that nurses give to their patient mainly by the disengagement of the nurses from their patients (e.g., inability to work compassionately with patients) (Blasiak, 2010; Coetzee & Koppler, 2010).

A study conducted by Meaders and Lamson (2008) on 185 nurses within a Children's Hospital aimed to assess for compassion fatigue in health care providers working on pediatric critical care units. According to the study, the nurses' prolonged exposure to the suffering and death of patients can lead to the development of compassion fatigue (Meaders, & Lamson, 2008). The work stress that NICU nurses are subjected to is correlated with high levels of precursors of compassion fatigue (secondary traumatic stress and burnout) (Barr, 2017).

Coetzee and Klopper (2010) explained the development of compassion fatigue specifically in the nursing population. According to their conceptual framework, compassion fatigue develops progressively. The risk factors found in NICU and PICU nurses that may lead to compassion fatigue are many. The first factor is taking care of the same patients for a long time and spending long hours by the patient's bedside (as mentioned earlier) who eventually die, second are the environmental stressors, mainly, understaffing and long workhours and finally the scarce availability of mental health resources, especially for the stress accumulated from the

grieving the death of the patient. The extended exposure to the previously mentioned risk factors leads to the development of compassion discomfort (because of the accumulated stress) that eventually evolves into compassion fatigue, in cases where no interventions are taken (non-effective coping skills were utilized). The framework by Coetzee and Koppler (2010) does not indicate the coping skills that may be used to avoid the development and accumulation of compassion stress leading to compassion fatigue. However, the compassion fatigue model explains the etiology of compassion fatigue. It is explained by applying the conservation of resources theory and the neuroscience of empathy. The conservation of resources focuses on the individual's available resources and the process of retaining them in order to maintain a balance of resources. The resources may be of various categories, such as, objects (e.g., infrastructure, adequate staffing, etc.), conditional (e.g. health, spirituality), personal (e.g. personal skills) and energy (e.g. time, knowledge, etc) resources (Hobfoll, 1998). When caring for a patient the nurse invests in the mentioned resources (time, knowledge, effort…) in order to care compassionately. The nurse then expects to regain the energy suspended on the patient. The process of regaining the energy suspended is done through positive outcomes that result from the energy spent by the nurse on his/her patient (e.g. positive feedback from the family of the patient; patient's recovery and discharge…). When compassion regions in the brain are activated, they in turn activate other regions in the brain (rostral anterior cingulate cortex) that are associated with processing of reward and/or subjective value (Jensen, et. al, 2013). Thus, naturally nurses expect a positive outcome (reward) after dealing compassionately with their patient. However, when a negative outcome occurs after spending resources when dealing with a patient (e.g., the death of a patient they were caring for), then in that case the resources spent are lost and not regained or awarded. That imbalance in resources, if not coped with, will cause high

levels of stress that lead to compassion stress. That said, compassion stress diminishes the nurse's ability to give resources because of the existing imbalance which eventually leads to compassion fatigue (Coetzee & Laschinger, 2017).

Compassion fatigue is considered a complex term (Craig & Sprang, 2010). There have been various efforts to define and measure compassion fatigue. Recently, and the most adopted conceptualization of compassion fatigue used, is a multi-component construct. It is comprised of both secondary traumatic stress and burnout (Stamm, 2010). Secondary traumatic stress is defined as secondhand exposure to the suffering of another individual. It is an issue that usually helpers encounter when they are empathetically involved with helping others who have been traumatized (Figley, 1995). This construct relates to the stress arising from awareness of another's traumatizing event and from wanting to support the suffering person. As for the second construct of compassion fatigue, burnout, is a state of mental, emotional, and physical exhaustion. It is caused by extreme and prolonged exposure to emotional stress on the job. Eventually, the exposure leads to a gradual deterioration and depletion of one's personal resources (Brady, Guy, Poelstra, & Brokaw, 1999). Hence, prolonged exposure to exhaustion at work, and the empathetic involvement with suffering patients may lead to the development of compassion fatigue (Zedner, Hadar, Matthews, & Roberts, 2013). This model by Stamm (2010) has been successful in measuring compassion fatigue; the theoretical framework is used in the most reliable and valid scales that measure compassion fatigue. This model of compassion fatigue was adopted in this study to understand and measure compassion fatigue.

In short, we concluded that the imbalance of resources and the use of effort-reward balance causes stress (Siegrest, 1996; Coetzee & Laschinger, 2017). This stress can cause negative consequences which may be manifested as burnout or secondary traumatic stress which

are components of compassion fatigue, as mentioned by Stamm's model (2010). How people respond and buffer stress is achieved through resorting to different coping skills (Wittkowski, 2015). However, there are adequate and inadequate coping skills, not to mention that not all nurses who lose their patients, suffer from compassion fatigue. Thus, it was important to understand in this study which coping skills used by the NICU/PICU nurses, who are exposed to patient deaths, correlate with a higher risk for compassion fatigue. More specifically, the study aimed at investigating the personal resources--the coping skills/styles and /or the years of experience of the nurses--in order to conclude which of them lead to the development of compassion fatigue.

As noted, compassion fatigue is considered to be a serious problem that nurses may suffer from. Various consequences originate from compassion fatigue. For instance, nurses with compassion fatigue have been seen to fail in performing their professional duty; they fail in adequately supporting their dying patients and their family members, and/or minimize the quality of end-of-life care due to their avoidance or inability to empathetic deal with this delicate situation (Coetzee, & Laschinger, 2017). The occurrence of compassion fatigue can also indicate burnout in nurses (Blasiak, 2010). Burnout, a component of compassion fatigue, is defined as the reaction to job stress consisting of emotional exhaustion and reduced self-esteem (Maslach, & Schaufelin, 2001). A Lebanese study showed that burnout is evident in registered nurses working in hospitals (Talih, Ajaltouni, & Farhood, 2018). Moreover, compassion fatigue may also lead to desensitization to others' feelings, and a heightened awareness of one's own mortality and the mortality of loved ones (Blasiak, 2010). Since compassion fatigue is defined as a physical, emotional, and spiritual exhaustion that occurs from the stress of caring for others

(Worley,2005), this fatigue can affect the care that nurses give to another as well as the nurse him/herself (Blasiak, 2010).

To avoid the development of compassion fatigue when exposed to patient death and the consequences associated with it, it was important to look at possible predictors and their role in the development of compassion fatigue. The identified predictors of interest in this study are the types of coping strategies and years of experience of the working nurse.

Factors impacting development of compassion fatigue. Before moving to the information about the predictors of interest, it is important to look at the possible personal factors and resources that the literature mentions that may influence the development of compassion fatigue. These factors can include age, marital status, and level of education (Kim, Han, Kwak, & Kim, 2015).

A study conducted on 330 nurses working in East Turkey showed that there are gender differences when it comes to compassion fatigue levels. The results were statistically significant and showed that women had a higher level of compassion fatigue than men (Aslan, Ecri, & Pekince, 2021). These findings are consistent with a study conducted on 1521 nurses working in hospitals and primary healthcare settings in Spain, which showed significantly higher levels on compassion fatigue in Female nurses (Ruiz-Fernández, Pérez-García, Ortega-Galán, 2020).

In addition, difference in compassion fatigue level in agreement with marital status was seen as statistically significant in some studies. The level of compassion fatigue was lower in married nurses and high in single nurses (Aslan, Ecri, & Pekince, 2021). In fact, this was also observed in the results of the study conducted by Monroe (2008). Nevertheless, a recent study showed contradicting results; being married is a predictor of having a higher levels of

compassion fatigue (Ruiz-Fernández, Pérez-García, Ortega-Galán, 2020). Marital status whether it is associated with an increase in the level of compassion fatigue or not, depends on the way the marriage is perceived whether it is considered as an additive support or burden to the individual, and the perception of support adopted by the individual (Ruiz-Fernández, Pérez-García, Ortega-Galán, 2020; Yu, Jiang, & Shen, 2016).

As for the educational level there are various studies, some of which indicating that with decreased education, compassion fatigue increases and with advanced degrees compassion fatigue increases (Porter et al., 2010; Townsend, & Campbell, 2009). Also, a very recent study shows that nurses who possess post-graduate degree were found to have a higher level of compassion fatigue (Aslan, Ecri, & Pekince, 2021).

Overall, the demographic factors mentioned may impact levels of compassion fatigue. The studies mentioned show how they impact compassion fatigue; the relationship between these demographic variables and compassion fatigue show inconsistent relationships. This issue has been reported by Sano (2015) in a PhD dissertation targeting compassion fatigue in neonatal intensive care unit nurses.

As for access to mental health facilities. This access can have a role in decelerating the development of compassion fatigue. Different mental health programs and activities such as grief teams, support groups, and debriefings, were successfully utilized. Nurses learnt different skills that gave them opportunities to grieve appropriately thus decreasing the risk of developing compassion fatigue (Houk, 2014; Medland et al., 2004). Furthermore, the importance of obtaining professional help for unresolved grief and distress related manifested by compassion fatigue is an essential point (Luquette, 2005).

The last factor is number of patient deaths, this can impact the development of compassion fatigue. Exposure to a big number of deaths can increases being subjected to trauma and suffering of the patient and is associated with higher levels of compassion fatigue (Barr, 2017).

These are the variables that will be controlled for in order to assess the actual predictive impact of length of work experience and coping strategies utilize by neonatal and pediatric intensive care units' nurses.

Length of Work Experience

The nurses working in the PICU and NICU have different years of experience. Some are novice nurses which means that they are newly practicing nurses and have minimal experience while others are competent who have been working in that unit for the past 2-3 years and lastly experts who have a five year plus experience (Banner, 2011).

A study by Erickson and Grove (2007), observed how the nurses' age can have an impact on the way nurses experience the death of their patient. According to this study, younger nurses (younger than the age of thirty) were more affected with the emotional experience resulting from their patient's death than the older nurses (Erickson, & Grove, 2007). An explanation is that younger nurses lacked the experience and hence were not skilled enough in dealing with their emotional state that resulted from the death of the patient (Peters et al., 2013). In fact, young nurses seemed to adopt skills ineffectively to deal with stressors at work, which showed in the buildup of emotional exhaustion and development of burnout. The conflict between displaying a professional reaction rather than true feelings, eventually increased the negative consequences associated with the death of the patient, which eventually lead to exhaustion and burnout

(frustration from work); in other words, nurses who covered up their true feelings were more burned out than nurses who did not cover up such emotional experiences (Erickson, & Grove, 2007).

