

A Comparison of Burnout Among Oncology Nurses Working in Adult and Pediatric Inpatient and Outpatient Settings

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Work environments that produce enduringly high levels of stress can result in ineffective coping and can lead to burnout (Edward & Hercelinskyj, 2007; Sabo, 2008). Nursing is a profession at risk of being affected by burnout because of the growing pressure to do more with less resources. Burnout has an adverse effect on the quality of care provided to patients (Lee & Akhtar, 2011). As nurses experience burnout, their absenteeism increases as they begin to psychologically and physically withdraw from patient interactions (Peterson, Demerouti, Bergstrom, Asberg, & Nygren, 2008).

Signs of burnout can include chronic fatigue, anger, feelings of helplessness, and physical symptoms such as headaches, gastrointestinal problems, weight loss or gain, insomnia, and depression (Taylor & Barling, 2004). Other effects of chronic burnout include conflict with colleagues, indifference toward patients, alcoholism, and problems with relationships (Quattrin et al., 2006). Perhaps one of the most devastating impacts of burnout is its association with nurses leaving the profession (Sadovich, 2005).

Oncology nursing is a specialty area that is particularly at risk for burnout because of the constant and sometimes overwhelming emotional stress resulting from issues of patient death and dying. Oncology nurses often feel inadequate in handling death and dying situations and unable to relieve patient suffering, and may experience guilt and anger related to their nursing roles (Cohen, Ferrell, Vrabell, Visovsky, & Schaefer, 2010). Although stressors related to oncology nursing are well known, a perception among the general public is that oncology nurses can cope with high stress levels with little or no consequences (Lewis, 1999). Findings, however, have revealed a negative relationship between nursing retention and stress and burnout among oncology nurses (Toh, Ang, & Devi, 2012).

Purpose/Objectives: To investigate differences in burnout among oncology nurses by type of work setting, coping strategies, and job satisfaction.

Design: Descriptive.

Setting: A metropolitan cancer center.

Sample: A convenience sample of 74 oncology nurses.

Methods: Participants completed a demographic data form, the Nursing Satisfaction and Retention Survey, and the Maslach Burnout Inventory.

Main Research Variables: Burnout, coping strategies, job satisfaction, and oncology work setting (inpatient versus outpatient and adult versus pediatric).

Findings: The participants most often used spirituality and coworker support to cope. Emotional exhaustion was lowest for youngest nurses and highest for outpatient RNs. Personal accomplishment was highest in adult settings. Job satisfaction correlated inversely with emotional exhaustion and the desire to leave oncology nursing.

Conclusions: The findings support that the social context within the work environment may impact emotional exhaustion and depersonalization, and that demographics may be more significant in determining burnout than setting.

Implications for Nursing: The findings raise questions of whether demographics or setting plays a bigger role in burnout and supports organizational strategies that enhance coworker camaraderie, encourage nurses to discuss high-stress situations, and share ways to manage their emotions in oncology settings.

Knowledge Translation: Spirituality and coworker relationships were positive coping strategies among oncology nurses to prevent emotional exhaustion. Nurses who rely on supportive social networks as a coping mechanism have lower levels of depersonalization. Age was inversely related to emotional exhaustion.

To retain experienced oncology nurses, burnout needs to be identified and addressed in the work setting. A gap exists in the literature when comparing the

presence of burnout according to adult or pediatric and inpatient or outpatient settings. More research is needed to explore how work setting might impact burnout. The aim of the current study is to investigate differences in burnout among a sample of oncology nurses working in adult or pediatric and inpatient or outpatient settings, and to examine how demographic variables, coping strategies, and job satisfaction influence burnout among this population.

Theoretical Framework

Maslach's (1998) Multidimensional Theory of Burnout provided the theoretical framework for the current study. Maslach (1998) described the concept of burnout as a persistent response to interpersonal job-related stressors characterized by "overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and failure" (p. 68). The burnout syndrome, according to Maslach and Jackson (1984), is characterized by three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion resulting from high stress levels is described as job-related exhaustion and depletion of one's emotional resources. Depersonalization is defined as cynical, negative attitudes that may result in callous and noncaring conduct (Maslach, 1998). Reduced personal accomplishment reflects one's perception of a lack of competence and productivity in the work setting (Maslach, 1998). According to Maslach (1998), those burnout dimensions are interrelated. A study by Lee and Akhtar (2011) also found that increased job-related stress can lead to emotional exhaustion that may result in defensive behaviors characterized by depersonalization, which, in turn, can decrease one's perception of personal accomplishment.

