

Coping and Resilience Factors in Pediatric Oncology Nurses

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Abstract

It is well established that pediatric oncology is perceived as a setting that is personally and professionally demanding. Many sources acknowledge the development of conditions, such as burnout, compassion fatigue and vicarious traumatization, as a result of being continuously subjected to highly stressful circumstances in a professional capacity. There are a myriad of individual and collaborative factors that are known to mediate stress in the oncology setting. One such factor is resilience. The purpose of this literature review is to investigate what is known about coping and its relationship with resilience in assisting pediatric oncology nurses to manage work-related stressors. From the themes identified within the reviewed studies, it is clear that the applicability of resilience in pediatric oncology nursing has not been thoroughly investigated. The literature suggests that the presence of resilience among pediatric oncology nurses is possible. What is not known is whether there is a link between this resilience and ability to cope with the stressors of pediatric oncology.

Keywords

pediatric oncology nursing, stress, coping, resilience

Pediatric oncology nurses are primarily responsible for the treatment and care of children with cancer (Association of Pediatric Hematology/Oncology Nurses, 2007). In some instances, they are also known as pediatric hematology/oncology nurses, where they may also care for children with blood disorders.¹ For the purposes of this study, *pediatric oncology nurse* will be defined as a Registered Nurse who works in a pediatric hematology or combined pediatric hematology/oncology unit.

It is well-established that nursing can be a stressful occupation (Chang et al., 2006). Pediatric oncology, as a setting, is perceived as both personally and professionally demanding, due to additional stressors that are unique to its specialty. The additional stressors that are specific to the pediatric oncology field include, but are not limited to, grief, loss, bereavement, moral, and ethical dilemmas regarding treatment decisions, the influence of clinical trials, complex treatment regimens, and managing professional boundaries in regard to relationships with patients and their families (Bond, 1994; Cohen, Haberman, Steeves, & Deatruck, 1994; Florio, Donnelly, & Zevor, 1998; Hinds, Quargnenti, Hickey, & Magnum, 1994; Isikahn, Comez, & Zafer Danis, 2004; Kushnir, Rabin, & Azulai, 1997; Lewis, 1999; Muscatello et al., 2006; Olson et al., 1998; Sparks, 1988; Solomon et al., 2005). Meanwhile, stressors

that are often experienced by nurses from all specialties include workload, shift-work, staffing levels, and inter-professional and interpersonal conflict (Barrett & Yates, 2002; Cohen & Sarter, 1992; Hinds et al., 1994; Isikahn et al., 2004).

Many sources acknowledge the correlation between exposure to a high volume of stressors and the development of conditions such as burnout, compassion fatigue, and vicarious traumatization (Lewis, 1999; Maslach, Schaufeli, & Leiter, 2001; Muscatello et al., 2006; Papadatou, Anagnostopoulous, & Monos, 1994; Pearlman & Mac Ian, 1995; Sinclair & Hamill, 2006). Within the literature these three terms have been used interchangeably to describe a similar phenomenon of being physically and emotionally affected by the continual demands of the health care setting (Cunningham, 2003; Maslach et al., 2001; Sinclair & Hamill, 2006). However, many authors argue that burnout, compassion fatigue, and vicarious traumatization are all concepts within their own right

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(Cunningham, 2003; Maslach & Schaufeli, 1993, cited in Maslach et al. 2001). Nevertheless, all of these conditions have been described as the result of being continuously subjected to highly stressful circumstances in a professional capacity (Little, 2002; Maslach & Schaufeli, 1993 cited in Maslach et al., 2001; Muscatello et al., 2006).

It is acknowledged that some nurses can deal with stress effectively, whereas others cannot (Cohen, Haberman, Steeves, & Deatricks, 1994; Maslach et al. 2001; Papadatou et al. 1994; Quattrin et al., 2006). Factors that may influence the ability to cope include social, team or organizational support (Ekedahl & Wengström, 2006; Fitch, Matyas, & Robinette, 2006), personal views, attitudes and circumstances (Hinds et al., 1994), personal and professional experiences, as well as resilience (Ablett & Jones, 2007). However, a previous literature review examining coping mechanisms of pediatric oncology nurses was carried out in 2007 (Zander, 2008). This review found there was a dearth of pediatric oncology nursing literature between the years of 2002 and 2007. As such, the applicability of the above coping factors has not been thoroughly explored in the pediatric oncology setting.

There are a myriad of individual and collaborative factors that are known to mediate stress in the oncology setting (Cunningham, 2003; Florio et al., 1998; Maslach et al., 2001; Papadatou et al., 1994; Pearlman & Saakvitne, 1995b cited in Sinclair & Hamill, 2006; Sherman et al., 2006). One of these factors is suggested to be resilience (Ablett & Jones, 2007). As a mediating factor, resilience can be either physiological or psychological (Tusaie & Dyer, 2004). For the purposes of this review, resilience will be considered as a psychological concept. Resilience has been described as the ability to overcome negative situations, or the “effective coping and adaptation [when] faced with loss, hardship or adversity” (Tugade & Fredrickson 2004, p. 320). It seems to Masten (2001) that everyone has the ability to develop resilience and that it results where circumstances jeopardize personal growth. Resilience is defined not only as an optimistic view on life, but also the ability to undergo personal change enabling the person to thrive and survive (McGee, 2006). Jackson, Firkto and Edenborough (2007) were able to find 50 suitable studies for their review of resilience in nursing. Their findings demonstrate there is a clear need for nurses to develop resilience to positively overcome the professional obstacles the health care system and workplace pose on them. In addition, it was suggested this resilience may assist with global retention of nursing workforce. However, there are no current studies that examine resilience in pediatric hematology and oncology nursing.