A study by Mu et al. (2019) showed that nurses who have more years of experience, and who have obtained palliative care education were more at ease talking about death and showed better competence in end-of-life care. This study on these registered nurses concluded that nurses tend to have a more positive attitude towards end-of-life care and towards death when they have more work experience. Abu Hasheesh et al. (2015) stated that the mentioned relationship between experience and caring for dying patients is consist with other studies. The exposure to patient death allows the nurses' coping to develop and their skills to improve. The more the nurses are exposed to death the more they are aware of their own emotions and reactions (Abu Hasheesh, Abo Zeid, El Said, & Al Hujaili, 2015).

In fact, there are other studies that mention that with more experience, nurses acquire the exposure needed to be able to deal effectively with the death of their patients which decreases the negative outcomes that result from the accumulated stress (Zheng, Lee, & Bloomer, 2017; Green, 2004; Hinderer, 2012; Peters et al., 2013; Peterson et al., 2010; Thompson, 2007). Furthermore, a study by Wu et al. (2015) conducted on 489 American and 63 Canadian oncology nurses showed that nurses with more experience showed less levels of compassion fatigue, specifically secondary traumatic stress which is a component of compassion fatigue as mentioned earlier.

When considering the years of experience of nurses, it is important to look at which level of expertise they belong to. Benner (1984), classified nursing experience into several levels of expertise. Accordingly, the levels vary depending on the nurses' practical and theoretical

knowledge. Five expertise levels were proposed which are the following: novice, advanced beginner, competent, proficient, and expert. Novice nurses are the nurses who are still acquiring their nursing education and who are still in nursing school. Advanced beginner nurses reflect on learned information (rules, procedures…) to determine what actions are necessary for the immediate situation. Competent nurses are task-oriented; they are focused on achieving goals and manage their work in terms of setting a goal (3 years of experience in the same unit). Although nurses in this level of expertise lack the ability to recognize the holistic picture, they can respond to various clinical situations. As for proficient nurses they are able to evaluate the holistic situation and are able to respond to the varying circumstances. Finally, expert nurses are able to detect potential problems, and hence, are proactive (McHugh, & Lake, 2010). Expert nurses are intuitive and are able to adapt to unexpected situations and respond effectively. These nurses are often consulted by inexperienced nurses. Expert nurses have a minimum of five-year experience working in the same unit.

Years of experience and expertise have been targeted in various studies. A study of five hospitals, found that years of experience were associated with expertise (Bobay, Gentile, & Hagle, 2009). In another study, researchers found that fewer medical errors were associated with nurses who had a five year plus experience (Blegen, Vaughn, & Goode, 2001). Also, inexperienced nurses (nurses with less than 4 years of experience) were associated with higher levels of burnout, job dissatisfaction and poor to fair quality of care (Aiken, Sloane, and Poghosyan, 2008).

Coping Strategies

Other than years of experience, coping strategies are considered to be another predictor of compassion fatigue. The specific stressor that NICU and PICU nurses are subjected to is patient

death. As mentioned earlier, this stressor can lead to complications if not addressed appropriately by utilizing adaptive coping strategies. To understand coping strategies, it is important to understand when they are activated. It all starts with the exposure to a certain trigger/stressor that causes stress. According to Lazarus and Folkman (1984), stress is defined as the inability to cope with negatively appraised stimuli. When someone is exposed to a stressor the initial process that occurs is appraisal. Appraisal is the process through which the person decides if a given stimulus is stressful or not and whether coping strategies should be initiated. The definition of stress is explained in the transactional theory of stress and coping, it states that people constantly appraise stimuli in their environment (Biggs et al., 2017). This process stimulates emotions, when the stimuli are appraised negatively (challenging, harmful, threatening...), this results in distress that initiates coping strategies (explained later) to manage the stressor or the emotions. The process of activating coping skills as a response to the negative appraisal may result in overcoming the negative emotions/distress associated with the negatively appraised stimulus. The outcome of utilizing coping strategies might be favorable and elicit positive emotions or might be negative and cause distress, which in turn leads to an attempt to cope with these new stressors (Biggs, Brough, & Drummond, 2017). Lazarus and Folkman (1984) state that coping skills are the skills used to withstand a stressor.

Lazarus and Folkman (1984) then studied the processes used by people to cope with stress. They explained that this occurs through three processes. The first two processes are the primary and secondary appraisals. The individual's appraisal is affected by the person's values, personal agenda, goals beliefs (individual transactions). Also, they may be affected by environmental factors/transactions (demands, resources…). The primary appraisal is when the environmental and individual transactions are given meaning. The transaction in this stage is

signified whether it is irrelevant (neutral effect), benign-positive (adds a positive effect on well-being) or stressful (signals harm, loss…). As for the secondary appraisal, it is when a person thinks of a potential response to manage the stressor. In this process of appraisal, the individual evaluates his/her coping resources, styles and situational variables in order to determine the coping actions that should be used in this situation. When the situation is appraised as stressful, the third process occurs which is the coping process. Coping is the continual change of behavioral and cognitive efforts in an attempt to manage demands that are appraised as requiring a lot of resources from the person (Lazarus and Folkman, 1984). It is process-oriented and purposefully aimed at the appraised stressful stimulus.

After adopting coping skills, the individual appraises the used coping skills to determine whether it was successful or not. If the coping skills used were appraised as successful, these skills will lead to a positive emotion or they will neutralize the effect of the negative stimulus. As for the coping skills that were appraised as unsuccessful, this cause a negative affect that can be followed up with additional coping strategies. Finally, the stress process is ongoing, and the person must keep on coping to maintain the equilibrium (Lazarus & Folkman, 1984).

Types of coping skills

According to Lazarus and Folkman (1984), the coping skills utilized could be either problem-focused coping skills, or emotional-focused coping skills or neither. The emotion-focused coping is used in effort to control the emotional responses to a stressor; this includes cognitive processes that may in turn change the way the person appraises the situation (Cooper, & Campbell, 2017). For example, a nurse might accept the death of his patient by perceiving the death as an end of the patient's suffering. As for the problem-focused coping skills, they aim at problem solving or actively manipulating the stressor to alter the source of stress (directly

managing the stressor) (Cooper, & Campbell, 2017). For instance, in order to be prepared for patient death, nurses may seek the help of some educational programs that are focused at dealing with this specific event.

Other than Lazarus' coping strategies, Carver (1997) identified a different set of coping strategies. He categorized the coping strategies such as active coping, instrumental support, and planning under problem-focused strategies. As for emotional focused strategies, they comprised of acceptance, emotional social support, humor, positive reframing, and religion. He also added a specific category of dysfunctional coping strategies like behavioral disengagement, denial, self-distraction, self-blaming, and substance use and venting.

The coping strategies identified by Carver (1997) were classified into various groups. One classification by Eisenberg et al. (2012) assembled the coping strategies into two groups, either being active or avoidant. Avoidant coping is characterized by the following: denial, substance use, venting, behavioral disengagement, self-distraction and self-blame. These avoidant coping strategies are associated with poorer outcomes (i.e. physical health among those with medical conditions), and they have not been found to be affective in managing anxiety. On another note, approach coping is characterized by the use of active coping, positive reframing, planning, acceptance, seeking emotional support, and seeking informational support. It has been linked with better physical outcomes, stable emotion responding and is considered to be positive readjustment when faced with problems (Eisenberg et al., 2012).

Recently, Baumstark (2017) grouped the 14 coping strategies identified by Carver (1997) into four categories. These four factors of coping strategies-- are social support, problem solving, avoidance, and positive thinking--were validated by the researcher based on a study that was conducted on patients and their caregivers when facing a singular life event, such as cancer.

Our study is similar to Baumstark's study but instead we focused on the coping strategies utilized by nurses when faced with the death of a patient.

Effectiveness of coping skills

To determine whether the coping behaviors used are effective or not depends on the situation in which they are used in. Some coping skills may be convenient for some situations but not for others (Lazarus and Folkman, 1984).

Though there are various controversies associated with the origins and the framework of coping strategies there is some understanding about the existence of a second-order dimension such as adaptive and maladaptive coping (Campos, Frankel, & Camras, 2004; Carver, Scheier, & Weintraub, 1989). The maladaptive dimension consists of avoidance (i.e. abandonment, social isolation, emotional suppression) or rigid dysfunctional approach coping (i.e. rumination, venting, and confrontation). In opposition, regulated emotional expression, non-repressive self-control, and reflecting are considered to be forms of adaptive coping (Connor-Smith, & Flachsbart, 2007). For instance, a study by Park et al. (2004) showed that the same coping strategy might be adaptive in one situation and maladaptive in another. In his study, 190 undergraduate students were asked to describe their most stressful event and its controllability, how they coped, and their daily positive and negative mood. The results showed that problem-focused coping had a stronger positive association with positive mood when dealing with high versus low control stressors. Furthermore, indicating that coping strategies are case dependent. Case in point, religion has been considered in some studies as a maladaptive coping strategy (Reich et al., 2016), while in other studies it appeared to be an adaptive one (García et al., 2014).

Thus, to classify coping strategies as adaptive or maladaptive depends on different factors, yet there is sufficient empirical evidence that point out which are the most commonly related to emotional distress or well-being (Garcia et al., 2018). One model declares that coping resources and strategies have a direct effect on well-being (Callan, Terry, & Schweitzer, 2007), and therefore, adaptive coping strategies, are identified based on the well-being associated with them. Unmanaged stress can have a negative impact on a person's health this includes physical and psychological health, as well as social aspects (Biggs, Brough, & Drummond, 2017), making it necessary to find adequate coping skills that deal with stress and reduce its impact.

Meyer (2001) stated that maladaptive coping strategies have a greater relationship with mental health problems (i.e. anxiety, depression, PTSD….). That said, adaptive strategies have a stronger relationship with psychological well-being. Adaptive strategies are have been found to be linked with satisfaction to life, and on the contrary maladaptive, have been found to be related to perceived stress (Alveal, & Barraza, 2015; Garcia et al., 2018).

Therefore, in order to determine whether the coping is effective it is essential to determine if the components are fit to the context (Biggs, Brough, & Drummond, 2017). Finding means to decrease compassion fatigue when coping with patient death was the context of interest of this study. It was important to determine which of the previously mentioned coping strategies can be used to effectively overcome the death of a patient in NICU and PICU nurses to decrease the risk for developing compassion fatigue. For example, a nurse might repress her anger and sadness that are caused by the death of her patient and pretend that she does not feel upset. This, for instance, may be considered as maladaptive because the person is hiding from the problem and this stands in the way of further attempts to cope and address the actual stressor (Folkman, &

Moskowitz, 2004). Yet, to be able to distinguish these coping strategies as adaptive or maladaptive, it is essential to determine the outcomes on the nurses' professional well-being.