Literature Review

Studies suggest that demographic factors impact the three burnout dimensions defined by Maslach and Jackson (1984). Although the findings are inconsistent, gender is one demographic variable that has been associated with burnout. Although some studies have shown that women suffer more from burnout than men, other studies show that men report higher burnout scores. In a study of Italian physicians and nurses, higher levels of burnout were found among men (Afzal et al., 2010). In contrast, a study of oncology nurses found that female nurses had greater levels of distress and lower perceptions of personal accomplishment than male nurses (Kash et al., 2000).

Age is another demographic variable that has been shown to impact burnout, although, like gender, the findings are inconsistent. Evidence exists of a posi-

tive relationship between age and levels of emotional exhaustion (Quattrin et al., 2006), depersonalization (Elit, Trim, Mand-Bains, Sussman, & Grunfeld, 2004), and work-related stress (Kirkcaldy & Martin, 2000). However, some evidence showed that younger nurses report higher levels of stress and burnout than older nurses (Purcell, Kutash, & Cobb, 2011). Overall, results of how demographics impact burnout have yielded mixed results, and more research in this area is needed (Kirkcaldy & Martin, 2000).

The effects of workplace social context have a significant impact on all three dimensions of burnout syndrome (Lee & Akhtar, 2011). Staff conflicts, patient behaviors, and undervaluing nurses are social context issues that have been linked to burnout (Taylor & Barling, 2004), as have relationships with managers, coworkers, and physicians (Leiter & Maslach, 1988). Although work demands may drain one's energy and lead to emotional exhaustion and burnout, support from his or her work community tends to enhance energy, leading to a defense against burnout (Leiter & Maslach, 1999; O'Brien, 2011; Prins et al., 2007).

A feeling of control over work can impact burnout. When nurses are forced to hide or mask the true feelings that arise as a consequence of providing care to others, it can result in feeling as though they have no control over work, resulting in emotional exhaustion (Boyle, 2011). This is true particularly in settings such as oncology where nurses may feel pressured to put on a professional facade despite feelings of sadness and hopelessness that arise from the nature of their work.

Job satisfaction also has been linked to burnout. Studies have shown that the higher the job satisfaction, the lower the burnout, and nurses who plan to stay in the profession report higher levels of satisfaction than nurses who do not plan to remain as working nurses (Messmer, Bragg, & Williams, 2011). Various factors impact nurse job satisfaction. Years of experience positively correlate with job satisfaction (Ernst, Messmer, Franco, & Gonzalez, 2004). Work factors also influence job satisfaction; for example, staffing inadequacy is linked to job dissatisfaction, stress, and burnout among oncology nurses, and impacts the number of oncology RNs leaving the specialty (Toh et al., 2012). In a study that explored job satisfaction and burnout among Greek nurses working in intensive care units, depersonalization was the strongest predictor of burnout, and emotional exhaustion was a strong predictor of job satisfaction and also was linked to the nurses' intention to leave their nursing positions (Karanikola, Papathanassoglou, Mpouzika, & Lemonidou, 2012).

Effective coping strategies have a positive impact on reducing burnout among nurses (Kash et al., 2000). One approach shown to help nurses cope with chronic stress and, therefore, reduce burnout is providing an

organizational structure that empowers nurses through access to resources, support, and opportunities. Work environments that fail to reduce chronic stressors have a ripple effect, which not only results in burnout among the nursing staff, but can lead to decreases in the quality of patient care and patient satisfaction, and high attrition rates among nurses (O'Brien, 2011).

Working in an organization that provides an empowering structure may not be enough to ward off burnout. Instead, nurses should perceive an inner sense of psychological empowerment (Carless, 2004). Fearon and Nicol (2011) suggested that a combination of positive emotion-focused strategies (e.g., being able to control emotional response to a stressor) and problem-focused strategies (e.g., time management, organizational skills, and advice seeking) may offer protection against the development of burnout by enabling nurses to respond more constructively to their own needs.