Understanding how pediatric oncology nurses cope and the presence of resilience among these nurses will inform

the field. It may then be possible to provide greater support to nurses to prevent the consequences of exposure to high levels of stress. It has also been hypothesized in the literature that finding effective strategies to prevent burnout will ultimately improve success of nursing staff retention (Hopkinson, Hallett, & Luker, 2005). Thus, the purpose of this literature review is to investigate what is known about coping and its relationship with resilience in assisting pediatric oncology nurses to manage work-related stressors.

Following discussion of the article search strategy and method of analysis, the methods used to appraise the strength and rigor of selected articles will be outlined. The findings will then be presented thematically and discussed. Finally, it will be argued that these findings have implications on current nursing practice, education, and research and recommendations will be proposed.

Article Search Strategy

The articles for this literature review were found by searching the databases MedLine (Ovid), Cumulative Index to Nursing and Allied Health Literature (Ovid), PsychINFO (Ovid), MediText (InformIT), and Cure4Kids (St Jude Children’s Research Hospital, Memphis, USA). The search terms included combinations of the following keywords: *pediatric hematology*, *pediatric oncology*, *nurses*, *nursing*, *coping*, *resilience*, *burnout prevention*, *pediatric hematology*, and *oncology*. Limiting the search to primary research articles written in English, the initial search returned 119 studies in total. In addition, reference lists of applicable studies and literature reviews were searched to find related studies.

The following inclusion criteria were applied:

- The research study had to relate to coping and resilience of staff, not patients.
- Nurses needed to make up the majority of the sample population.²
- The study setting serviced clients who would be cared for normally by pediatric oncology nurses, although this may not specifically be pediatric oncology units (e.g., adult oncology units,³ oncology hospitals that had a pediatric unit, bone marrow transplant units, hospice and palliative care services, acute care settings offering both oncology and pediatric oncology services, pediatric services working with children with chronic conditions).

There was a need to extend the time frame of the literature search beyond the last 5 years because of a replication in the lack of primary research results as found in a

previous experience (see Zander, 2008). This was to examine the overall volume, quality, and applicability of primary research available regarding what is known about coping and resilience of pediatric oncology nurses. Therefore, there was no time limit placed on the initial search. Regardless of the lack of time limits imposed on the search process, only 24 articles remained following the exclusion of articles that did not meet the above criteria. These 24 articles were therefore included for analysis. The year of publication of included articles fell within a 15-year range, being from 1992 to 2007.

Method of Article Appraisal

A thematic analysis framework was used to drive the procedure of analysis in this literature review (King, 2008, personal communication). Articles were read initially to get a basic understanding of the content and findings of each study. Articles were re-read, with the review question in mind, with relevant points highlighted. The articles were tabled according to author and date, study aim, setting and sample, methodological approach and methods, and relevant findings and limitations (see the appendix). There was only one study from this literature search that focused on resilience (Ablett & Jones, 2007) and was specifically related to palliative care nurses. Thus, the literature was analyzed with regard to what was known about dealing with the stressors specific to pediatric oncology. This was to see if the process of "effective coping and adaptation [in spite of] loss, hardship or adversity" was covertly described (Tugade & Fredrickson, 2004, p. 320). This process is, by definition, in fact the process of resilience.

Each article was then assessed according to the paradigm of the study, that is, qualitative or quantitative. Mixed method studies were assessed with which paradigm appeared most predominant in the reporting of the study. Therefore, 13 studies were considered quantitative and 11 were considered qualitative for the purposes of this review. All quantitative studies were appraised with a tool made up of 10 appropriate questions taken and adapted from the University of Salford Evaluation Tool for Quantitative Studies (Long, 2003). The questions of the University of Salford tool assist the reviewer to examine primary research articles for the aspects that pertain to the reporting of a strong and robust quantitative study. To check whether the samples of the quantitative studies were statistically appropriate, the sample data was entered into the Sample Size Calculator by Raosoft Inc. (www.raosoft.com/samplesize.html). All qualitative studies were assessed with the Critical Appraisal Skills Programme (CASP) qualitative appraisal tool (NHS Public Health Resource Unit, 2007). Similarly, the CASP qualitative

appraisal tool contains 10 questions that assist the reviewer to examine qualitative research articles for the aspects that pertain to the reporting of a rigorous and valid qualitative study. The results of the appraisal of included studies were tabled and their implications discussed below.

Rigor and Validity of Reviewed Studies

The greatest limitation of the quantitative studies included in this review, was the inability to generalize the findings. This weakness was found in 5 of the 13 quantitative studies. This weakness was often a result of small or statistically inappropriate sample sizes, as was the case in Isikahn et al. (2004), Molassiotis and Haberman (1996), and Molassiotis and van den Akker (1995). In the case of Hinds et al. (1998), the findings did not prove the stress-response sequence model they set out to test, therefore rendering the ability to generalize their results. Overall, the quantitative study of most concern with regard to rigor was Dixon, Vodde, Freeman, Higdon, and Mathiesen (2005). Because Dixon et al. did not use a validated tool and their problem statement was unclear, the results were difficult to interpret and therefore it was unclear as to whether the results were precise.

In comparison, the qualitative studies included in this review were stronger in their scientific rigor than the quantitative studies, as all qualitative studies passed most or all the assessment criteria of the CASP qualitative appraisal tool. The exception to this was the study by Cohen, Haberman, Steeves, and Deatruck (1994), where the recruitment strategy, data collection, and analysis methods were outlined in a separate article by Cohen, Haberman, and Steeves (1994). This article was unattainable at the time of initial appraisal. However, since that time, the article has been obtained, and the background of the research team, recruitment strategy, data collection, and analysis methods were clearly described (Cohen, Haberman, & Steeves, 1994). Additionally, in 2 of the 11 qualitative studies the biases of the researcher were unclear. In both Cohen and Sarter (1992) and Ekedahl and Wengström (2006), the biases were unclear because personal and professional backgrounds of each author were not discussed within the article. However, Ekedahl and Wengström (2006) thoroughly outline the theoretical framework behind the psychology of religion, which is of great significance to the methodological processes driving their study.