Coping skills utilized by nurses

Although nurses working in intensive care units are exposed to frequent death, the incident of losing a patient remains a stressful incident (Mu et al., 2019). Nurses working in the PICU have a lot of responsibilities when it comes to end-of-life care. In addition to the loss they experience, because their patient is passing away, they are expected to take care of parents of the deceased and also ensure that the death goes as smoothly as possible. For instance, a nurse witnesses the death of her pediatric patient, whom she was caring for after spending a month in the PICU. The death of the patient in this example is the stressful situation that is appraised by the nurse. The stressful situation, for example, is the negative state of emotion/mind of the nurse that is associated with the loss of her/his patient. This in turn activates the coping skills aimed at that stressful situation.

One way to understand what nurses go through is to quote a nurse in Conte's (2014) qualitative study, which was conducted on oncology pediatric nurses to explore coping skills used by nurses to cope with the death of their patients. This nurse, who is one of the most experienced nurses working in the oncology pediatric unit explained how she felt after experiencing a death and how nurses are expected to proceed with their duties. She stated the following:

> I feel wiped out, and now I need to be able to completely refocus and make sure that I'm doing the best for this patient who's coming in, who's probably sick and needs me to be

on my game and thinking clearly and not rethinking all the things that I just did. You go through all that, when you know you should be focused on your next task at hand.

A few studies have focused on the nurses' use of coping skills to deal with death of a patient (Zheng, Lee, & Bloomer, 2017; Velarde-García et al., 2016; Sato, 2015). However, most of these studies did not follow-up with nurses and did not evaluate the future consequences of using different types of coping skills (i.e. emotional-focused coping skills, problem-focused coping skills and other types). On the other hand, qualitative studies targeting this matter showed that nurses use various coping skills. One of the coping strategies used by nurses is setting boundaries (e.g. nurses distance themselves from or avoid patient death, either emotionally or physically) (Zheng, Lee, & Bloomer, 2017). For instance, nurses might avoid dealing with a patient who is at a high risk of dying. Another coping skill used is physical disconnectedness through humor between colleagues regarding death in order to alleviate its severity (Sato, 2015). As for emotional disconnectedness, these acts included avoiding emotional encounters where nurses would remain strict with regards to their view of their patients by not relating that patient to their personal life (Zheng, Lee, & Bloomer, 2017).

Another type of a coping skill mentioned by Zheng et al. (2017) used by nurses is reflection, which is thinking about their behavior and their role and whether they were accountable for the death of their patient. Another coping skill is showing emotion, for instance, crying at different moments after the patient's death (Peterson et al., 2010). Peterson et al. (2010), also mentioned that nurses use distractions and lifestyle activities after the death of their patient. Examples include some daily routines, like watching television, exercising, getting enough sleep and good nutrition; these were considered as factors that assist nurses in balancing their life. On the other hand, talking and being heard is a coping skill that nurses use to cope with

the death of their patient. Nurses may use debriefing as a coping strategy to deal with patient death. This activity allows nurses to share their experiences about death with patients (Peters et al., 2013). Nurses would verbalize their fears and feelings related to the death experiences. This may be done with family or/and colleagues (Blasiak, 2010; Harris et al., 2011; McNeely, 1998).

Spiritual practices have also been used. Nurses have been found to join in faith related activities. They relied on their spiritual beliefs to cope with the death of their patients and the meaning of death. However, in some cases nurses struggled with their faith when losing a patient, and especially a young one (Green, 2004). Educational programs provided by hospitals or nursing schools that targeted dealing with patient death have been used by nurses. However, these resources are scarce and not available for everyone making it a concern for many nurses (Blasiak, 2010; Green, 2004).

A Jordanian study by Barmawi (2019) studied the studied coping strategies as moderating factors and as predictors to levels of compassion fatigue. The study was conducted on 228 nurses. In this study they utilized the Professional Quality of Life-5 (ProQOL-5) to assess for compassion fatigue and Coping Strategy Index (CSI) for coping strategies. The coping strategies of interest were seeking social support, avoidance, and problem solving. The results showed that avoidance significantly predicted compassion fatigue whereas seeking social support and problem solving did not.

Although both coping skills strategies, seeking social support and problem solving, were not found as predictors in this study, the researchers (Al Barmawi et al., 2019) suggested that future studies should investigate more the role of these particular predictors. That said, and the fact that Lebanon is similar to Jordan in a number of cultural aspects, one of them being an Arab

country, we decided to replicate the usage of these coping skills predictors. Obtaining similar results could shed some light on the role of similar cultures in using certain coping strategies.

Moreover, we decided to add an additional coping strategy, namely, positive thinking which was found to play a significant role in a study by Cocker and Joss (2016). The authors promoted positive thinking as interventions to decrease levels of compassion fatigue in healthcare workers. Recent research indicated that coping strategies are related to and predict well-being in a linear fashion (De la Fuente et al., 2021; Wu et al., 2013). This study showed that positive thinking is a significant predictor for a decrease in burnout (De la Fuente et al., 2021). In fact, burnout, as mentioned earlier, is a component of compassion fatigue. In addition, Yu et al. (2016) found that active coping strategies that include positive thinking and problem solving, significantly predicted a decrease in compassion fatigue.

In conclusion, and based on the above available literature, this study aimed at investigating the following hypothesis:

1- Years of professional experience, in addition to social support, problem solving and positive thinking (as measured by Brief Coping Orientation to Problems Experienced (COPE) Scale) will negatively predict compassion fatigue (as measured by Compassion Fatigue—Short Scale (CF-Short Scale), while avoidance as a coping strategy will positively predict compassion fatigue, in NICU and PICU nurses in Lebanon.

Chapter 3

Methods

This chapter lays out the research methodology that was used to execute this study. It includes the description of the participants, a detailed description of the measures used, the procedure followed to carry out the study, and an explanation of the data analysis.

Design

The following quantitative study employed a cross-sectional survey design. This design meant to allow the researcher to collect data from many participants at a single point in time. The purpose of the study, which implemented a hierarchical multiple regression, was to predict whether years of professional experience and types of coping strategies, used by Lebanese NICU and PICU nurses, are predictors of compassion fatigue. While controlling for other variables that include age, approximate number of patient deaths, marital status, educational level, and access to mental health facilities. The data collection took around a month.

Participants

The sample size needed was 97 registered nurses working in a variety of hospitals in Lebanon specifically in the neonatal and pediatric intensive care units. The regression model was used in this study. According to Field (2017), taking into consideration the five independent variables, 635 NICU and PICU registered nurses were needed to achieve a small effect and 92 for a medium effect (Cohen, 1988; Field, 2017). In this study, the aim was to obtain a sample size with a small to medium effect size, but it was unrealistic to aim for a large sample size of 635. In fact, a very similar study, in which the researchers were also studying the role of coping strategies in predicting compassion fatigue among a sample of Jordanian nurses, a small to

medium effect was successfully utilized, where the target population was 270 (Al Barmawi, et al., 2018). Based on that, we was decided to adopt this number as the population size for our study. Nevertheless, this was not obtainable due to the scarcity of the NICU and PICU nurses working in Lebanon. Both the NICU and PICU are limited units that are not found in all Lebanese hospitals, as indicated by The Syndicate of Hospital in Lebanon. Thus, a convenience and snowball sample were used to approach the sample of interest in this study.

In order to be selected for this study, the nurse should have been working in neonatal and pediatric intensive care units, given the interest of the study in examining the impact of the use of the different coping skills when dealing with the death of young patients on the registered nurse. The registered nurses' age ranged between the ages of 21-64 years, since the pre-requisite condition of becoming a registered nurse is either having a bachelor's in sciences in nursing (BSN) or a technical baccalaureate (BT). Both programs' curriculums are 3-year long programs post school graduation, which is usually at the age of 18 for most Lebanese. Moreover, the nurse can keep on working until the age of 64 years which is the age of retirement in Lebanon as mentioned by the Lebanese work law. Nurses were sampled using a non-random method namely purposive convenience sampling. They were selected from English speaking Lebanese private hospitals. Only registered nurses working in these specific units were surveyed. The access to this population was limited as mentioned earlier and this had an impact on the sample size.

According to the Lebanese Order of Nurses, In order to be a legally practicing registered nurse, the individual should have completed a bachelor's in science in nursing or must have an equivalence (BT, as mentioned earlier). No incentive was provided for the nurses to participate

and fill the questionnaire. The participation was a voluntary act after being invited to be part in the study.

Out of the 97 nurses that participated, as indicated in Table 1 below, 70.1% aged between 21-29, 20.6% aged between 30-39, 6.2% aged between the ages of 40-49 and 3.1% were between 50-59. 89.7% of the participants were female, 30.9% were married, 69.1% were single, and 27.8% had access to mental health facilities. The majority that had a bachelor's degree who compromised 60.8% of the participants. 2.1% had a TS, 28.9 % had a master's degree and 8.2% had a PhD/doctorate (see Table 1).

Table 1

Frequency and percentages of Demographics (N=97)

		N	**%**
Age	21-29	68	70.1%
	30-39	20	20.6%
	40-49	6	6.2%
	50-59	3	3.1%
Marital Status	Married	30	30.9%
	Single	67	69.1%
Years of experience	0-4 years	59	60.8%
	5-10 years	27	27.8%
	11+ years	11	11.3%

Table 1 Continued

Frequency and percentages of Demographics (N=97)

Educational Status	Higher level of technical training (TS)	43	36.4%
	Bachelor's degree	23	19.5%
	Master's degree	31	26.3%
	Doctorate/PhD	21	17.8%
Access to mental	Yes	27	27.8%
health facilities	No	70	72.2%
Sex	Female	87	89.7%
	Male	10	10.3%
Number of deaths	1-10	59	60.8%
exposed to	11-20	23	23.7%
	21-30	5	5.2%
	31-40	3	3.1%
	>40	7	7.2%

Materials

A questionnaire package was used to gather the information from the participating registered nurses. It consisted of a participant information letter that described the purpose of the research study (see Appendix A) and a letter of consent (see Appendix B). It also contained two

tools to study the variables of this study, namely, Brief Coping Orientation to Problems Experienced (COPE) Scale (see Appendix D), and The Compassion Fatigue -Short Scale (see Appendix C), and a demographic information Form, (see Appendix E).

It is important to note here that the utilization of English surveys on English speaking nurses has been used successfully in another study by Talih, Ajaltouni, & Farhood (2018) that targeted Lebanese nurses working at the American University Medical Center (AUBMC), a private hospital in Lebanon. It seems that private hospitals that contain NICU and PICU are English speaking hospitals (Ghossain, Freiha, & Geahchan, 2003), where nurses need to be proficient in English (Talih, Ajaltouni, & Farhood, 2018). Moreover, the medical documentation process and medical records in these hospitals are all completed in the English language (Ghossain, Freiha, & Geahchan, 2003). Our study targeted similar hospital settings, and hence, the original language of the scales was kept and not translated.