Burnout in Oncology Nursing

Oncology nurses are highly vulnerable to burnout because of ongoing stress (Medland, Howard-Ruben, & Whitaker, 2004). Working with dying patients and their families, being asked to continue with invasive life-prolonging therapy that diminishes patient quality of life, and attempting to instill hope with end-of-life issues can increase stress and feelings of hopelessness (Fillion, Dupuis, Tremblay, De Grace, & Breitbart, 2006; Kelly, Ross, Gray, & Smith, 2000). To add additional stress, oncology nurses tend to ignore their own grief and neglect their emotional needs (Boyle, 2011).

Although all areas of oncology nursing are stressful, studies tend to focus on inpatient oncology settings more so than outpatient settings when discussing levels of stress and burnout. Problems retaining experienced nurses and demanding work hours have been linked to inpatient more frequently than outpatient oncology settings (Buerhaus, Donelan, DesRoches, Lamkin, & Mallory, 2001). Staffing patterns also have an impact on inpatient oncology nurses. Oncology nurses who work full-time in inpatient settings and in non-Magnet hospitals attribute staffing inadequacy as a major cause of burnout (Toh et al., 2012).

Although little evidence documents stressors specific to outpatient oncology nursing, studies have found burnout rates among outpatient nephrology nurses to be as high as 33%, suggesting that stress in outpatient settings may be linked to high burnout rates (Flynn, Thomas-Hawkins, & Clarke, 2009; O'Brien, 2011).

Another factor in oncology nursing with links to burnout is patient type. A major stress for oncology nurses is the death of patients with whom the nurse had developed a close relationship (Barnard, Street, & Love, 2006). This is particularly significant for pediatric oncology nurses (Spinetta et al., 2000). Studies have

shown that novice pediatric nurses use less effective coping skills for job-related stress and are more likely than older, more experienced pediatric nurses to resign their positions as a result of stress (Hinds, Quargnenti, Hickey, & Mangum, 1994). A report from the Société Internationale d'Oncologie Pédiatrique Working Committee on Psychosocial Issues in Pediatric Oncology (Spinetta et al., 2000) suggested that to reduce burnout among pediatric oncology nurses, members of the healthcare team must learn to recognize burnout so that they can implement appropriate interventions to reduce stress and increase feelings of support. Implementing strategies such as enhanced coworker support has been shown to reduce stress, burnout, and emotional exhaustion among pediatric oncology nurses (Kushnir, Rabin, & Azulai, 1997; Prins et al., 2007).

Methods

An observational, descriptive research design was implemented to investigate differences in burnout by type of work setting (inpatient, outpatient, adult, and pediatric) and to explore how demographics, coping strategies, and job satisfaction influenced burnout among oncology nurses. This study was approved by the St. Luke's Health System (SLHS) institutional review board.

Setting

The setting for this 2009 study was SLHS, which encompasses four major medical centers that serve southwest Idaho. Part of SLHS includes the Mountain States Tumor Institute (MSTI). MSTI cares for more than 3,000 new patients with cancer each year and provides inpatient and outpatient services specific to adult and pediatric patients with cancer. In addition to inpatient hospital services including St. Luke's Children's Hospital, MSTI offers care through six outpatient clinics throughout southwest Idaho.

Sample

The sample for this study was limited to nurses in SLHS. Oncology nurses (ADN, BSN, and master's level) were recruited from St. Luke's MSTI and St. Luke's Children's Hospital adult and pediatric, inpatient and outpatient settings to voluntarily participate. A convenience sample was created for this study by recruiting nurses during unit staff meetings. All oncology nurses who worked full-time were eligible to participate, except those with fewer than six months of oncology nursing experience.

Data Collection

During the staff meetings, a member of the research team explained the study and reviewed the written

Table 1. Sample Characteristics (N = 74)

Characteristic	n
Age (years)	
22–39	37
40–49	19
50–67	18
Gender	
Female	71
Male	3
Ethnicity	
Non-Hispanic White	71
Hispanic	1
Asian	1
Other	1
Marital status	
Married	52
Unmarried	22
Years in nursing	
0–5	20
6–10	17
11–20	14
21 or more	23
Years in oncology nursing	
0–5	34
6–10	17
11–20	13
21 or more	10
Nursing degree	
Associate degree	29
Bachelor of Science	37
Not reported	8
Work setting	
Outpatient	37
Inpatient	35
Adult	59
Pediatric	15
Not reported	2
Oncology certification	
Yes	26
No	48

Note. Participants could choose both outpatient or inpatient and adult or pediatric.

consent form with oncology staff nurses. With permission from unit managers, eligible nurses who volunteered to participate were allowed to complete the three paper-and-pencil questionnaires used in the study during the final 30 minutes of each staff meeting. Nurses who were not present at the staff meetings were provided with a written description of the study along with eligibility requirements and the written consent form. Those nurses were given the opportunity to complete the surveys during scheduled work shifts within a two-week period. Three questionnaires were used in this study.

