Burnout and Resilience Among Nurses Practicing in High-Intensity Settings

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CE 1.0 Hour

Notice to CE enrollees:

A closed-book, multiple-choice examination following this article tests your understanding of the following objectives:

1. Define and better understand burnout and moral distress.
2. Identify the impact that burnout and resilience have among nurses.
3. Discuss the results of the study.

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Background The high level of stress experienced by nurses leads to moral distress, burnout, and a host of detrimental effects.

Objectives To support creation of healthy work environments and to design a 2-phase project to enhance nurses' resilience while improving retention and reducing turnover.

Methods In phase 1, a cross-sectional survey was used to characterize the experiences of a high-stress nursing cohort. A total of 114 nurses in 6 high-intensity units completed 6 survey tools to assess the nurses' characteristics as the context for burnout and to explore factors involved in burnout, moral distress, and resilience. Statistical analysis was used to determine associations between scale measures and to identify independent variables related to burnout.

Results Moral distress was a significant predictor of all 3 aspects of burnout, and the association between burnout and resilience was strong. Greater resilience protected nurses from emotional exhaustion and contributed to personal accomplishment. Spiritual well-being reduced emotional exhaustion and depersonalization; physical well-being was associated with personal accomplishment. Meaning in patient care and hope were independent predictors of burnout. Higher levels of resilience were associated with increased hope and reduced stress. Resilience scores were relatively flat over years of experience.

Conclusions These findings provide the basis for an experimental intervention in phase 2, which is designed to help participants cultivate strategies and practices for renewal, including mindfulness practices and personal resilience plans. (*American Journal of Critical Care.* 2015; 24:412-421)

Nurses are profoundly stressed as they attempt to practice in alignment with their personal and professional values.[1] Acting contrary to those values threatens their sense of integrity[2] and meaning.[3,4] Socialized to provide patient- and family-centered care, nurses experience moral distress and burnout when the nurses' values are not congruent with those of the organization in which they work.[5-7] Issues of conscience are widely reported throughout health care[8]; when the issues are repeated or unrelieved, suffering accumulates, causing nurses to contemplate leaving their positions or the profession altogether.[9,10]

High stress levels among nurses can lead to substance abuse, depression, and anxiety[11,12]; decreased job satisfaction[13-15]; disengagement and reduced organizational loyalty[16]; and increased intent to leave nursing practice.[13,17] Burnout scores are significantly higher for hospital nurses than for other professionals,[18] and in 1 study,[13] every fifth nurse reported plans to leave his or her position within 1 year.

Nurses working in high-stress areas such as critical care, pediatrics, and oncology report high levels of burnout.[19-25] Burnout includes emotional exhaustion, depersonalization, and reduced personal accomplishment[26,27]; emotional exhaustion has the greatest validity as a predictor of burnout.[28] Burnout is associated with adverse health outcomes,[1,24] increased turnover of nurses,[29] and decreased patient satisfaction.[29]

Contributors to burnout include moral distress,[30,31] emotional and spiritual demands creating the perception of excessive workload,[28,32,33] and stressors associated with physical and psychological environments. Dealing with death and dying, inadequate preparation to address the emotional and spiritual needs of patients and patients' families, insufficient staff support, and uncertainty surrounding treatment[34,35] create situations that contribute to and are involved in moral distress.[36-38]

Moral distress occurs when "the person is aware of a moral problem, acknowledges moral responsibility, and makes a moral judgment about the correct action; yet, as a result of real or perceived constraints, participates in perceived moral wrongdoing."[39] Hamric[40] suggests that moral distress is a major determinant of whether nurses leave their job positions. In 1 study,[36] 13% of critical care nurses left their positions in response to moral distress, and 5% abandoned the profession completely. In another study,[41] moral distress caused 25% of nurses in high-intensity work environments to leave their positions.

Resilience helps individuals mitigate moral distress and burnout.[42] Defined as the ability to adapt coping strategies to minimize distress,[43] resilience involves external activities such as developing problem-solving skills or engaging in work, prayer, physical exercise, play, or art. Internally, resilience includes

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adopting ways of thinking that lessen the impact of traumatic experiences: "[A] key influence in internal resilience is the sense of hope—the sense of meaning or purpose in life, and the sense of the value of life, even if lived strenuously in adverse circumstances."[44]

Resilience can be cultivated through self-efficacy, hope, and coping.[45,46] Tools used to measure resilience assess aspects of hope,[47] and the correlation between hope and resilience is strong.[45] Meaning is inversely correlated with burnout and positively correlated with gratitude and professional satisfaction.[19] Strategies used to cultivate a greater capacity to cope with the realities of the nursing role can protect nurses against burnout and moral distress throughout the nurses' professional careers.[1,48-51]

Objectives

The research reported in this article covers the first phase of a 2-phase project to address dimensions of creating healthy work environments. The goal of the project is to enhance nurses' resilience while improving retention and reducing turnover through an innovative educational intervention.