Demographic Form

This form was intended to collect information about the demographics of participants, which included age, marital status, educational level, and years of experience. This form was placed at the beginning of the questionnaire. It was followed by the letter of purpose and consent form and then the different measures (see Appendix E).

Brief Coping Orientation to Problems Experienced (COPE) Scale

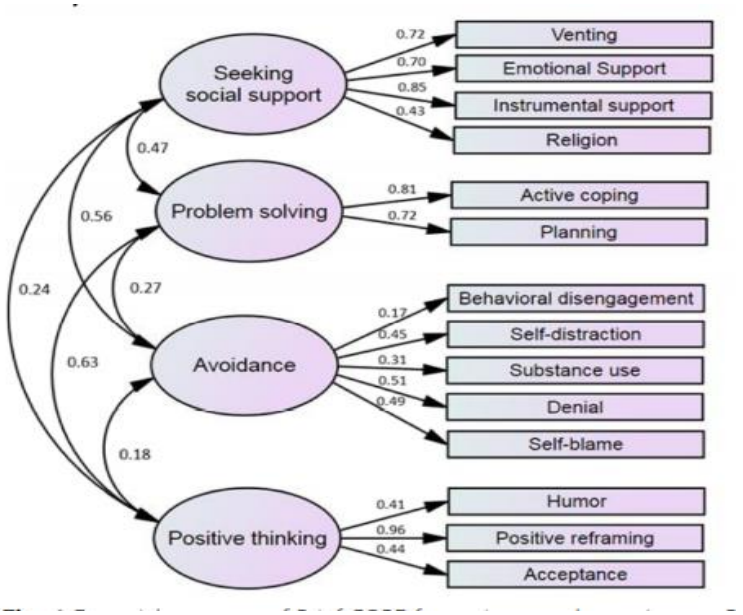
Brief COPE by Carver (1997) was included in the questionnaire. This tool is meant to assess coping strategies used in a specific situation. The tool was adapted to assess the coping strategies used by the participants when facing the death of a patient. In this version participants respond on a 4-point Likert scale (1= I have not been doing this at all; 2= a little bit; 3= a

medium amount; 4= I have been doing this a lot); a midpoint is not available. The scores showed which coping style is used by nurses while facing the specific stressor. The introductory paragraph of the scale was adjusted, and participants were asked to specify the coping strategy they utilize when faced with a specific event, which is the death of their patient. This scale was used to pinpoint the thoughts and actions an individual has used to cope with a specific stressful encounter (specified as a patient's death). The items of this tool were divided into 14 subscales which included self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, & self-blame. The scale has good internal inconsistency with Cronbach's alpha of .83 (Carver, 1990).

The 14-subscales were grouped into four main factors: seeking social support (venting, emotional support, instrumental support, religion), problem solving (active coping, planning), avoidance (behavioral disengagement, self-distraction, substance use, denial, self-blame), and positive thinking (humor, positive reframing, acceptance) (Baumstarck et al., 2017). These four factors mentioned were the independent variables in this study. The structure 4-factor of the Brief COPE had satisfactory psychometric properties, it presented acceptable internal consistency with all Cronbach's alpha greater than 0.6, for social support $\alpha = 0.82$, problem solving $\alpha = 0.74$, avoidance $\alpha = 0.64$, and positive thinking $\alpha = 0.71$ (Baumstarck et al., 2017). It has been validated in a sample of cancer patients' caregivers facing a singular stressful event similar to that of the current study. The factorial structures of Brief COPE are presented in the figure below (Baumstarck et al., 2017).

Figure 1

Factorial structure of Brief COPE for caregivers



The Brief COPE is an abbreviated version of the COPE (Coping Orientation to Problems Experienced) Inventory. Considering the problematic extension of the original instrument, Carver (1997) presented an abbreviated version, the Brief-COPE, which has been widely used in health contexts.

This scale has been selected instead of another widely used scale which is “The Ways of Coping” by Lazarus and Folkman. Although both Brief COPE and The Ways of Coping can be both adjusted to evaluate the coping skills in a specific situation “The ways of coping” has 66-items while the Brief COPE has 28-items which is easier for the participants to answer. Currently the most widely used scale is Brief COPE because it is simple and tackles all aspects of coping. Currently, it is one of the best validated and most frequently used measures of coping strategies.

The Compassion Fatigue -Short Scale

The Compassion Fatigue—Short Scale (CF-Short Scale) was used as the scale to measure the level of compassion fatigue. The CF-Short Scale operationalized the variables compassion fatigue, secondary traumatic stress, and burnout. The CF-Short Scale is a self-report, 13-item instrument containing eight-item for job burnout and five-item for secondary traumatic stress (Adams et al., 2006). Each item on the CF-Short Scale is scored on a 10-point Likert scale (Adams et al., 2006). To obtain the score for compassion fatigue, the score for all the items (both subscales) was added (Adams et al., 2006).

The determination of construct validity was done through a comparison of concepts to Figley's (1995) concept definitions (Adams et al., 2006). The instrument had a high correlation to other scales measuring related variables (Adams et al., 2006). The secondary traumatic stress subscale had a Cronbach's alpha of .80, and the job burnout subscale had a Cronbach's alpha of .90, as for the full scale it has an $\alpha = 0.90$ (Adams et al., 2006). Original testing of the CF-Short Scale strongly supported the scale's reliability and validity.

The instrument has been used to obtain a score for compassion fatigue in nurses in various studies (Dinç, 2019; Sun et al., 2016; Urben, 2017). In addition, a Turkish version was validated on nurses, and it was validated in Chinese (Dinç, 2019; Sun et al., 2016).

Compared to other scales for compassion fatigue, the CF-Short Scale has relatively high reliability and validity (Bride et al., 2007). Another widely used tool that measures compassion fatigue is the ProQOL-5. However, this tool does not give a score for compassion fatigue (Stamm, 2010). The scores are interpreted in combination, which is not consistent with the

objectives of the study. However, both the ProQOL and the CF-short scale explain compassion fatigue by having two components with are burn out and secondary traumatic stress.

Procedures

First, a pilot study was conducted on 20 nurses prior to the actual study. The pilot tested the reliability (Cronbach's alfa) of the scales that were utilized in the study on the nursing sample. The Cronbach alphas of the pilot were .896 for the 13-items of the compassion fatigue short scale that measure the compassion fatigue level. As for the four subscales of the brief cope the reliability testing gave the following results for the items of Avoidance Cronbach's Alpha .852, Problem solving Cronbach's Alpha .907, Seeking social support Cronbach's Alpha .892, and Positive thinking Cronbach's Alpha .805.

Then for the actual study, participants were recruited online via purposive convenience sampling, and snowball sampling. An invitation to join the study was distributed to nurses that are acquaintances of the researcher working in NICUs and PICUs in various Lebanese hospitals. Being a nurse herself, the researcher had access to nurses working in English speaking private hospitals. These nurses were invited to participate in the study via email and/or social media platforms through personal messages (Facebook, Instagram, Twitter, LinkedIn and WhatsApp), and were asked to share an invitation with NICU and PICU nurses that they are in contact with.

The eligible nurses that were fit for the study, PICU and NICU registered nurses, were given an overview about the study, purpose of the study, their rights, what was expected from them and finally they were asked for their consent to proceed. After achieving the participants'

approval, they commenced with the online survey. They were asked to fill it on their own pace, given that the time limit to complete the survey before it expired was 24 hours.

The survey's scales were counterbalanced. Complete counterbalancing was used to control for order and carry over effects. Each participant received a survey with an ID, an information letter and a consent form. The participants were given an estimation of the time the questionnaire required, which was about 15 minutes, what to expect from the questionnaire and a general overview about the topic of the questionnaire.

The final section of the survey was the demographic sheet. It was included at the end of the survey of both versions that were distributed. It gathered information the about years of experience in the PICU and NICU, age, approximate number of exposures to patient death, sex, educational level, access to mental health services, and marital status. All these personal factors were collected to control for their effect. As for the years of experience, it was selected as one of the independent variables of the study. The data were collected via a secure website that was provided for participation and stored securely. All answers remained anonymous. None of the answers retrieved links leading the participants to their identities.

The survey was constructed and administered using google forms; this online survey ensures anonymity and confidentiality of the participants.

Data Analysis

Data-analysis was conducted using hierarchical multiple regression. This type of analysis tested for the predictive value of the five independent variables (emotional-coping skills, problem-focused coping skills, other forms of coping skills and finally the years of experience) on one dependent variable being compassion fatigue in nurses while controlling for other

variables. SPSS was used to conduct hierarchical multiple regression. It was used to evaluate the predictive relationship between the five independent variables and the dependent variable while controlling for other variables. It consisted of two blocks, the first including the personal characteristics which are age, approximate number of exposures to patient death, sex, educational level, access to mental health services, and marital status. The second block included the variables of interest which are the different coping strategies which are seeking social support, problem solving, avoidance, and positive thinking, and years of professional experience.

Chapter 4

Results

The purpose of this study was to examine the predictive impact of various independent variables, specifically the different coping strategies that nurses utilize when facing the death of their patient and the years of professional experience in the NICU/PICU. This was done while controlling for other variables, mainly, age, gender, number of patient deaths they are exposed to, marital status, educational level, and access to mental health facilities. This chapter will tackle the reliability findings of the scales, the descriptive data as well as the findings contributing to the hypothesis testing using the Statistical program SPSS version 26.

Reliability Testing

The reliability coefficients were calculated for each of the four-subscales adopted from Baumstarck et al. (2018), of the 28-item Brief Coping Orientation to Problems Experienced (COPE) Scale (see Table 2). The analysis generated the following Cronbach's Alpha .863 for avoidance, Cronbach's Alpha .849 for seeking social support, Cronbach's Alpha .801 for Problem solving, and Cronbach's Alpha .623 for Positive thinking.

The reliability coefficient of the 13-items of the Compassion Fatigue-short scale gave a Cronbach’s alpha of .924. Each of these items is utilized to give an overall sore of compassion fatigue. Table 2 below compares the Cronbach’s alpha found in the literature and the ones of the current study.

Table 2

Comparison between the Literature and Current Cronbach's Alphas of the various Scales and Subscales

Scale or Sub-scale	Previous Cronbach's Alpha (literature)	Current Cronbach's Alpha
Seeking social support	0.820	0.849
Avoidance	0.640	0.863
Problem solving	0.740	0.801
Positive thinking	0.710	0.623
Compassion Fatigue	0.900	0.924

Scale Descriptives

Avoidance was used by 13.4% of the NICU and PICU registered nurses as a coping strategy to deal with the death of the patient from a range of medium amount to a lot, 36% used Seeking social support a medium amount of time, none used this coping strategy a lot, 43% of the nurses used positive thinking a medium amount, and 45% a medium amount used problem solving and 6% used it a lot.