A demographic data questionnaire was developed by the researchers based on a review of the literature. The demographic variables included place of employment, age, gender, ethnicity, marital status, primary shift (day, night, rotating), number of years as an RN, number of years working in oncology, highest nursing degree

earned, and oncology certification. The demographic data questionnaire also included a question that asked participants to choose the coping mechanism that best described how they coped with stress in their nursing position: religious beliefs, spirituality, coworker support, family support, education, exercise, or other.

Two sets of questions from the Nursing Satisfaction and Retention Survey were included in this study. One question asked participants to rate their level of satisfaction with various factors related to their current primary nursing position on a five-point Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree). The other question asked participants to rate how the factors listed in question one impacted their desire to stay or leave their current job on a three-point Likert-type scale ranging from 1 (influence to stay) to 3 (influence to leave). The factors included relationship with coworkers, relationship with immediate supervisor, quality of care provided, power to make decisions, overall work environment, relationship with physicians, opportunities for career advancement, current schedule, current workload, salary, physical demands, and autonomy. Two additional factors included for “influence to stay or leave” included personal reasons and geographic location. The questions are scored by summing the responses to the Likert-type scale. The range of possible scores was 16–56 for the job satisfaction question and 15–45 for the influence to stay or leave question. Higher scores indicated lower job satisfaction and more influence to leave one’s current nursing position.

The Nursing Satisfaction and Retention Survey was developed by researchers from the Idaho Nursing Workforce in 2007 and designed to assess job satisfaction and the influences to remain in or leave nursing in the future. This survey was developed for one-time use and did not undergo reliability or validity testing, with the exception that at the time of its development, the Nursing Satisfaction and Retention Survey was reviewed by selected Idaho nurses to determine content validity. Questions deemed unclear or not pertinent were revised or eliminated from the final survey.

Burnout was measured by the Maslach Burnout Inventory (MBI) (Maslach, Jackson, & Leiter, 1996). The MBI is a 22-item self-administered questionnaire that contains three subscales: emotional exhaustion, depersonalization, and personal accomplishments. Each item on the MBI asks the participant to rate how often the statement applies to them and is measured with a six-point Likert-type scale ranging from 0 (never) to 6 (every day). The range of possible scores for the emotional exhaustion subscale is 0–54, 0–30 for the depersonalization subscales, and 0–48 for the personal accomplishment subscale. The MBI does not sum the scores from the three subscales into a total burnout score. Instead, burnout is gleaned from examining

Table 2. Coping Mechanisms Used by Oncology Nurses to Deal With Job Stress (N = 74)

Coping Mechanism	Never or Rarely		Sometimes		Often	
	n	%	n	%	n	%
Coworker support	4	5	27	37	43	58
Education	16	22	37	50	21	28
Exercise	21	28	28	38	25	34
Family support	9	12	29	39	36	49
Religious beliefs	18	24	14	19	42	57
Spirituality	8	11	17	23	49	66

Note. Participants could choose more than one coping mechanism.

Note. Because of rounding, not all percentages total 100.

scores for each subscale, considered by Maslach to be distinct constructs (Maslach et al., 1996).

The MBI has been used in numerous studies to measure burnout among oncology nurses (Barnard et al., 2006; Barrett & Yates, 2002; Quattrin et al., 2006). Cronbach alpha internal consistency has been shown to be high for the three MBI subscales (Cronbach alpha = 0.9, 0.79, and 0.71 for emotional exhaustion, depersonalization, and personal accomplishment, respectively) (Maslach et al., 1996). Test-retest reliability for the MBI revealed adequate correlations ranging from 0.5–0.82 over a period of three months to one year (Maslach et al., 1996).