Findings: Themes

The relevance of the findings of each article to the review focus was appraised with regard to what was known about coping and resilience in the pediatric

Table 1. Themes From the Included Studies

Theme	Element	Reviewed Studies
Coping factors (total = 22 studies)	Social, team and organizational support	Barrett and Yates, 2002; Blomberg and Sahlberg-Blom, 2007; Dixon et al., 2005; Ekedahl and Wengström, 2006; Fitch et al., 2006; Hinds et al., 1998; Hinds et al., 2003; Kash et al., 2000; Maytum et al., 2004; Molassiotis and Haberman, 1996; Molassiotis and van den Akker, 1995; Papadatou et al., 2002; Quattrin et al., 2006; Wengström and Ekedahl, 2006
	Total with this element = 14 studies	
	Personal views, attitudes and circumstances	Ablett and Jones 2007; Cohen et al., 1994; Cohen and Sarter, 1992; Ekedahl and Wengström, 2006; Hinds et al., 1994; Hinds et al., 2003; Isikahn et al., 2004; Kash et al., 2000; Maytum et al., 2004
	Total with this element = 9 studies	
	Experience	Ablett and Jones, 2007; Blomberg and Sahlberg-Blom, 2007; Bond, 1994; Cohen and Sarter, 1992; Hinds et al., 1994; Molassiotis and Haberman, 1996; Papadatou et al., 1994; Wengström and Ekedahl, 2006
	Total with this element = 8 studies	
	Stressors	Bond, 1994; Cohen et al., 1994; Cohen and Sarter, 1992; Florio et al., 1998; Hersbach, 1992
The coping process (total = 17 studies)	Coping as a personal process	Ablett and Jones, 2007; Blomberg and Sahlberg-Blom, 2007; Dixon et al., 2005; Ekedahl and Wengström, 2006; Hinds et al., 1998; Hinds et al., 2003; Maytum et al., 2004; Molassiotis and van den Akker, 1995
	Total with this element = 8 studies	
	The balancing act	Ablett and Jones, 2007; Barrett and Yates, 2002; Blomberg and Sahlberg-Blom, 2007; Cohen et al., 1994; Cohen and Sarter, 1992; Isikahn et al., 2004; Maytum et al., 2004; Olson et al., 1998
	Total with this element = 8 studies	
	Diversity of coping strategies	Ablett and Jones, 2007; Dixon et al., 2005; Ekedahl and Wengström, 2006; Florio et al., 1998; Isikahn et al., 2004; Kash et al., 2000; Maytum et al., 2004; Quattrin et al., 2006
Overcoming negative circumstances: factor and process (total = 6 studies)	Resilience/hardiness or overcoming negative circumstances	Ablett and Jones, 2007; Kash et al., 2000; Olson et al., 1998; Papadatou et al., 1994; Papadatou et al., 2002; Wengström and Ekedahl, 2006
	Total with this element = 6 studies	

oncology setting. Similar concepts described in the relevance column were then grouped together and tabled (see Table 1). These groupings were then compared and contrasted with each other and finally organized into 3 major themes. These are

- Coping Factors
- Coping Process
- Overcoming Negative Circumstances: Factor and Process

Resilience is defined as both the effective coping and adaptation in spite of adversity (Tugade & Fredrickson, 2004). Whereas the theme “Coping Factors” considers aspects that promote effective coping and “Coping Process” addresses the process of transformation that contributes to effective adaptation, “Overcoming Negative Circumstances” as a theme considers how effective adaptation

and coping are put together as both a factor and a process in dealing with workplace stressors in the pediatric oncology setting.

Coping Factors

Because resilience is considered to include both effective coping and effective adaptation in the face of negative circumstances (Tugade & Fredrickson, 2004), this theme—Coping Factors—highlights that there are a number of factors that contribute to the effective coping of a pediatric oncology nurse. A total of 22 of the 24 studies included in this review addressed these factors. Of these, 14 discussed social, team, and organizational support, 9 addressed personal views, attitudes, and circumstances, 8 described experiences as a factor, and 5 considered the stressors themselves (see Table 1).

Social, team and organizational support. When coping with the stressors of a clinical unit, much is shared within the team, to keep the unit running smoothly (Blomberg & Sahlberg-Blom, 2007, Papadatou, Bellali, Papazoglou, & Petraki, 2002, Wengström & Ekedahl, 2006). This phenomenon of sharing confidences within the team often occurs because nurses feel that their colleagues are most likely to understand their experiences (Maytum, Heiman, & Garwick, 2004). This set of circumstances can contribute to close relationships between team members, which can lead to social contact outside of the work setting (Blomberg & Sahlberg-Blom, 2007; Ekedahl & Wengström, 2006).

In a supportive clinical team, members may feel safe to express their emotions and share their stories with others (Ekedahl & Wengström, 2006; Fitch et al., 2006; Papadatou et al., 2002). Hinds et al. have shown when testing their stress-response sequence model in both 1998 and 2003 that where there is high group cohesion, pediatric oncology nurses are more committed to their workplace and are less likely to leave. However, sometimes nurses may feel they need to share their concerns outside of the team with friends and family, to get an outside perspective (Ekedahl & Wengström, 2006). Quattrin et al. (2006) have shown that where there has not been sufficient collegial support, this lack of support has contributed to the burnout of some oncology nursing staff in Italy.