As for the level of compassion fatigue, 44.3% had a moderate to high level of compassion fatigue (> 78). The results also show that the mean is 65 (SD= 5.8) on the overall score compassion fatigue short scale items. The total score ranges from 13-130, and 6% of the nurses having a > 104 score. More descriptive information is provided about the mentioned independent and dependent variables mentioned in the following table (see Table 3).

Table 3

Descriptive statistics of the variables of interest

	N	Minimum	Maximum	Mean	Std. Deviation
Years of experience in the PICU/NICU	97	.0	25.0	5.995	5.8298
Avoidance	97	10.00	37.00	18.7526	5.80056
Problem Solving	97	4.00	16.00	9.7938	2.91168
Seeking Social Support	97	8.00	26.00	17.4433	4.81311
Positive Thinking	97	6.00	19.00	13.3505	3.38822
Compassion Fatigue	97	26.00	117.00	65.0412	22.91148
Valid N (listwise)	97				

Outliers and influential cases

In an ordinary sample 95% of the cases will have standardized residuals within ± 2 range. We use "casewise diagnostics" table to spot participants with standardized residuals above the specified cutoff (see Table 4). In the current study we have a sample of 97 NICU and PICU registered nurses. Hence having 5 cases (5%) that have residuals outside these limits would be acceptable. Table 4 below shows 2 cases that are outside of the limits. In fact, 99% of the cases should lie within the ± 2.5 limit. Consequently, the results are consistent with the expectations, one item 6 lies beyond 2.5 and it compromises 1% of the participants.

All Cook's distance values were less than 1 indicating that there are no cases that have an overall influence on the model.

Among the main variables of interest there were no Standardized DFBetas with absolute values above 1. There was 1 item, 42 that had a higher value for the Standardized DFBetas of age and 46 that exceeded 1 for the Standardized DFBetas number of deaths witnessed. All others were within the range of ±1.

Table 4

Casewise Diagnostics to check for possible outliers

Case Number	Std. Residual	CF	Predicted Value	Residual
6	2.797	92.00	50.8836	41.11643
48	2.566	93.00	55.2804	37.71959

a. Dependent Variable: CF

Assumptions

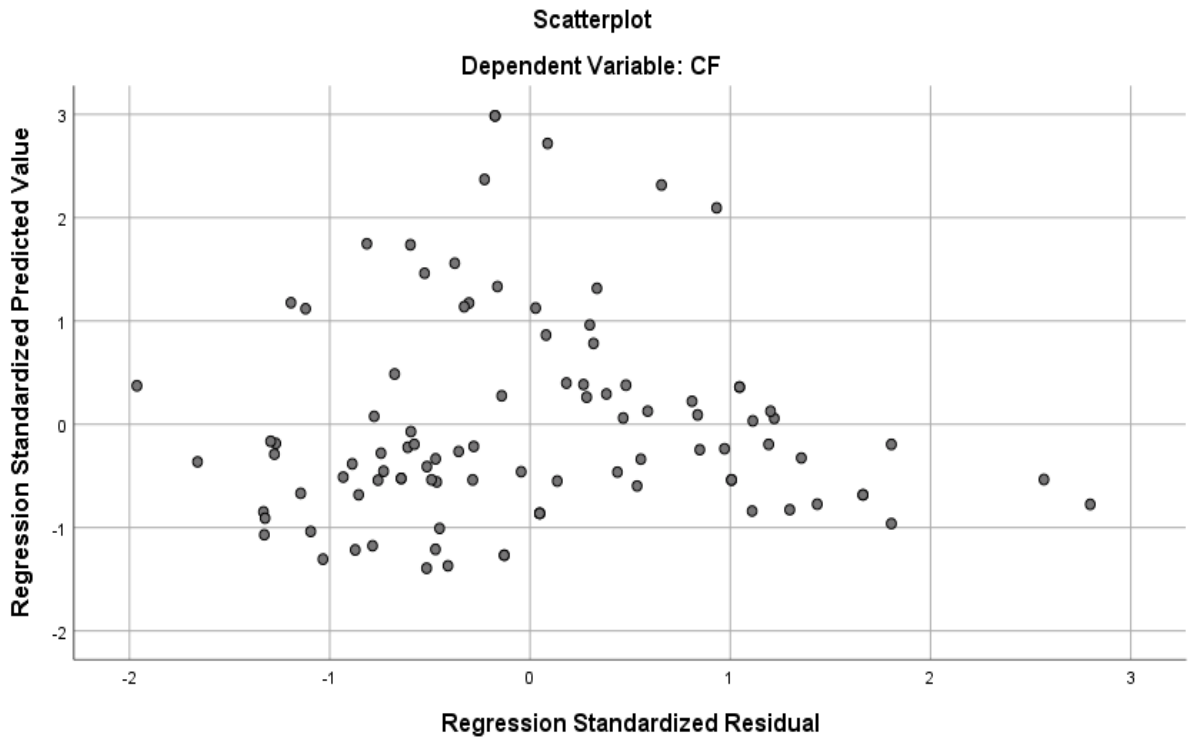
Independence of errors. Durbin Watson measurement was utilized to check for independence of errors. Values ranging beyond the range of 1 or 3 are cause for concern. This model's worth was 1.754, which exists in the limits of 1 and 3. This confirms the independence of errors since there is no autocorrelation in the model.

Multicollinearity. The assumption of no multicollinearity was assessed through the average VIF values taken from the second model of the coefficients table. The average of these values was 1.85. This indicates a moderate correlation between variables. When looking at the correlation matrix, there is no threatening correlation between the main variables of interest ($r>0.9$), confirming that there is no issue with multicollinearity.

Linearity and homoscedasticity. A scatterplot of the standardized predicted values of the DV compassion fatigue (ZPRED) and the standardized residuals (ZRESID) was generated (see Figure 2). The data points are randomly and evenly dispersed throughout the plot this means that the assumptions of linearity and homoscedasticity are met (see Figure 2).

Figure 2

Scatterplot of the standardized predicted values of the Dependent Variable compassion fatigue and the standardized residuals



The correlation matrix found in the table below (Table 5) was used to assess for multicollinearity of the variables. It also allowed us to assess the relationship between the various independent variables and the dependent variable, in all cases there was no r >0.8

Table 5

Correlation matrix of the various independent variables seeking social support, avoidance, problem solving, positive thinking, years of professional, and the dependent variable which is compassion fatigue.

		Avoid	PS	SSS	PT	CF	Years of experience
Avoidance	Pearson Correlation						
	Sig. (2-tailed)						
Problem Solving	Pearson Correlation	.350**					
	Sig. (2-tailed)	.000					
Seeking Social Support	Pearson Correlation	.352**	.779**				
	Sig. (2-tailed)	.000	.000				
Positive Thinking	Pearson Correlation	.162	.634**	.563**			
	Sig. (2-tailed)	.112	.000	.000			
Compassion Fatigue	Pearson Correlation	.612**	.006	.137	-.049		
	Sig. (2-tailed)	.000	.952	.179	.632		
Years of experience	Pearson Correlation	.084	.298**	.301**	-.085	-.203*	
	Sig. (2-tailed)	.415	.003	.003	.410	.046	

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

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

c. Listwise N=97

Hypothesis Testing

Hypothesis: Years of professional experience, in addition to social support, problem solving or positive thinking (as measured by Brief Coping Orientation to Problems Experienced (COPE) Scale) will negatively predict compassion fatigue (as measured by Compassion Fatigue—Short Scale (CF-Short Scale), while avoidance as a coping

strategy will positively predict compassion fatigue, in NICU and PICU nurses in Lebanon.

To test for the hypothesis, a hierarchical multiple regression analysis was utilized. In the first bloc, the variables that can impact the dependent variable were controlled for. These variables included the age, marital status, approximate number of deaths, sex, access to mental health facilities, and level of education. In the second bloc, the independent variables of interest were added. These variables included the different types of coping strategies when faced with patient death that were grouped into four variables: seeking social support, avoidance, positive thinking, and problem solving. Another independent variable was added, and that is, years of professional experience working with the neonatal/pediatric population.

In the first model the age, marital status, educational level, access to mental health facilities, and approximate number of deaths nurses are exposed to, the scores accounted for 18.5% of the variance in the compassion fatigue scores (F (6,90) = 3.404, p = .005, R^2 = .185, R^2Adjusted = .131) (See Table 6). When predictive factors were added in model 2, specifically the different types of coping strategies utilized by nurses when facing death of their patient and years of experience, the value of R^2 increased and the variables accounted for 63.6% of the variance in compassion fatigue scores (F (11,85) = 13.478, p = .000, R^2 = .636, R^2Adjusted = .451) (see Table 6 and 7).

The R square change indicated that the addition of the coping strategies and years of experience contributed to 45.1% additional variance in compassion fatigue.

Using a cutoff of $p < .05$, both blocks are statistically significant with $p = 0.005$ for the first block and $p < 0.001$ for the second. Thus, the inclusion of the additional variables produced a statistically significant increase in variance accounted for in the dependent variable which is compassion fatigue.

The findings in the model summary approve that the model of the hypothesis is significant (see Tables 6 and 7).

Table 6

Model Summary of the Hierarchical Multiple Regression Analysis of compassion fatigue as the dependent variable

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.430[a]	.185	.131	21.36268	.185	3.404	6	90	.005	
2	.797[b]	.636	.588	14.69840	.451	21.023	5	85	.000	1.754

a. Predictors: (Constant), Marital status, Approximate number of exposures to patient death, Gender, Age, Educational level, Access to mental health facilities

b. Predictors: (Constant), Marital status, Approximate number of exposure to patient death, Gender, Age, Educational level, Access to mental health facilities, Avoidance, Positive Thinking, Seeking Social Support, Years of experience in the PICU/NICU, Problem Solving

c. Dependent Variable: Compassion Fatigue

Table 7

Analysis of Variance of the Hierarchical Multiple Regression Analysis of Compassion Fatigue as the Dependent Variable

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9321.054	6	1553.509	3.404	.005[b]
	Residual	41072.781	90	456.364		
	Total	50393.835	96			
2	Regression	32030.194	11	2911.836	13.478	.000[c]
	Residual	18363.641	85	216.043		
	Total	50393.835	96			

a. Dependent Variable: CF
b. Predictors: (Constant), Marital status, Approximate number of exposures to patient death, Gender, Age, Educational level, Access to mental health facilities
c. Predictors: (Constant), Marital status, Approximate number of exposure to patient death, Gender, Age, Educational level, Access to mental health facilities, Avoidance, Positive Thinking, Seeking Social Support, Years of experience in the PICU/NICU, Problem Solving

From Table 8 we can indicate the beta values as well as the significance of the variable on compassion fatigue; the table shows that as avoidance (b= .672, t (85), p<.001) increased by 1 unit, it increased compassion fatigue by .672 of standard unit. Nevertheless, avoidance positively contributed to compassion fatigue by 67.2% with a $p < .001$. This confirmed part of the hypothesis that avoidance is a significant predictor of an increase in compassion fatigue.