Data Analysis

Data were analyzed using the SPSS®, version 16.0. The three Maslach subscales were collapsed into categories based on the instructions in the MBI manual (Maslach et al., 1996). For the emotional exhaustion subscale, scores from 0–16 were classified as low, scores from 17–26 were classified as moderate, and scores of 27 or higher were classified as high. For the depersonalization subscale, the categories were low (0–6), moderate (7–12), and high (13 or higher). For the personal accomplishment subscale, the Maslach coding is set up such that high scores indicate low personal accomplishment and low scores indicate high personal accomplishment. To simplify the interpretation, this subscale was recoded prior to analysis, so that high scores indicated high accomplishment and low scores indicated low accomplishment. In the recoded variable used for analysis, the categories were low (0–31), moderate (32–38), or high (39 or higher). For the personal accomplishment subscale, higher scores are desired; however, for the emotional exhaustion and depersonalization subscales, lower scores are desired.

Associations among categories of the three Maslach subscales and RN care settings (inpatient versus outpatient and pediatric versus adult), RN education level (ADN versus BSN), presence of oncology certification, shift (day versus other), years of oncology nurse experience (0–5, 6–10, 11–20, 21 or greater), total years of nursing (0–5, 6–10, 11–20, 21 or greater), age, and marital status were assessed with chi-square tests.

Independent samples t tests were performed for the mean scores of the Maslach subscales by two categories of the independent variables listed. The results of the t tests were consistent with the chi-square tests, so only the chi-square test results were reported. Pearson correlations were computed for all continuous variables. A confirmatory factor analysis using principal components and a varimax (orthogonal) rotation was done to see how responses from this study matched the original sample used to create the original Maslach subscales.

Findings

The sample included 74 oncology RNs. Respondents were evenly divided between inpatient and outpatient settings, but most worked with adults. Most were married and non-Hispanic Whites (see Table 1). Because only three respondents had master's degrees, these responses were excluded from the analysis of burnout. The coping mechanisms most often used to deal with stress of the job were spirituality and coworker support (see Table 2).

Mean scores on the Maslach subscales were 19.4, for emotional exhaustion, 4.6 for depersonalization, and 40.1 for personal accomplishment (see Table 3). Scores were not calculated for three master's level respondents whose data were excluded from the study.

For depersonalization, no statistically significant relationships were seen. For emotional exhaustion, the strongest relationships were seen with age. The lowest level of emotional exhaustion was seen in the youngest age group ($\chi^2 = 10.6$, $p = 0.03$) (see Table 4). The other

Table 3. Descriptive Statistics for Maslach Burnout Inventory and Nursing Satisfaction and Retention Scores (N = 71)

Factor	\bar{X}	SD	Range
Maslach Burnout Inventory			
Emotional exhaustion	19.4	9.9	2–50
Depersonalization	4.6	4	0–23
Personal accomplishment	40.1	5	26–48
Job satisfaction	25.6	5.6	16–47
Desire to leave the job	21.7	4.5	9–33

Note. Only three respondents had master's degrees; their data were excluded from the study.

Table 4. Levels of Emotional Exhaustion by Age Group

Emotional Exhaustion	Aged 22–39 Years (n = 37)	Aged 40–49 Years (n = 18)	Aged 50–67 Years (n = 16)	All (N = 71)
	n	n	n	n
Low	20	5	3	28
Moderate	11	10	6	27
High	6	3	7	16

Note. Pearson chi-square = 10.6, $p = 0.031$

Note. Lower scores represent less emotional exhaustion.

Note. Only three respondents had master's degrees; their data were excluded from the study.

interesting finding with emotional exhaustion was that the rate of high emotional exhaustion was higher for RNs working in the outpatient setting than in the inpatient setting ($\chi^2 = 5.07$, $p = 0.079$) (see Table 5). However, additional analysis showed that those working in the outpatient setting were significantly older than those in the inpatient setting ($\bar{X} = 44$ years versus 36 years, $p = 0.002$, data not shown), and had significantly more years in nursing ($\bar{X} = 18$ years versus 10 years, $p < 0.001$, data not shown), so this finding may be based more on age and years of experience rather than setting. For personal accomplishment, the only significant finding was that those on adult units had a higher sense of personal accomplishment than those on pediatric units ($\chi^2 = 5.87$, $p = 0.05$) (see Table 6). This finding was based on a very small number of respondents working on pediatric units and, therefore, should be viewed with caution.

Highly significant correlations were seen among total job satisfaction scores (higher scores indicated lower satisfaction) and emotional exhaustion ($r = 0.67$, $p < 0.001$), and among job satisfaction scores and wanting to leave oncology nursing ($r = 0.57$, $p < 0.001$).