In phase 1, the experiences and demographics of nurses in high-stress areas were examined as

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Table 1
Survey instruments used in phase 1, with descriptive information

Measure	Description
Maslach Burnout Inventory (used with permission)	The most widely used measure of burnout, this 22-item instrument is used to assess (via a 7-point Likert scale) 3 aspects of the burnout syndrome: emotional exhaustion, 9 questions; depersonalization, 5 questions; and personal accomplishment, 8 questions. Higher scores reflect greater intensity; mean (SD) scores for medical professionals on the 3 subscales are 22.19 (9.53) for emotional exhaustion, 7.12 (5.22) for depersonalization, 36.53 (7.34) for personal accomplishment. Reliability and validity of the Maslach Burnout Inventory and its subscales are well established (0.90 for emotional exhaustion; 0.79 for depersonalization, 0.71 for personal accomplishment).[28]
Moral distress scale	A shortened form of the original 38-item scale, this 19-item version is used to measure the intensity and frequency of moral distress in clinical situations in hospital practice, including individual responsibilities (physician practice, nursing practice, and institutional factors), care not in the patient's best interest (futile care), deception, and euthanasia. Studies have indicated the reliability and validity of the original scale and subsequent revisions, including the 19-item version (Cronbach α, 0.83 [0.81 for physicians, 0.85 for nurses]). Composite scores (reflecting both the frequency and intensity of moral distress) range from 0 to 304 for the 19-item version. Higher scores indicate greater levels of moral distress. Among nurses with a mean (SD) score of 70.21 (33.22), 45% considered leaving or had left the profession.[52]
Perceived stress scale	Designed for use with community samples and relatively free of content specific to any subpopulation, this 10-item scale is used to rate the respondent's stress during the past month by using a 5-point Likert scale. This tool was added to help interpret the Moral Distress Scale by differentiating moral distress from generalized life stressors. Higher total scores, ranging from 0 to 40, indicate greater levels of perceived stress. Norms based on 1406 female respondents (out of 2387 total) to a Harris Poll showed a mean score of 13.7 (SD, 6.6).[53]
Resilience scale (used with permission)	This 25-item scale is used to measure hardiness, faith, support/purpose, and persistence factors by using a 5-point Likert scale. Total scores range from 0 to 100, with higher scores indicating greater resilience. Also known as the CD-RISC (Connor-Davidson Resilience Scale), the instrument has demonstrated reliability (Cronbach α, 0.64-0.76) and convergent validity (stress $r = 0.32$; social support $r = 0.36$). The mean (SD) normative resilience score is 80.4 (12.8); scores greater than 92 are considered evidence of resilience.[47]
Meaning scale	This 6-item scale for measuring "personal meaning in patient care" had high reliability and predictive validity in a study of genetics professionals. The study revealed a strong inverse relationship between meaning and burnout; meaning was positively associated with gratitude and modestly associated with professional satisfaction (Cronbach α, 0.82; eigenvalue, 3.2). The measure yields a unidimensional score between 0 and 24 based on a 5-point Likert scale; higher values indicate a greater level of "finding personal meaning in patient care."[54]
State Hope Scale	This 6-item scale includes 3 agency and 3 pathway statements related to how respondents perceive themselves "right now." Values from 1 to 8 (definitely false to definitely true) are available for each statement. Numerous studies in which this scale was used support the internal reliability, factor structure, and construct validity. For aspects of both agency and pathways, the total State Hope Scale score is the sum of all 6 items, ranging from 6 to 48; higher scores reflect greater levels of hope. The mean (SD) normative score is 37.15 (6.33).[55]

the context for burnout, and the relationship of the information gathered to moral distress, general stress, resilience, meaning, and hope was explored. The premise is that increasing the resilience of nurses on an individual level will affect organizational culture, creating healthier work environments that aid retention and better prepare nurses to engage in organizational and system redesign.

Methods

A cross-sectional survey design was used to characterize the experiences of a high-stress nursing cohort. Participants came from 4 hospitals (all in 1 health system) and represented 6 high-stress units: 2 pediatric/neonatal, 2 oncology, and 2 adult critical care. The units were matched for patient characteristics, patient acuity, and other characteristics (turnover, staffing ratios). Of 180 eligible nurses initially

identified, 114 agreed to participate in the study. Using the Internet, they completed a sociodemographic data sheet and 6 survey tools.[28,47,52-56] The process took less than 30 minutes.