Often support for oncology nurses is not a formalized process (Barrett & Yates, 2002). Many nurses are self-motivated to seek out this support, whether it is from their nursing peers, friends, or family (Dixon et al., 2005; Kash et al., 2000; Molassiotis & van den Akker, 1995). However, Molassiotis and Haberman (1996) argue that oncology nurses have a decreased need for social support where organizations provide a form of coping intervention, such as the informal staff support service provided in the setting of their study. The nurses in this study reported a decreased need to seek the support of family and friends because they were able to gain support from team members within the informal staff support service (Molassiotis & Haberman, 1996).

Personal views, attitudes, and circumstances. Apart from collegial support, personal attitude greatly contributes to the ability of a nurse to cope. For some oncology nurses, their work has influenced life orientation, giving them a “zest for [living their] life” (Ablett & Jones, 2007, p. 736). According to Hinds et al. (1994), graduates who had a positive attitude toward themselves and their work were more likely to continue working in pediatric oncology after their first 12 months. Similarly, the way a significant event at work is viewed will contribute to how stressful it is (Cohen et al. 1994, Cohen & Sarter, 1992). However, the ability to cope must be viewed in the

context of personal circumstances. A nurse may have difficulty dealing with the stressors that arise in their workplace if they are having personal difficulties outside of their professional life, for example, a divorce or family bereavement (Cohen et al., 1994; Cohen & Sarter, 1992; Ekedahl & Wengström, 2006; Kash et al., 2000). Hence, personal demographics may be of influence in regard to the coping ability of a nurse, such as marital status, socio-economic status, or whether the nurse has children (Hinds et al., 2003; Isikahn et al., 2004). In addition, insight and self-awareness can be a strong coping tool due to a greater understanding of how particular life events may affect the nurse in their professional life (Cohen & Sarter, 1992; Hinds et al., 1994; Maytum et al., 2004). Thus, there are a number of different personal variables that contribute to the nurse’s ability to cope with workplace stressors.

Experience. The length of professional experience will not influence the perception of specific stressors according to Bond (1994), Cohen and Sarter (1992), and Papadatou et al. (1994). However, the length of nursing experience will influence the development of coping strategies (Blomberg & Sahlberg-Blom, 2007). Hence, although an experienced pediatric oncology nurse may grieve for the death of a patient as intensely as she did when she was a novice, with experience she has more strategies in place to deal with this grief. For example, as they attempted to develop their own coping ability, nurses in their first 12 months following graduation were shown to use numerous strategies, such as crying, venting, or problem solving (Hinds et al., 1994). Meanwhile, more experienced nurses in this same study found that with experience they were able to “let go”, thus allowing themselves to come to terms with patients they have grieved for or by leaving their emotional burdens at work (Hinds et al., 1994). Molassiotis and Haberman (1996) also found that those with a greater length of experience were at less risk of burnout, because these nurses had developed their coping ability over years of experience. Furthermore, the perception of past personal and professional experience was also of influence as to how nurses coped. This was depending on whether it was a positive or negative experience and/or whether the nurse felt they could learn from it (Ablett & Jones, 2007; Wengström & Ekedahl, 2006). Thus, with experience brings time and reflective practice, which both contribute to the nurse’s ability to develop strategies to deal with workplace stressors.

Stressors. The ability to cope in the pediatric oncology setting may vary either from shift-to-shift or nurse-to-nurse due to the intensity of its stressors (Bond, 1994). The frequency and intensity of stressors faced by oncology nurses can lead them to feel like they have less control over them (Florio et al. 1998). Moreover, those aspects

that oncology nurses define as the “rewards of the job” are occasionally the biggest stressors, for example, building a close rapport with patients (Cohen et al., 1994; Cohen & Sarter, 1992). Therefore, there is a real tension between investing effort in forming relationships with patients and using self-preservation strategies that allow a nurse to cope. From this literature it appears that it is not so much the volume of stress experienced by oncology nurses that differs from other specialties, rather it involves a greater level of emotional involvement (Herschbach, 1992).

Theme summary. Many stressors in pediatric oncology are considered to be intense (Bond, 1994), regardless of the years of experience the nurse may have (Bond, 1994; Cohen & Sarter, 1992; Papadatou et al., 1994). What experience does contribute are the critical incidents to reflect on (Ablett & Jones, 2007; Cohen & Sarter, 1992; Cohen et al., 1994; Wengström & Ekedahl, 2006), the changes in perception over the years (Hinds et al., 1994; Maytum et al., 2004), and the knowledge of where to seek out support (Dixon et al., 2005; Ekedahl & Wengström, 2006; Kash et al., 2000; Maytum et al., 2004; Molassiotis & van den Akker, 1995).

The Coping Process

Coping with the stressors of the pediatric oncology setting occurs within a process. It is working through this process that enables nurses to overcome negative situations and transform them for personal and professional growth. In all, 17 articles discussed aspects of this coping process. Of these, eight described coping as a personal process. Another eight addressed the diversity of coping strategies. Finally, eight articles described a “balancing act” involved in the coping process (see Table 1).

Coping as a personal process. Maytum et al. (2004) and Molassiotis and van den Akker (1995), found that nurses saw the coping process as their personal responsibility. Similarly, in Ablett and Jones (2007), hospice nurses acknowledged the way that each nurse found their own individual means to deal with the stress of their workplace. A part of this process is determining personal limits, which can differ from nurse to nurse (Ablett & Jones, 2007; Blomberg & Sahlberg-Blom, 2007; Ekedahl & Wengström, 2006) as well as personally determining which people provide the best support (Dixon et al., 2005).

An element of personal responsibility is learning to cope with nursing people with cancer. This can also involve a journey of self-discovery, for some seen as deeply personal, private, and ritualistic (Blomberg & Sahlberg-Blom, 2007; Ekedahl & Wengström, 2006). The process of coping may be ritualistic in the sense

that the nurse feels they have undergone a rite of passage when they have dealt with particular milestones, for example, the nurse’s first patient death (Blomberg & Sahlberg-Blom, 2007; Ekedahl & Wengström, 2006). Whatever the circumstances, having greater self-awareness helps nurses to identify their own triggers and realize that when they need to, they will seek assistance (Maytum et al., 2004). This coping process is fluid and may change for better or worse over time as the nurse undergoes personal changes (Hinds et al., 1998; Hinds et al., 2003).