Results of the factor analysis showed excellent agreement with the Maslach results. All individual items loaded most heavily into the "correct" subscale, with one exception, Item 10. "I've become more callous toward people" loaded slightly more with emotional exhaustion than with depersonalization (factor loads 0.51 versus 0.4). Also, Item 4 ("I can easily understand how my recipients feel") did not load at the 0.5 level on any of the three allowed factors (factor loads 0.04, 0.21, and 0.34, respectively), although the heaviest load was seen for personal accomplishment, which was the correct subscale for this item.

Discussion

This study investigated burnout among oncology nurses and type of work setting in a metropolitan cancer center that serves southwest Idaho. As a group, the nurses in this study experienced moderate levels of

emotional exhaustion and low levels of depersonalization. Twenty-two percent of the nurses in this study scored high in emotional exhaustion and only 4% scored high in depersonalization. Previous studies have found higher levels of emotional exhaustion and depersonalization among oncology nurses (Barrett & Yates, 2002; Papadatou, Anagnostopoulos, & Monos, 1994). A possible rationale to explain why emotional exhaustion and depersonalization were not higher among the nurses in

this study may have to do with their coping strategies.

This study found that the two most frequently used coping strategies to deal with burnout were spirituality and relationships with coworkers. Spirituality was seen as a main coping strategy, which is not surprising considering that death and dying are main themes for oncology nurses and can lead to despair and feelings of helplessness (Kushnir et al., 1997). Spirituality encompasses the concept of self-transcendence or finding meaning in life and death. Nurses who implement self-transcendence are less likely to experience burnout (Hunnibell, Reed, Quinn-Griffin, & Fitzpatrick, 2008).

Studies have suggested that effective coping skills to deal with job-related stress, such as strong social support networks, are linked to lower levels of emotional exhaustion and depersonalization (Garrosa, Rainho, Moreno-Jimenez, & Monteiro, 2010; Lee & Akhtar, 2011; Maslach, Schaufeli, & Leiter, 2001). Other studies have shown a lack of social support among peers is associated with an increase in emotional exhaustion (Prins et al., 2007; Spinetta et al., 2000). The oncology nurses in this study depended on each other as a main coping strategy, which can be perceived as a positive approach that may prevent emotional exhaustion and depersonalization.

Depersonalization was low among the sample, suggesting that the oncology nurses had not become cynical and dispassionate about their work. These findings are contrary to what others have found regarding work-related burnout, which showed that increases in emotional exhaustion can mediate increases in depersonalization (Lee & Akhtar, 2011). The findings from the current study regarding depersonalization require careful interpretation, which may be a result of what other researchers have noted specific to oncology nurses, that they tend to downplay their own feelings of grief and exhaustion to be fully present to patients and families who are experiencing end-of-life issues (Boyle, 2011; Medland et al., 2004). On the other hand, evidence suggests that recognizing the signs and symptoms of burnout and identifying best practice interventions may help nurses maintain caring attitudes with patients (Hooper,

Table 5. Levels of Emotional Exhaustion by Care Setting

Emotional Exhaustion	Outpatient (n = 37)	Inpatient (n = 34)	All (N = 71)
	n	n	n
Low	12	14	26
Moderate	11	16	27
High	14	4	18

Note. Pearson chi-square = 5.07, $p = 0.079$

Note. Lower scores represent less emotional exhaustion.

Note. Only three respondents had master's degrees; their data were excluded from the study.

Craig, Janvrin, Wetsel, & Reimels, 2010). Low levels of depersonalization found in the current study may be the result of nurses relying on supportive social networks as a coping strategy that helped them avoid becoming cynical and dispassionate toward their patients.

Another important concept to consider when interpreting the findings from this study is that the institution where this study took place has received Magnet status recognition, which means that it has met the 14 standards of nursing care stipulated by the American Nurses Credentialing Center (ANCC). One of the Magnet status criteria is that nurses are provided with the resources they need to care for patients (ANCC, 2013). The fact that the nurses in this study work within a Magnet status institute may have an impact on protecting them against the potential negative effects of burnout. Evidence showed that stress and burnout among oncology nurses in non-Magnet status hospitals is higher and job satisfaction is lower than for oncology nurses working in Magnet status hospitals (Toh et al., 2012).