However contrary to what was hypothesized, seeking social support (b=.336, t (85), p<.050) turned to be a positive instead of a negative significant predictor of compassion fatigue (see Table 8). A unit increase in utilizing seeking social support as a coping strategy when facing the death of a patient was associated with a .336 increase in compassion fatigue standard unit (see Table 8). In addition, years of professional experience and other coping strategies, namely,

positive thinking and problem solving, were found to be insignificant predictors of compassion fatigue since their p >.050 (see Table 8).

It is important to note here that age, approximate number of deaths faced and educational level, they all contributed significantly to compassion fatigue with the powers .004, .006, .04, respectively (see Table 8). Age and educational level contributed 32.3% and 14.9% negatively to compassion fatigue increase. As for approximate number of exposures to patient death it contributed 22.3% to an increase in compassion fatigue level.

Table 8

Regression Coefficients of compassion fatigue as the dependent variable

		Unstandardized Coefficients		Standardized			Collinearity Statistics	
Model		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	81.331	20.607		3.947	.000		
	Age	-9.486	3.044	-.310	-3.117	.002	.918	1.090
	Number of patient deaths	.264	.159	.178	1.657	.101	.784	1.275
	Gender	-7.720	7.524	-.103	-1.026	.308	.899	1.113
	Educational level	-7.376	3.428	-.217	-2.152	.034	.886	1.128
	Access to mental health facilities	4.047	5.574	.080	.726	.470	.754	1.326
	Marital status	13.077	4.947	.265	2.644	.010	.900	1.111
2	(Constant)	47.715	15.011		3.179	.002		
	Age	-9.859	3.308	-.322	-2.981	.004	.368	2.718
	Number of patient deaths	.330	.118	.223	2.807	.006	.680	1.470
	Gender	3.008	5.387	.040	.558	.578	.830	1.205
	Educational level	-5.053	2.427	-.149	-2.082	.040	.837	1.195

Table 9 Continued

Regression Coefficients of compassion fatigue as the dependent variable

	Unstandardized Coefficients		Standardized			Collinearity Statistics	
Model	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
Access to mental health facilities	-4.594	4.173	-.090	-1.101	.274	.637	1.571
Marital status	4.242	3.674	.086	1.155	.251	.772	1.295
Avoid	2.654	.291	.672	9.131	.000	.792	1.263
Problem Solving	-1.496	.957	-.190	-1.563	.122	.290	3.451
Seeking Social Support	1.601	.543	.336	2.947	.004	.329	3.036
Positive Thinking	-.971	.651	-.144	-1.491	.140	.462	2.164
Years of experience	-.707	.443	-.180	-1.594	.115	.337	2.969

Dependent Variable: Compassion fatigue

In conclusion, the findings indicated that the hypothesis has been partially met. The highest predictor for an increase in compassion fatigue among the independent variables was avoidance followed by seeking social support. However, seeking social support positively, instead of negatively, predicted compassion fatigue; this finding was inconsistent with that part of the hypothesis. Problem solving, positive thinking, and years of professional experience were not significant predictors. As for the controlled for variables, specifically age, number of exposures to death, and educational levels, they were all significant predictors of compassion fatigue.

Additional Findings

The results of the Pearson correlation (Table 5) were computed, and the results showed that compassion fatigue is negatively correlated with years of work experience ($r = .203$, $p = 0.05$)

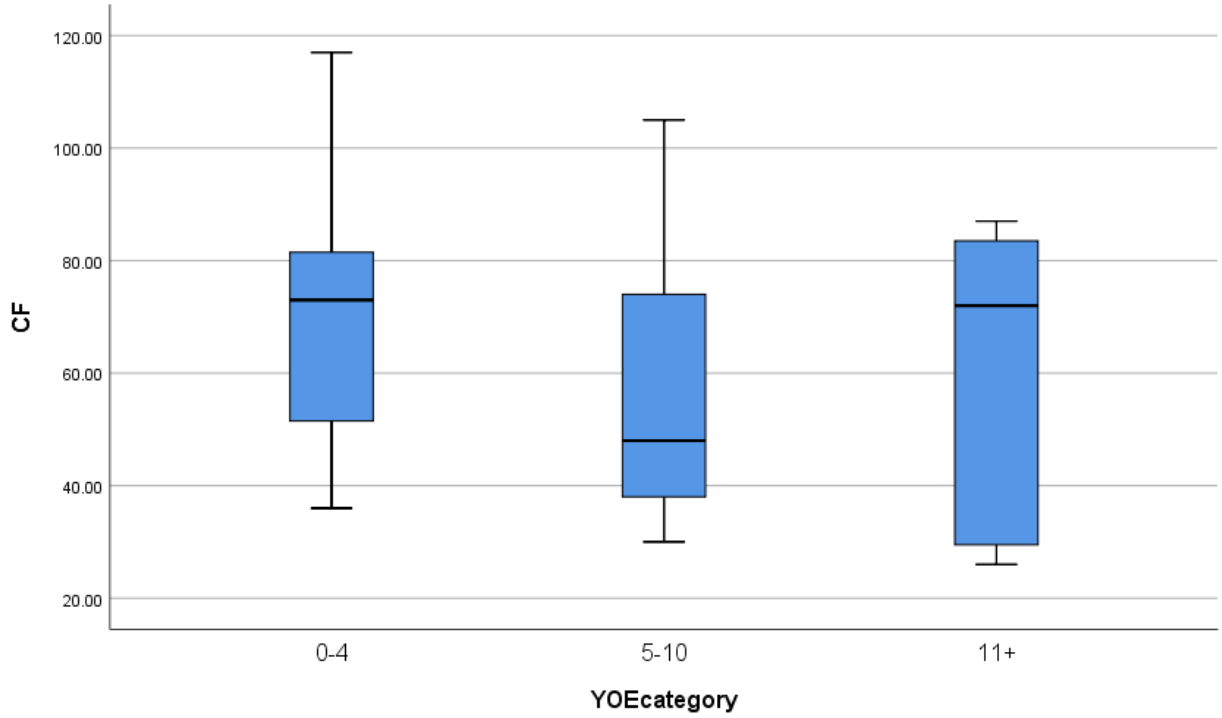
(see Table 5). Consequently, an increase in years of professional experience is correlated negatively with compassion fatigue. Nevertheless, compassion fatigue was positively correlated with avoidance ($r=.612$, $p<0.001$) (see Table 5), which is consistent with the hypothesis; in other words, the use of avoidance as a coping strategy to cope with the death of a patient is positively correlated with compassion fatigue. The other coping strategies did not show any significant correlations with compassion fatigue. It is important to note here that seeking social support did not significantly correlate with compassion fatigue and it was in the opposite hypothesized direction ($r=.137$, $p > .05$) although as mentioned earlier it was a significant predictor of compassion fatigue $b= .672$, $t (85)$, $p<.001$ (see Table 8).

On another note, years of experience was significantly correlated with the utilization of problem solving and seeking social support coping strategies when faced with the death of a patient (see Table 5).

Additionally, from the scale responses, we can see a rise of the mean of level on compassion fatigue between the professional years of experience. The peak mean is viewed in the individuals <5 years of experience, between 5 – 11 years, the compassion fatigue levels decrease, and finally after 11 years of professional experience the levels go up (see Figure 3).

Figure 3

Compassion fatigue levels and years of professional experience



Chapter 5

Discussion

The purpose of this study was to assess the effect of a number of independent variables, namely, the different coping strategies utilized by NICU and PICU Lebanese nurses while coping with the death of a patient as well as the years of their professional experience, on the increase of their levels of compassion fatigue. In this chapter, we will discuss the results presented in Chapter 4 and how they relate to other studies and the literature.

The hypothesis of this study stated that years of professional experience, in addition to social support, problem solving, or positive thinking negatively predict compassion fatigue while avoidance as a coping strategy positively predicts compassion fatigue, in NICU and PICU nurses in Lebanon. Each of the independent variables mentioned was assessed individually for its predicting effect on compassion fatigue; some of these variables turned to be significant predictors while others were not. The following is a discussion of these results and the possible explanations for each.

Avoidance in this study was considered a significant predictor of an increase in compassion fatigue levels. This result is consistent with other findings in the literature, where avoidance as a coping strategy was found to predict mental distress (Healy & McKay, 2000). In our study, the mental distress or the negative outcome of interest was compassion fatigue. In fact, another recent study showed that utilizing avoidance as a coping strategy by nurses working in various units predicted for an increase in compassion fatigue (Barmawi et al., 2019). In the specific event of this study, which is the death of a patient, the results were no different. It seems that utilizing avoidance as a coping strategy was consistently maladaptive. As mentioned

previously, coping strategies have a direct negative impact on a person's well-being and job satisfaction.

Taking into consideration hospital environments that promote an atmosphere of avoidance (e.g., never talking about such events at work) as opposed to implementing active coping mechanisms, as well as reinforcing the idea that dealing with death is part of the job, all seem to explain our result in this study (Anderson & Gaugler, 2006; Hall, 2011; Wilson & Kirshbaum, 2011). In other words, this thought promotes the adoption of a maladaptive coping strategy to deal with death of a patient. The nurses are expected to move-on and discussions, support, or even the expression of emotions are not supported in such situations (Conte's, 2014; Wilson & Kirshbaum, 2011). The findings of the current study indicated that dealing with death of a patient, a specific stressor, is no exception to the general rule about the use of avoidance and its prediction to compassion fatigue. Accordingly, the ideology encouraged by the hospital environmental can contribute to the utilization of a maladaptive coping strategy that has a role in predisposing the NICU and PICU nurses to compassion fatigue. This is an important point that should be taken into consideration. It pinpoints a coping strategy that should be avoided when dealing with a death of a patient.

In addition, the literature indicated that a decline in the utilization of avoidance leads to lower stress levels (Neff & Germer, 2013). This, in turn, can further explain the mechanism of the development of compassion fatigue, which develops from accumulated stress. The inability to control stress mainly in the event of interest, which is the death of a patient, will only lead to the buildup of stress manifesting in various ways, and in this study, it was manifested as compassion fatigue. Though the environment might promote strategies such as using avoidance because of the convenience of the professional aspect of the nurse, it is important to address this

possible serious misconception. This eventually influences the nurses' ability to care compassionately with the patients and increases levels of compassion fatigue.