Diversity of coping strategies. Eight articles described the diversity of strategies selected by nurses for coping as well as the need for nurses to have a variety of strategies to choose from (Ablett & Jones, 2007; Dixon et al., 2005; Ekedahl & Wengström, 2006; Florio et al., 1998; Isikahn et al., 2004; Kash et al., 2000; Maytum et al., 2004; Quattrin et al., 2006). Strategies that were common to these eight articles included spirituality and religion, social support, emotional expression, reflection, and problem solving (Ablett & Jones, 2007; Dixon et al., 2005; Ekedahl & Wengström, 2006; Florio et al., 1998; Isikahn et al., 2004; Kash et al., 2000; Maytum et al., 2004; Quattrin et al., 2006). Dixon et al. (2005) found that none of the coping methods identified were seen as being any better than others by their participants. Some coping strategies were defined as “negative” by Florio et al. (1998). These included attempts to avoid discussing stressors, considering alternative career choices, withdrawing from others, and substance abuse (Florio et al., 1998; Kash et al., 2000). Thus, it is recognized that nurses need a diversity of resources and strategies to rely on to cope with their work.

The balancing act involved in the coping process. Apart from coping strategies, the phenomenon of balance has been described concurrently with the coping processes of hematology/oncology, palliative care, and pediatric oncology nurses. Cohen et al. (1994) describe the ability to create balance within the context of oncology nursing work, such as the investment in patient relationships and professional boundaries. Blomberg and Sahlberg-Blom (2007) describe balance as the main component of the phenomenon of coping day-to-day with caring for people with advanced cancer, “balancing closeness and distance” (p. 244). Barrett and Yates (2002) suggest it is the balance of high personal achievement against the emotional exhaustion of Australian hematology and oncology nurses that accounts for lower rates of burnout. Whichever way it is described, balance plays a large role in the coping process of nurses. This may be in regard to balancing personal and professional boundaries (Ablett & Jones, 2007; Maytum et al., 2004), balancing the rewards of oncology nursing with its difficulties, (Cohen et al.,

1994; Cohen & Sarter, 1992; Olson et al., 1998) or maintaining a work/life balance (Cohen & Sarter, 1992; Isikahn et al. 2004).

Theme summary. By taking personal responsibility for the process of dealing with the stressors of the workplace (Maytum et al., 2004; Molassiotis & van den Akker, 1995), these nurses demonstrate that they are able to undergo the personal changes to become more resilient (McGee, 2006). This process involves the nurse accepting where their personal limits fall (Ablett & Jones, 2007; Blomberg & Sahlberg-Blom, 2007), determining what coping strategies will help at each point they are needed (Ablett & Jones, 2007; Dixon et al., 2005; Ekedahl & Wengström 2006; Florio et al., 1998; Isikahn et al., 2004; Kash et al., 2000; Maytum et al., 2004; Quattrin et al., 2006), and balancing these factors (Ablett & Jones, 2007; Maytum et al., 2004; Cohen & Sarter, 1992; Cohen et al., 1994; Olson et al., 1998; Isikahn et al., 2004).

Overcoming Negative Circumstances: Factor and Process

Six articles included discussion with regard to nurses overcoming negative circumstances. Within these 6 articles, the process of “effective coping and adaptation [in spite of] loss, hardship or adversity,” or resilience (Tugade & Fredrickson, 2004, p. 320), was covertly described. This process can be summarized as the ability to transform daily experiences, regardless of whether they are positive or negative, to deal with and learn from stressors (Ablett & Jones, 2007; Olson et al., 1998).

Whereas Ablett and Jones (2007) did refer to the concept of resilience, Kash et al. (2000) refer to hardiness as a personality trait. In the other four articles by Olson et al. (1998), Papadatou et al. (1994, 2002), and Wengström and Ekedahl (2006), nurses describe the ability to overcome various negative events encountered in their day-to-day work, with positive outcomes in regard to their nursing practice. Although the ability to overcome such negative events may be considered a coping factor, there is also a process these nurses undertake to overcome these negative circumstances. They did this by reflecting on their work, adjusting their attitude, and searching for greater meaning (Olson et al., 1998; Papadatou et al., 1994; Papadatou et al., 2002; Wengström & Ekedahl, 2006).

Using Kobasa's traits of hardiness (1982, cited in Kash et al., 2000, p. 1623; being committed, feeling in control and having a positive view toward challenges), Kash et al. (2000) found that being hardy increases a sense of personal accomplishment. In a similar way, Papadatou et al. (1994) suggested that being hardy may decrease the impact of emotional exhaustion or may assist in the

nurses in overcoming negative emotions. Whether or not the term *hardiness* or *resilience* is used, the overall process is described in Ablett and Jones (2007) as the acknowledgement of the influence of past experiences and stressors to transform them for coping day to day. This finding was similar to Olson et al. (1998), where participants were able to transform critical positive and negative experiences to learn from them and apply them to their nursing practice. The process of learning from experiences and applying them is a central tenet of this proposed study.

Although only 2 of the studies directly address resilience and its related concept, hardiness (Ablett & Jones, 2007; Kash et al., 2000), the process of overcoming negative circumstances is described in at least 4 studies (Olson et al., 1998; Papadatou et al., 1994; Papadatou et al., 2002; Wengström & Ekedahl, 2006). The described process of overcoming negative circumstances fits with the definition of resilience, being the ability to overcome negative situations that may threaten to jeopardize personal growth (Tugade & Fredrickson, 2004; Masten 2001).