In this study, nurses who worked on pediatric oncology units had significantly lower levels of personal accomplishment than nurses who worked on adult oncology units, which is not surprising because child-related suffering and death may be perceived as more traumatic than the suffering of an older adult. Nurses who witness the repeated pain, suffering, and dying of children may begin to feel a lack of control that can lead to feeling as if life is not fair, resulting in conflicts with personal values (Leiter, 2005).

A significant relationship also was found among emotional exhaustion and age, with the highest levels of emotional exhaustion seen in the oldest age group of nurses. Existing evidence on the relationship among emotional exhaustion and age is contradictory. Some studies have shown evidence that older nurses experience higher levels of emotional exhaustion (Quattrin et al., 2006); however, although other studies have shown that younger nurses reveal higher levels of stress and burnout (Medland et al., 2004; Purcell et al., 2011). One

possible rationale for these findings might be that older nurses, feeling more burned out, tend to transfer from inpatient settings to outpatient settings believing that less stress exists in outpatient settings.

This rationale is based on the findings that emotional exhaustion was significantly higher for RNs working in the outpatient versus inpatient settings. Although very little evidence exists regarding the impact of inpatient versus outpatient settings on levels of burnout among oncology nurses, the existing evidence tends to reveal higher stress levels on inpatient settings (Buerhaus et al., 2001). However, evidence from outpatient settings other than oncology has shown that burnout among nurses who work in outpatient clinics also can be problematic (O'Brien, 2011). One explanation for the current study's findings relating to emotional exhaustion and outpatient settings may be that oncology nurses who work in outpatient clinics develop longer and more personal relationships with their patients, resulting in greater feelings of anguish and helplessness than for nurses who work with more acutely ill patients with cancer on inpatient units for shorter periods of time. However, as previously noted, nurses working in the outpatient setting were significantly older than those in the inpatient setting and had significantly more years in nursing. Because older nurses in this study had higher levels of emotional exhaustion, those findings may be because of age more than setting.

Results from the current study revealed a significant inverse correlation between emotional exhaustion and job satisfaction, and between job satisfaction and the desire to leave one's job. The association among emotional exhaustion and job satisfaction supports findings from previous studies (Coomber & Barriball, 2007; Hayes et al., 2006; Nantsupawat et al., 2011). Other studies have shown that burnout on the job has been associated with increased levels of stress and can result in decreased job satisfaction and, therefore, decreased job performance (Sadovich, 2005). In addition, a study by Parker and Kulik (1995) revealed a direct link between higher levels

Table 6. Feelings of Personal Accomplishment by Unit Type

Personal Accomplishment	Adult (n = 56)	Pediatric (n = 15)	All (N = 71)
	n	n	n
Low	2	1	3
Moderate	13	8	21
High	41	6	47

Note. Pearson chi-square = 5.87, $p = 0.053$

Note. Higher scores represent more personal accomplishment.

Note. Only three respondents had master's degrees; their data were excluded from the study.

of emotional exhaustion, reduced job performance, and higher levels of burnout.

Limitations

The current study was conducted in one medical center located in the northwest region of the United States and included a relatively small sample size, which prevented these findings from being generalizable to a greater population of oncology nurses. Because very few pediatric oncology nurses participated in the study, any findings related to differences between adult and pediatric oncology nursing must be interpreted with caution.

The medical center where the current study took place is a Magnet status organization, which, based on previous findings, may have influenced the levels of burnout among oncology nurses who participated. The Nursing Satisfaction and Retention Survey used in this study had not undergone reliability or validity testing and, therefore, is limited in scope and must be interpreted with caution.

Implications for Practice and Research

Information gained from the current study adds to the base of knowledge regarding oncology nurses at risk of burnout, and how work setting (inpatient

versus outpatient and adult versus pediatric) might influence burnout among this specialty group of nurses. The current study introduces questions of whether demographic variables or setting plays a bigger role in burnout, and additional research is needed to explore the relationship between the oncology nurse and work setting characteristics.

Although more research is needed to explore the features of oncology settings that may result in negative job satisfaction and the decision of oncology nurses to leave the specialty, findings from this study support the need for organizations to design strategies that increase a sense of cohesion, camaraderie, and support among coworkers that encourage oncology nurses to openly discuss high-stress situations and share ways to manage their emotions. Because the current study was conducted within a Magnet status organization, more research is needed that explores how this might influence burnout among oncology nurses in relation to work setting and job satisfaction.

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