Moreover, the results of the current study, contrary to the hypothesis, showed that years of professional experience are not a predictor for a decrease in compassion fatigue. In fact, years of experience correlated negatively with compassion fatigue, however, the value was not significant. Nevertheless, various studies in the literature stated that the accumulating years of professional experience enhanced the nurses' expertise level as well as decreased their compassion fatigue (Abu Hasheesh, Abo Zeid, El Said, & Al Hujaili, 2015; Erickson & Grove, 2007; Benner 1984; Mu et al., 2019; Wu et al. 2015). Although this hypothesis was not met as the years of work experience were not found to be a predictor, yet this study indicated that nurses who are mostly at risk for compassion fatigue are the new beginners (see Figure 3). This particular result is backed up by other previous studies that state that levels of compassion fatigue decrease with years of experience, and specifically beyond 5 years, the cutoff year for nurses to be considered as experts. However, what was not expected, in our study was, the increase in compassion fatigue levels after having more than eleven years of professional experience. There is a study in literature that found that nurses in their first years of work were more likely to be experiencing highest levels of compassion fatigue in comparison to the older more experienced nurses, yet as the years of experience increased beyond 10 years, the compassion fatigue seemed to boost up again (Kelly, Runge, & Spencer, 2015).

A possible explanation to these unexpected findings is that nurses with a prolonged time in the profession are frequently exposed to loss and patient suffering, in comparison to the younger nurses. They experience burnout and loss of empathy due to their prolonged time in the profession (Kelly, Runge, & Spencer, 2015). Longer periods of involvement at work correspond

with elevated levels of posttraumatic development. This is especially prevalent when working with trauma patients and it is believed to be an adaptive response encountering compassion distress for longer timeframes (Kjellenberg et al., 2014). It is also important to note, that Maxfield et al. (2007) found that the perception of older adults about death and the coping strategies that they utilize when faced with the event of death is different than the younger adults. The researcher explained that older adults, as they feel closer to death themselves, cease having the effective resources they used to have at a younger age to conquer the negative thoughts regarding their own mortality. That said, we can conclude that the group of older nurses in our study must have felt like that, as explained by Maxfield, which eventually added to their feelings of compassion fatigue. As for the youngest generation, with the least years of nursing experience they also showed elevated levels of compassion fatigue. These young nurses may suffer from compassion fatigue because of their inability to deal with the new hospital-related stressors (Kelly, Runge, & Spencer, 2015).

Furthermore, various studies focused on the nurses' ability to adapt to work-stressors as well as improve and build up an intuitive approach over the years, leading eventually to the development of these coping skills (Benner, 1984; Wu et al., 2018). This has been observed to some extent in the current study, where nurses in their first years (<5 years) of experience had the highest levels of compassion fatigue, after which their compassion fatigue scores decreased in the timeframe of 5-10 years of experience. This is when these nurses utilized their expert skills to deal with their work stressors effectively. However, it seems that Lebanese NICU and PICU nurses have eventually lost their ability to handle the trauma they have experienced and accumulated over time, and this, by itself, increased their compassion distress after 11 plus years. Unlike other units, NICU and PICU nurses work in high stress environment and with years of

high exposure to suffering and patient death, this ends up with an increase in compassion fatigue (Kelly, Runge, & Spencer, 2015). In conclusion, the inconsistent non-linear trend of compassion fatigue with years of professional experience could be explained why the years of experience is not a significant predictor for compassion fatigue.

Seeking social support was hypothesized to predict for a decrease in compassion fatigue, however the results indicated that this coping strategy predicted for an increase in compassion fatigue instead. Unlike the previously discussed Jordanian study by Barmawi (2019), in which seeking social support was not significant at all, our study showed significance but in the opposite direction. In other words, higher levels of social support predicted higher levels of compassion fatigue. The results in this study might be due to several possible explanations.

First, when looking at the results of the data analysis, it was important to note that, although seeking social support was found to be significant predictor of compassion fatigue, there was no significant correlation between seeking social support and compassion fatigue. Though it pointed out to be positive, yet the $p > 0.05$. That said, we assumed that maybe one possible explanation was the interference between the different independent variables of the study that impacted this finding. In other words, we thought that maybe the multiple regression model results could have been the consequence of a particular relationship between the different independent variables, i.e., one of the independent variables could have affected the results of utilizing seeking social support and compassion fatigue. However, this was not the case; the different variables were systematically removed from the regression to assess for such a case. However, seeking social support remained a significant predictor of compassion fatigue.

Second, studies usually ignored the potential negative side of social support and the effectiveness of specific supportive behaviors. With the limited findings in the literature, there

were a few studies that attempted to focus on the possible negative aspect of social support. A qualitative study conducted by Palant and Himmel (2018) on 42 adult (mean age is 42 years) individuals with irritable bowel disease. The study assessed the effect of social support on their stress. In this study, they explored the effect of a coping strategy (seeking social support) which was a highly recommended for these patients. Although seeking social support was found to be an effective coping strategy, this did not eliminate the possibility of some negative effects. The study's aim was to better understand and describe possible negative effects of social support (Palant & Himmel, 2018). This study showed that social support was perceived negatively when the individual did not ask for the support or/and when they felt overwhelmed by the support. Accordingly, some of the participants developed negative consequences to these social support encounters (i.e. social isolation, deterioration in their health…). Aside from that, social support can sometimes cause the person to overthink about the stressful topic (Palant & Himmel, 2018). Talking about it could have caused re-traumatization, which is also a phenomenon seen in support groups. Members were required to listen to the stories of other members of the group on a regular basis, which could have reinforced negative feelings from the past or impacted their current wellbeing (Palant & Himmel, 2018). This can be an important point for our study as the stressor of interest is the death of a young patient. It could be that seeking social support at times led to the over-discussing of these incidents which then caused the mentioned undesirable effect.

Third, another possible negative aspect of social support is being confronted by a person who is doing much better than oneself, which can have a negative toll. Comparing oneself with a person who is better can be undesirable; feelings of pessimism and frustration may be triggered when observing others who are better off than oneself. It may cause doubts regarding the person's own abilities, they might feel that they could never be as well off as some of their peers.

When participants met with others who were feeling better than themselves, they experienced more uncertainty regarding their distress more anxiety (Palant & Himmel, 2018).

Moreover, in the current study the registered nurses were asked about the coping strategies they use most when faced with the death other patient. There are some extraneous variables that we do not have insight on. For instance, we do not have information about the nurses' perception of seeking social support, nor do we have information about the source of social support nor their actual needs when seeking support as a coping strategy in the case of facing the specific event of a death of a patient. In addition, Deelstra (2003) stated that high levels of perceived support do not necessarily mean that social support is actually being provided in times of need or that the support that is provided is effective. Consequently, when the support provider intends for a certain action to be supportive, but the support receiver does not perceive it as such, negative effects of social support can be expected (e.g., genuine advice might be perceived as meddlesomeness). Even though, the nurses selected seeking social support as a coping strategy, extraneous factors such as the one mentioned could have impeded the effectiveness of such coping strategies (Deelstra, 2003). Another example could be loved ones or/and family members who may have had unrealistic expectations about what the nurse is going through, making it difficult to identify with her/his suffering or/and inability to share or recognize or admit pain or feelings related to the deaths they are experiencing at work (Cross, 2018). In conclusion, in some situations, providing actual support will not have the intended positive effect, but instead will cause an exacerbation of the problems (Deelstra, 2003).

Moving on to the last variables mentioned in the hypothesis, namely, positive thinking and problem solving, which were hypothesized to predict a decrease in compassion fatigue. That part of the hypothesis was also not met. The study by Al Barmawi et al. (2019) showed similar

results with regards to problem solving. The results of the current study confirmed the findings that problem solving is not a significant predictor of a decrease in compassion fatigue levels among Lebanese nurses working in NICU and PICU units. One might wonder whether the similarity in culture between Jordan and Lebanon, specifically when it comes to types of problem solving, is the reason why this coping strategy is not a predictor in both cultures. Future studies have to tackle that.

As for positive thinking, it has been recommended as an effective coping strategy to avoid compassion fatigue (Cocker & Joss, 2016). However, the findings of this study did not find positive thinking as a significant predictive variable. Though these two coping strategies, namely, positive thinking and problem solving, have been found to predict a decrease in the buildup of stress as well as the decrease in compassion fatigue levels in other studies (Yu et al., 2016), we can conclude that they had no impact over the event of dealing with patient death and the development of compassion fatigue among Lebanese nurses. Their impact had not been assessed on this specific situation in the past. Future studies should investigate the role of these two adaptive coping strategies in similar settings. Finally, the sample size in this study was not as we expected it to be due to reasons we discussed before. We were hoping to have more than 97 nurses in this study. This is another possible reason why the effect of these coping strategies was not noticed. Future studies should include larger samples to obtain more significant results.

Additional Findings

Other than the variables of interest several findings were observed in this study. When it came to the selection of coping strategies, NICU and PICU nurses chose problem solving strategies the most in comparison to the other coping strategies. The results of the study showed that problem-solving received the highest scores for being used from a “medium amount of the

time-a lot" in comparison to the other coping strategies included in this study. This was consistent with the study by Al Barmawi et al. (2018) which also showed that nurses working in the intensive care units scored high on problem-solving coping strategies.

The results also showed that 45% of the Lebanese NICU and PICU nurses had a moderate to high level of compassion fatigue which is also in line with other studies (Elkonin & Van der Vyver, 2011; Karanikola et al., 2015), where usually, nurses working in intensive care units were more prone to work related stressors and had moderate to high levels of compassion fatigue (Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010; Kelly & Lefton, 2017).

Clinical Implications

To begin with, the findings of this study contributed to giving more information about a very specific nursing population dealing with a specific and serious frequent stressor which is the death of a young patient. This study played a role in determining ineffective coping strategies when faced with a specific stressor, such as, the death of a patient. Contrary to some common beliefs, avoidance is maladaptive even in the case of coping with patient death. Hence, NICU/PICU nurses should be taught of the seriousness and the negative consequences of utilizing avoidance as a coping strategy to deal with this stressor. Clinicians and hospital psychologists, in particular, should focus on training nurses to resort to adaptive ways of dealing with their work stressor. In fact, it is recommended that psychologists should also be engaged in proactive counseling that attempts to educate hospital staff, in general, on the seriousness of using maladaptive coping strategies in their stressful daily work.

On another note, though years of experience is usually looked at as an advantage in dealing with compassion fatigue, however the findings of this study helped in shedding light on which age group of nurses needed the most help. These nurses were the beginners and the nurses (< 5 years) who have been working for various years (> 11 years). That said, appropriate intervention as well prevention should be targeting these groups by the mental health practitioners in the hospital settings.

Finally, this study also provided an insight into the minimal research tackling the negative effects of social support. Even so, this information could be exploited to have a skeptical view about the coping strategies recommended to the registered nurses. When the coping strategy is human based, that is, requiring a support provider and receiver, then it would become of utmost importance to consider all aspects associated with it. The literature lacks such information and therefore psychologists should be aware of that in order to come up with the needed interventions.