Interpretation of the Findings

From the themes identified within the reviewed studies, it is notable that there is very little research specifically into the concept of resilience. Only one study focused on the concept of resilience and was related to palliative care (Ablett & Jones, 2007). Although 2 studies from pediatric oncology setting describe overcoming negative circumstances as a coping process and factor (Olson et al., 1998; Papadatou et al., 2002), it is clear that the applicability of resilience in pediatric oncology nursing has not been thoroughly investigated. The literature hints that the presence of resilience among pediatric oncology nurses is possible. What is not known is whether there is a link between this resilience and ability to cope with the stressors of pediatric oncology.

Meanwhile, studies have been conducted exploring the link between coping and resilience among theatre nurses (Gillespie, Chaboyer, Wallis, & Grimbeek, 2007) and inexperienced nurses (Hodges, Keeley, & Troyan, 2008). Gillespie et al. (2007) aimed to determine what factors contributed to the presence of resilience among theatre nurses. Of the factors examined by their survey, the presence of resilience was correlated with hope, self-efficacy, control, competence, and coping (Gillespie et al., 2007). However, in this particular study, the process of developing resilience was not investigated. To compare, the objective of the study in Hodges et al. (2008) was to highlight the presence of emerging resilience among nurses following their graduate transition programs in the acute care setting. The aim of their study was to implement

strategies to further promote the development of resilience (Hodges et al., 2008). Therefore in this study, the focus was on the process of initiating and identifying the development of resilience. Thus, research that considers the process of developing resilience as a continuum is limited.

An additional dimension that contributes to the lack of clarity regarding research into resilience in pediatric oncology nursing is the discussion of hardiness. Hardiness and resilience are often considered similar concepts. However, Earvolino-Ramirez (2007, p. 80) argues that resilience is the ability to overcome negative circumstances with positive results, whereas hardiness is the ability to face negative circumstances stoically. Thus, it is possible that traits of hardiness may contribute to the nurse's ability to be resilient or may in fact actually be traits of resilience (Kash et al., 2000). Within literature on resilience, it has been noted that Kobasa's work on hardiness was in fact contained within the Connor–Davidson Resilience Scale, a quantitative measure of resilience (Gillespie et al., 2007). An example of this lack of clarity between hardiness and resilience specifically within the studies selected for review includes the suggestion from Papadatou et al. (1994) that hardy nurses are able to overcome negative emotions.

This review identified 10 studies that either specifically address pediatric oncology or include pediatric oncology nurses within the study samples. However, the bulk of these studies were conducted in 1990s and in the past decade, a number of organizational and political changes have influenced the structure of pediatric and oncology care delivery (Ekedahl & Wengström, 2006; Fitch et al., 2006; Maytum et al., 2004). With the increasing trend toward outpatient services, the acuity of inpatients admitted is much higher. Patient acuity may be a contributor to the intensity of stress perceived by current pediatric oncology nurses. Thus, pursuing a study into the coping and resilience of pediatric oncology nurses may unearth the experiential wealth of knowledge that is known with respect to specific coping factors and processes in pediatric oncology.

Returning to the focus of this literature review—what is known about coping and its relationship to resilience in regard to the stressors experienced by pediatric oncology nurses—the findings provide a number of suggestions for strategies and solutions. These suggestions include the need for support, a positive personal attitude, experience, the ability to control situations, having a personal process of coping, resourcefulness, having balance in life, and the ability to overcome challenges or negative events in everyday clinical work. Interestingly, these personal and professional traits are similar to the protective factors that contribute to the

construct of resilience, as described by studies reviewed in Earvolino-Ramirez (2007). These findings highlight the possibility of resilience being present among pediatric oncology nurses. However, the literature fails to explore the concept of resilience among pediatric oncology nurses at this time.

Implications

First, there is a need to investigate the concept of resilience among pediatric oncology nursing staff. A study that explores resilience in pediatric oncology nurses will address the current gap in pediatric oncology nursing research and contribute to investigating the links between coping and resilience in nursing in general. There is also the potential for uncovering whether there is a process for developing resilience among pediatric oncology nurses that could inform nurses in general. It is also imperative that the concepts of resilience and hardiness are further investigated and clearly defined, to reduce the confusion that currently surrounds them in the literature.

With a better understanding of how pediatric oncology nurses currently cope, strategies can be developed and targeted toward the factors and processes used to enhance this coping ability. This includes adding to the effectiveness of current support from the multidisciplinary treating team, employing organization, families, friends, and colleagues. Further research could indicate the need for reflective practice, such that nurses can examine their personal attitudes and circumstances, level of experience, and become aware of how and when they overcome challenges during their practice. Ultimately, such strategies need to be flexible, diverse, and acknowledge the personal nature of coping and resilience.

A greater understanding of how nurses cope with workplace stressors may also help nursing educators to better prepare nursing students for both clinical placements and employment in their future workplaces. This may be especially true in pediatric oncology settings, because Hinds et al. (1994) assert that graduates who had a wider range of coping strategies were less likely to resign within their first 12 months of working in a pediatric oncology setting. Thus, the feasibility of implementing subjects into undergraduate nursing curriculum that expose nursing students to different coping strategies needs to be investigated.