Survey instruments included the Maslach Burnout Inventory–Human Services[28] to measure aspects of burnout; a moral distress scale[41,52,56] to measure intensity and frequency of moral distress in hospital-based clinical care; a perceived stress scale[53] to help differentiate moral distress from generalized life stressors; a resilience scale[47] to assess hardiness and other factors indicative of resilience; a meaning scale[19,54] to measure "personal meaning in patient care"; and the State Hope Scale[55] to rate the level of hope (Table 1).

Data were analyzed by using SPSS, version 21.0, software (IBM SPSS). Descriptive statistics were used to summarize all study measures. A 1-way analysis of variance was used to compare group means across

treatment specialty area and nurses' experience. When the *F* statistic was less than 0.05, the Tukey test was performed for multiple comparisons. The Pearson correlation coefficient was used to determine linear associations between burnout and self-reported measures of well-being and between the 6 standardized study measures. Multiple variable linear regression analyses were used to identify independent predictors of burnout. Only variables related to burnout as indicated by bivariate analysis were kept in the models. Collinearity diagnostics were calculated; tolerance was greater than 0.2, and the variance inflation factor was less than 4 for variables in all models. The level of significance for this study was .05.

Results

Demographic characteristics of the study participants are shown in Table 2 and reflect the overall distribution of staff within the health system. On a scale of 1 to 10, with 10 the highest, participants rated their current physical, emotional, and spiritual well-being just higher than the midpoint: means were 6.6 (SD, 1.8) for adult critical care, 6.5 (SD, 1.8) for neonatal/pediatric critical care, and 6.7 (SD, 1.9) for medical/surgical/oncology.

Specialty areas did not differ significantly on measures of burnout; scores were remarkably similar across the 3 groups (Table 3). Scores on emotional exhaustion and depersonalization were 1 SD greater than the mean reported for the standard sample in the medical profession; personal accomplishment scores were similar among the 3 groups. Levels of moral distress were significantly higher for nurses

in critical care than for nurses in other specialties. Measures of stress, resilience, hope, and meaning were similar across specialty areas.

Nurses with 3 to 10 years of experience had the highest mean scores on emotional exhaustion and depersonalization (Table 4). Resilience did

Table 2
Demographic characteristics of study sample of 114 responding nurses

Characteristic	Value[a]
Sex	
Female	102 (89)
Male	12 (11)
Race	
White	86 (75)
Black	3 (3)
Hispanic	14 (12)
Asian	8 (7)
Other	3 (3)
Age, median (range), y	32 (22-67)
Degree	
Associate	28 (25)
Diploma	7 (6)
Bachelor's	67 (59)
Master's	9 (8)
Other	3 (3)
Area of practice	
Adult critical care	56 (49)
Pediatric critical care	20 (18)
Medical/surgical	38 (33)
Years in practice, median (range)	10 (1-42)

[a] Values are number (percentage) unless otherwise indicated in first column. Percentages may not total 100 because of rounding

Table 3
Summary statistics, mean (SD), for standardized scale measurements by specialty area

Scale[a]	Critical care for adults (n = 56)	Neonatal/pediatric care (n = 38)	Medical/surgical/ oncology (n = 20)	All (n = 114)	*P*[b]
Burnout					
Emotional exhaustion	31.9 (10.3)	33.0 (13.8)	31.1 (8.9)	32.1 (11.3)	.82
Depersonalization	14.0 (6.5)	12.5 (6.2)	12.6 (4.4)	13.3 (6.1)	.42
Personal accomplishment	39.3 (4.5)	39.9 (7.1)	42.0 (4.6)	40.0 (5.5)	.19
Resilience	73.9 (11.2)	73.9 (10.6)	76.3 (11.3)	74.3 (11.0)	.68
Hope	34.9 (6.7)	36.6 (7.1)	35.2 (9.1)	35.5 (7.3)	.55
Moral distress	69.1 (37.6)	49.4 (31.6)	41.8 (24.4)	57.7 (35.3)	.002
Stress	16.5 (6.3)	16.8 (5.8)	16.1 (6.7)	16.5 (6.2)	.91
Personal meaning	3.2 (0.5)	3.4 (0.4)	3.2 (1.3)	3.2 (0.6)	.41

[a] Burnout: Emotional exhaustion (range, 9-63; higher = more burnout), Burnout: Depersonalization (range, 5-35; higher = more burnout), Burnout: Personal accomplishment (range, 8-56; lower = more burnout), Resilience (range, 0-100; higher = more resilience), Hope (range, 6-48; higher = more hope), Moral distress (range, 0-304; higher = more moral distress), Stress (range, 0-40; higher = more perceived stress), Personal meaning (range, 0-24; higher = more meaning found in patient care).
[b] Reported *P* values based on analysis of variance for comparison of 3 group means; moral distress was significantly higher among critical care nurses than among neonatal/pediatric nurses (*P* = .002), or medical/surgical/oncology nurses (*P* = .02).