Also, the study points out that only 20% of nurses had access to mental health facilities. This is an alarming number. It is important to develop and facilitate mental health facilities for nurses to assess. This could allow nurses to have a formal access to help especially that they are working in a highly stressful environment, knowing that more than half the nurses have a moderate to high level of compassion fatigue.

All the mentioned points could be adopted by the nursing educational systems, mental healthcare providers, and hospitals/nurse employers. The implications suggested could help in finding practical ways that are shown to decrease a very serious complication that nurses develop, namely, compassion fatigue.

Future Research Recommendations

A first recommendation for future studies would be to explore the social support coping strategies the nurses are utilizing. It is important to have a better sense of who is providing the support and to explore reasons why it might have negative consequences.

Another recommendation would be to explore the attitude and the appraisal of NICU and PICU nurses working in Lebanon towards patient death. This could address possible issues that could allow mental health providers to decrease the development of stress.

Also, it would be important to assess for the self-construal adopted by nurses working in Lebanon. This could give insight about the overall atmosphere in the hospital, and the possible implications that impact the way nurses respond to potential stressors. Moreover, it is recommended to understand deeper the meanings of problem solving and positive thinking in future studies. As was mentioned earlier, both our study and another similar one done on Jordanian nurses, did not find these two coping strategies as predictors of compassion fatigue.

In addition, it would be essential to assess for age-appropriate coping strategies when dealing with the concept of death, especially among older adults who are more prone to compassion fatigue and their perception of death is different than younger adults.

Finally, future studies should use larger samples to reach a small effect size as is usually recommended in research.

Limitations of the current study

As mentioned earlier, the population size was smaller than expected, the original expected sample size was 200 nurses. However, the sample size utilized for this study was

enough for a medium effect but not a small effect Most of the nurses were women; therefore, the findings could not be generalized on male nurses. According to Statistics issued by the Order of nurses (2020), 79.19 % of nurses working in Lebanon are Female nurses while 20.81% are male nurses. Hence, this might not be a serious limitation because nurses working in Lebanon are mostly female nurses. Nevertheless, differences in gender might exit and this is an aspect that should be targeted in future studies.

Access to English speaking nurses is another limitation. Most English-speaking hospitals in Lebanon are private hospitals. Thus, working conditions might vary when comparing them to governmental hospitals. This might also have an impact on the overall work environment. The work environment could also affect the interdependent or dependent self-construal adopted by the nurses which could influence the overall way that nurses' approach stressful situations at work. Also, French speaking nurses might have obtained a different education than the English-speaking nurses that could have impacted the outcome.

Finally, it is important to take into consideration the time of the data-collection, since was done in times of a pandemic and political/economic issues in Lebanon. As stated by the order of nurses, a lot of nurses have not been receiving their salaries and are working under a lot of difficult conditions (understaffing, underpaid, overworked…). Also, it is important to note that the nurses who participated in the study were exposed to the Beirut port blast that happened on August 4, where all nurses were called in to contribute to the emergency situation.

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Appendix A

Participant information letter

Dear Ms./Mr.

I am Rebecca Cattan, a student at Haigazian University from the Department of Social and Behavioral Sciences. I am currently carrying out a research study titled In the Face of Death: Years of Experience and Coping Strategies as Predictors of Compassion Fatigue in Pediatric and Neonatal Nurses in Lebanon advised by Dr. Hanine Hout.

You are being asked to take part in this study since we aim to pinpoint predictor variables that put NICU and PICU nurses at a greater risk for compassion fatigue.

Kindly read the below information to decide whether you would like to participate in this research study.

Purpose of the Research Project

This research study aims at examining the relationship between coping strategies and years of professional experience, on one hand, and compassion fatigue on the other, among neonatal and pediatric intensive care unit nurses working in hospitals located in Lebanon. Since NICU and PICU nurses are exposed to young patients' death, this study will help in determining the adaptive coping strategies that such nurses may utilize when facing the death of a young patient. It will also contribute to the understanding of nurses' compassion fatigue and finding means to

decrease its development. This study will contribute towards the partial fulfillment of my academic study requirements at Haigazian University.

What will I be asked to do?

- If you choose to participate in this research study, you will be asked to fill in a questionnaire. Your participation will involve completing a survey that entails statements that you will have to rate based on agreement, a demographic form and other related questionnaires for approximately 15 minutes.

  Participation in this project is voluntary.

  You are free to withdraw anytime without having to give any reason for your withdrawal.

What are my rights?

- Participation in this study is completely voluntary, anonymous and confidential. Your name or any other identifying information will not be asked. All information would be stored securely, and there would not be any identifying information regarding the identity of the participant.
- Data you provide along with data from all participants in the present research will be stored in a password protected folder. The data will be analysed and reported in aggregate. Only the principal investigators of this study will have access to the compiled data which will be stored for a period of 10 years post data. During this time, you have the right to inspect the data.
- You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to refuse participation or withdraw will not involve any

penalty or loss of benefits to which you are entitled. Discontinuing participation in no way affects your relationship with Haigazian University.

- This research study has been reviewed and has received clearance from the Haigazian University Social and Behavioral Sciences (SBS) ethics committee. If you have any further concerns about your rights as a research participant, please, do not hesitate to contact the SBS ethics committee.

What are the risks and benefits of participation?

- Participation in this study does not involve any physical risk or emotional risk to you beyond the risks of daily life.
- You will receive no direct benefits from participating in this research; However, your participation does help researchers better understand areas that need attention regarding coping with patient death and means to decrease the associated compassion fatigue. It will also give a chance to uncover interventions that maintain the low levels of compassion fatigue in NICU and PICU nurses.

Contact information

If you have any questions or concerns about the research, you may contact:

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Appendix B

Participant consent

In the Face of Death: Years of Experience and Coping Strategies as Predictors of Compassion Fatigue in Pediatric and Neonatal Nurses in Lebanon

Please read the following statements and place a check mark in the boxes adjacent to them.

- ☐ I have volunteered to participate in this research project conducted for purposes of study. My participation is voluntary and does not involve payment of any kind.
- ☐ I agree to participate in this research project conducted for purposes of study. My decision is voluntary and does not involve payment of any kind.
- ☐ I know that I can choose to withdraw from participation any time without any penalties or consequences whatsoever. I also hold the right to decline to respond to any question(s) that I may feel uncomfortable with.
- ☐ My participation involves a questionnaire of approximately 15 minutes.
- ☐ I have been assured that the researcher will maintain my identity confidential.
- ☐ I have been assured that the information from this survey will be used for the purpose of academic study only and possible publication.
- ☐ I have received the assurance that this research study has been duly reviewed and approved by the Haigazian University ethics committee.
- ☐ I agree that the data gathered be kept in a secure location under the care of the study investigators for a period of 10 years.

☐ I have been assured that I can access my data (if identified) at any time.

☐ I have read, listened, and fully understand the explanation given to me. All my questions have been satisfactorily answered.

☐ I, therefore, choose to voluntarily participate in this research study.

☐ I have received a copy of this consent form co-signed by the researcher.

Participant consent

☐ Yes

☐ No

Date:

Appendix C

Compassion Fatigue Short-Scale

Consider the following items about your work/life situation. Write the number that best reflects your experiences using the following rating scale, 1 through 10:

Never/Rarely/Very Often

1 2 3 4 5 6 7 8 9 10

____ a. I have felt trapped by my work.

____ b. I have thoughts that I am not succeeding in achieving my life goals.

____ c. I have had flashbacks connected to my clients.

____ d. I feel that I am a “failure” in my work.

____ e. I experience troubling dreams similar to those of a client of mine.

____ f. I have felt a sense of hopelessness associated with working with clients/patients.

____ g. I have frequently felt weak, tired or rundown as a result of my work as a caregiver.

____ h. I have experienced intrusive thoughts after working with especially difficult client/patients.

____ i. I have felt depressed as a result of my work.

____ j. I have suddenly and involuntarily recalled a frightening experience while working with a client/patient.

____ k. I feel I am unsuccessful at separating work from my personal life.

____ l. I am losing sleep over a client's traumatic experiences.

____ m. I have a sense of worthlessness, disillusionment, or resentment associated with my work.

Note: Secondary Trauma items are c, e, h, j, and l; Job Burnout items are a, b, d, f, g, i, k, and m.

Appendix D

Brief Coping Orientation to Problems Experienced (COPE) Scale

Instructions: The following questions ask how you have sought to cope with a hardship in your life. Read the statements and indicate how much you have been using each coping style when faced with the death of you patient.

Rating scale from 1- 4 (1 = I haven't been doing this at all; 2 = A little bit; 3 = A medium amount; 4 = I've been doing this a lot)

1. I've been turning to work or other activities to take my mind off

things.

2. I've been concentrating my efforts on doing something about the

situation I'm in.

3. I've been saying to myself "this isn't real."

4. I've been using alcohol or other drugs to make myself feel better.

5. I've been getting emotional support from others.

6. I've been giving up trying to deal with it.

7. I've been taking action to try to make the situation better.

8. I've been refusing to believe that it has happened.

9. I've been saying things to let my unpleasant feelings escape.

10. I've been getting help and advice from other people.

11. I've been using alcohol or other drugs to help me get through it.

12. I've been trying to see it in a different light, to make it seem more positive.

13. I've been criticizing myself.

14. I've been trying to come up with a strategy about what to do.

15. I've been getting comfort and understanding from someone.

16. I've been giving up the attempt to cope.

17. I've been looking for something good in what is happening.

18. I've been making jokes about it.

19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

20. I've been accepting the reality of the fact that it has happened.

21. I've been expressing my negative feelings.

22. I've been trying to find comfort in my religion or spiritual beliefs.

23. I've been trying to get advice or help from other people about what to do.

24. I've been learning to live with it.

25. I've been thinking hard about what steps to take.

26. I've been blaming myself for things that happened.

27. I've been praying or meditating.

28. I've been making fun of the situation.

Appendix E

Demographic Sheet

1. Age:
    - ☐ <21 years
    - ☐ 21-29
    - ☐ 30-39
    - ☐ 40-49
    - ☐ 40-59
    - ☐ 60-69
    - ☐ > 69
2. Years of experience working with neonatal/pediatric population (indicate number)
3. Approximate number of exposures to patient death (indicate number)
4. Gender
    - ☐ Female
    - ☐ Male
    - ☐ Other
5. Educational level
    - ☐ Higher level of technical training (TS)
    - ☐ Bachelor's degree
    - ☐ Master's degree
    - ☐ PhD/Doctorate
6. Access to mental health facilities (e.g., support groups, psychologist, psychiatrist...)

- ☐ Yes
- ☐ No

7. Marital status:
   - ☐ Married
   - ☐ Single
   - ☐ Widowed
   - ☐ Divorced