Conclusion

With increased awareness into coping mechanisms and personal resilience strategies of pediatric oncology nurses, innovative strategies can be implemented. These strategies

Appendix

Summary of Included Studies

Author, Year, and Location	Aim	Setting and Sample	Methodology and Method	Relevant Findings and Limitations
Ablett and Jones, 2007, U.K.	To explore how hospice nurses' experiences promote resilience and work longevity	Sample: 10 nurses Setting: 1 hospice	Grounded theory (using interpretive phenomenological analysis), using semistructured interviews	Past experience influences personal attitudes (care giving, work, zest for life) Self-awareness and spirituality Acknowledging stress and how they cope with it Personal and professional boundaries
Barrett and Yates, 2002, Australia	To survey level of job satisfaction, burnout and intent to leave among oncology/hematology nurses	Sample: 243 nurses Setting: 11 state hematology / oncology facilities: inpatient, outpatient and community	Survey design quantitative descriptive, using 3 validated instruments	36.5% formalized support in workplace, Moderate-high levels emotional exhaustion—balanced with high personal achievement
Blomberg and Sahlberg-Blom 2007, Sweden	To describe how health professionals caring for patients with advanced stages of cancer handle difficult circumstances arising from their day-to-day work	Sample: 77, includes nurses, and assistants, psychologists, OTs and aids, physios Setting: 3 units with oncology/palliative care ward, community and day services	Phenomenology, using focus groups	Phenomenon described as “balancing closeness and distance” Identity of caregiver Setting limits The team's support Influence of experience
Bond, 1994, U.S.	To measure intensity of stressors experienced by pediatric oncology nurses, examine study instrument reliability with different nurses	Sample: 137 pediatric oncology nurses. Setting: members of Association of Pediatric Oncology nurses (APON)	Survey (quantitative–descriptive), using validated tool	<5 years pediatric oncology experience did not have different intensity to >5 years experience Most stressors were seen as intense by each respondent
Cohen et al., 1994, U.S.	To explore what oncology nurses perceive as the rewards and difficulties of their job	Sample: 38 oncology nurses Setting: 6 cancer care centers, nationwide	Phenomenology, using interviews	Patients as reward and difficulty. Working in the context of other difficulties Having to balance the positive aspects of rewards sources Sample recruitment and data analysis in another article
Cohen and Sarter, 1992, U.S.	To explore oncology nurses perceptions of their work	Sample: 23 oncology nurses Setting: 1 cancer hospital which has a pediatric unit	Phenomenology, using interviews and participant observation	Critical incidents including patient encounters Relating work incidents to events within nurses own lives Balancing difficulties and rewards Work/life balance Stressors and experiences perceived same despite experience Researcher's biases unclear

(continued)

Appendix (continued)

Author, Year, and Location	Aim	Setting and Sample	Methodology and Method	Relevant Findings and Limitations
Dixon et al., 2005, U.S.	To survey pediatric hospital staff at one site about their workplace stressors, how they cope and what resources they felt needed to be implemented	Sample: 67 nurses, 1 OT, 9 pediatric resident doctors, 6 physios, 1 respiratory therapist, 6 social workers, 3 ward clerks Setting: pediatric hospital with oncology service	Survey design: mixed method (quantitative predominant), using own untested instrument	Most use personal resources, which include family, clergy, and friends, as well as colleagues None of the methods of coping viewed as better than others Problem statement not clearly stated, no pre/posttesting of instrument
Ekedahl and Wengström, 2006, Sweden	To understand the coping strategies and processes of oncology nurses caring for terminally ill and dying patients	Sample: 15 oncology nurses Setting: various hospices, wards and outpatient facilities	Qualitative: life story approach, based on grounded theory and hermeneutics, using semistructured interviews	Boundaries Space from work Problem solving Support from others and sharing emotions Rituals Researchers' biases unclear Connecting with others
Fitch, Matyas, and Robinette, 2006, Canada	To evaluate the outcomes of a day-long retreat workshop for oncology nurses at 1 center	Sample: 103 oncology nurses, including 21 who were interviewed Setting: 1 cancer centre, both inpatient and outpatient staff	Descriptive: mixed method (qualitative predominant), using evaluation survey and a follow up interview 12 months later	Value of support
Florio, Donnelly, and Zevon, 1998, U.S.	To define the elements of stress and coping in oncology nurses to create a transactional model of stress	Sample: 59 oncology nurses Setting: high-dose chemotherapy and bone marrow transplant (BMT) inpatient facility in New York	"Free Response" concept mapping, incorporating a Q-sort questionnaire (mixed method, mainly quantitative)	More frequent stressors more intense and less controllable. Coworker support Emotional management Diversity of coping Apathy/negative coping described More positive coping strategies were used more frequently
Herschbach, 1992, Germany	To compare the stressors faced by oncologists and oncology nurses against those doctors and nurses from other specialties	Sample: 592 nurses and 299 doctors Setting: All large public facilities and a sample of smaller facilities in 2 states	Survey design (quantitative), using a validated instrument	Volume of stress burden in oncology is similar to nononcology, but different sort of stress (more patient related, e.g., emotional involvement)
Hinds et al., 1994, USA	To identify and compare stressors, reactions, consequences of work related stress of new graduate registered nurses (RNs) in pediatric oncology and experienced pediatric oncology RNs	Sample: 9 graduate nurses and 14 experienced nurses Setting: 1 pediatric oncology Centre	Descriptive study (qualitative), using interviews	Stressors and coping different for graduate nurses in first 12 months >12 months: more self-awareness in dealing with stressors Diverse strategies used A positive attitude meant graduate was more likely to stay

(continued)

Appendix (continued)

Author, Year, and Location	Aim	Setting and Sample	Methodology and Method	Relevant Findings and Limitations
Hinds et al., 1998, U.S.	To test a theoretical stress-response sequence model among a group of pediatric oncology nurses, compare different factors in the model and determine whether personal nurse demographics influence the model	Sample: 126 pediatric oncology nurses Setting: 1 pediatric cancer centre setting	Descriptive survey design (quantitative), using randomly distributed validated tools	Increased satisfaction related to increased group cohesion and organizational commitment as well as decreased intent to leave Personal circumstances influence coping Stress-response sequence model was not proved
Hinds et al., 2003, U.S.	To test a revised stress-response sequence model for pediatric oncology nurses consider role-related meaning influences on model	Sample: 89 pediatric oncology nurses Setting: 1 large pediatric oncology Center	Descriptive survey (quantitative), using randomly distributed validated tools	Coping influenced by age and demographic Strong link between commitment and group cohesion Low intent to leave
Isikahn, Comez, and Zafer Danis, 2004, Turkey	To determine the factors influencing stress and coping of oncologists and oncology nurses	Sample: 52 oncologists and 57 nurses Setting: 6 oncology hospitals	Survey design: demographic instrument (pilot), job stress inventory (validated), ways of coping inventory (validated)	Personal demographics correlated with stress and coping Work/life balance factors Problem-solving coping most often used Many approaches used for coping Small sample size
Kash et al., 2000, U.S.	To compare and identify the stressors and factors that moderate stress faced by oncology nurses, house resident medical officers, and oncologists at a major cancer centre	Sample: 83 nurses, 76 medical residents, 35 internal oncologists, 67 oncologists, external to hospital	Survey design (quantitative), using validated tools	Increased emotional exhaustion when there was substance abuse Hardiness correlated with increased accomplishment Influence of life context on coping with stress Nurses used more peer support Diverse range of strategies
Maytum, Heiman, and Garwick, 2004, U.S.	To identify how pediatric nurses who manage clients with chronic conditions cope with their work to manage or prevent compassion fatigue and burnout as well as any potential triggers	Sample: 20 nurses Setting: pediatric chronic illness management from a variety of settings	Content analysis, using interviews	Influence of lack of boundaries triggering stress related conditions Self-awareness led to use of coping techniques Diversity of techniques Need for support of colleagues Personal responsibility to cope
Molassiotis and Haberman, 1996, U.S.	To assess the emotional obstacles faced by bone marrow transplant nurses who work in a unit with an informal staff support service	Sample: 40 nurses Setting: BMT unit servicing adults and children, with informal staff support service	Survey design (quantitative) using validated tools	Increased experience in BMT = decreased burnout Influence of the informal staff support program was significant Small sample size
Molassiotis and van den Akker, 1995, U.K.	To identify staff level of psychological distress in BMT units and possible ways to address distress	Sample: 129 nurses and 26 doctors Setting: 16 BMT units	Survey design (mixed method: quantitative predominant), using validated tools	Use of colleagues most common way to decrease stress Staff felt coping was a personal process Need for social support perceived by nurses Small sample size

(continued)

Appendix (continued)

Author, Year, and Location	Aim	Setting and Sample	Methodology and Method	Relevant Findings and Limitations
Olson et al., 1998, U.S.	To explore how pediatric oncology nurses derived meaning from work	Sample: 26 nurses + 38 nurses Setting: 1 pediatric oncology centre sample of APON members	Descriptive: content analysis (qualitative), using interviews	Were initially troubled with incidents but most nurses were able to reframe the experience and learn from it long term Balancing positive and negative experiences
Papadatou, Anagnostopoulous, and Monos, 1994 Greece	To determine if burnout present in oncology nurses, compare rates of burnout to nurses from other special-ties, determine factors contributing to burnout in oncology nurses	Sample: 217 oncology nurses, 226 general nurses Setting: Athens major oncology and general hospitals	Survey design (quantitative), using validated tools	Influence of experience Was nil difference on job stress due to background Emotional exhaustion was decreased with hardiness.
Papadatou et al., 2002, Greece	To explore and compare the grieving process of pediatric oncologists and pediatric oncology nurses	Sample: 14 pediatric oncology doctors and 16 pediatric oncology nurses Setting: 2 pediatric oncology units	Descriptive, mixed, mainly qualitative, grounded theory, interviews and rating task	Deriving meaning in order to overcome the negatives Meaning of work as a reward of the job Nurses need to share their grief with others Creating meaning out of death
Quattrin et al., 2006, Italy	To survey level of burnout among oncology nurses in one region and identify factors contributing to moderate stress and burnout	Sample: 100 oncology nurses Setting: 10 oncology wards in 1 region	Descriptive study (quantitative), using validated tools	Poor collegial relations contributing to burnout Variety of coping strategies used by the nursing staff
Wengström and Ekedahl, 2006, Sweden	To explore how oncology nurses cope when caring for those who are terminally ill and the influence of the nurses' outlook on life	Sample: 15 nurses Setting: hospice, oncology and other nurses caring for pts with advanced cancer	Qualitative: narrative life story. Semistructured interviews on caring for terminally ill	Influence of life experience in choosing nursing as a career Making work or negatives into a positive Defining life position by work, getting a zest for life

could contribute to either improved management of stress or possibly prevent such extreme consequences of stress exposure such as burnout, compassion fatigue, and vicarious traumatization. This review has shown that although the literature has hinted there may be personal resilience among oncology nurses, what is yet to be seen is the link between that resilience and the efficacy of these nurses' coping strategies. It is envisaged that with future research into the concept of resilience among pediatric oncology nurses, more appropriate interventions can be provided in practice at an organizational level. Undergraduate nursing education may also be able to better support nurses in their future careers, especially in pediatric oncology.

Authors' Note

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Notes

1. Pediatric departments with both hematology and oncology as a focus acknowledge that leukemia, a common childhood cancer, is both a malignancy of the blood as well as a blood-cell forming disorder (Bryant, 2005).
2. Although in some studies the nurses' responses were combined with responses from other health professionals, because the majority of the samples were nurses, this indicated that the greater bulk of responses were nursing focused.
3. Adult oncology units may often service adolescent and young adult clients, which is a subspecialty that comes under the pediatric oncology setting.

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Bios

Melissa Zander, RN, BaMedRad (RT), BNg, recently completed her honours thesis at Flinders University, under the

supervision of Dr. Alison Hutton and Dr. Lindy King. Her study focuses on pediatric oncology nurses' perception of resilience and its influence in dealing with the stressors of caring for children with cancer.

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