Table 4
Summary statistics, mean (SD), for standardized scale measurements by years of nursing experience

Scale[a]	0-3 years (n = 36)	3-10 years (n = 39)	>10 years (n = 39)	All (n = 114)	P[b]
Burnout					
Emotional exhaustion	29.5 (10.4)	35.5 (10.4)	31.1 (12.4)	32.21 (11.3)	.06
Depersonalization	12.8 (6.0)	15.3 (6.2)	11.8 (5.6)	13.3 (6.1)	.03[c]
Personal accomplishment	40.8 (4.0)	40.5 (6.4)	38.9 (5.8)	40.0 (5.5)	.27
Resilience	74.5 (9.5)	76.7 (11.1)	71.7 (11.8)	74.3 (11.0)	.13
Hope	38.5 (4.8)	35.2 (6.9)	33.1 (8.5)	35.5 (7.3)	.004[d]
Moral distress	42.4 (33.7)	64.0 (27.7)	65.7 (39.6)	57.8 (35.3)	.006[e]
Stress	15.2 (5.6)	15.8 (5.9)	18.5 (6.5)	16.5 (6.2)	.13
Personal meaning	19.0 (3.3)	19.0 (3.3)	19.0 (3.3)	19.0 (3.3)	.93

[a] Burnout: Emotional exhaustion (range, 9-63; higher = more burnout), Burnout: Depersonalization (range, 5-35; higher = more burnout), Burnout: Personal accomplishment (range, 8-56; lower = more burnout), Resilience (range, 0-100; higher = more resilience), Hope (range, 6-48; higher = more hope), Moral distress (range, 0-304; higher = more moral distress), Stress (range, 0-40; higher = more perceived stress), Personal meaning (range, 0-24; higher = more meaning found in patient care).
[b] Reported P values based on analysis of variance for comparison of 3 group means.
[c] Depersonalization was significantly higher in nurses practicing 3-10 years than in nurses practicing >10 years (P = .03).
[d] Hope was significantly higher among nurses practicing <3 years than in nurses practicing >10 years (P = .003).
[e] Moral distress was lower among nurses practicing less than 3 years than among those practicing 3-10 years (P = .02) and those practicing >10 years (P = .01).

Table 5
Correlation matrix of associations between standardized scale measurements (N = 114)

Scale	Burnout: emotional exhaustion	Burnout: depersonalization	Burnout: personal accomplishment	Resilience	Hope	Moral distress	Stress
Burnout: depersonalization	0.64[a]						
Burnout: personal accomplishment	-0.48[a]	-0.37[a]					
Resilience	-0.31[a]	-0.23[b]	0.59[a]				
Hope	-0.34[a]	-0.31[a]	0.43[a]	0.51[a]			
Moral distress	0.49[a]	0.42[a]	-0.20[b]	-0.06	-0.23[b]		
Stress	0.37[a]	0.20[b]	-0.39[a]	-0.44[a]	-0.43[a]	0.25[a]	
Personal meaning	-0.17	-0.32[a]	0.32[a]	0.26[a]	0.09	0.04	-0.03

[a] P < .01.
[b] P < .05.

not differ significantly across years of experience, but moral distress increased and hope decreased over time.

Self-reported measures of well-being and burnout had an inverse relationship, but the relationship was not strong. Correlation coefficients for emotional exhaustion ranged from -0.34 to -0.41 and for depersonalization from -0.27 to -4.0 for physical, emotional, and spiritual well-being. All 3 domains of well-being were positively associated with personal accomplishment, with correlation coefficients ranging from 0.32 to 0.43. All correlations were significant at the .01 level.

Moderate to weak correlations were found in self-reported measures of resilience, stress, hope, moral distress, and burnout (Table 5). Burnout subscales were moderately correlated; high levels of emotional exhaustion were associated with high levels of depersonalization and low levels of personal accomplishment. The correlations between burnout and moral distress and burnout and stress were only moderate. The correlation between burnout and general stress was also moderate. As scores on moral distress and general stress increased, so too did emotional exhaustion and depersonalization. Hope and resilience were negatively correlated with emotional exhaustion and depersonalization but positively correlated with personal accomplishment.

In order to guide the intervention for phase 2 of the project, linear regression models were built to identify variables independently related to burnout.

Emotional well-being was excluded from the models for phase 2 because of its strong association with the other independent variables and the inability to determine whether poor emotional well-being was in the causal pathway of moral distress or vice versa.

Moral distress was a significant predictor of all 3 aspects of burnout. Greater resilience protected nurses from emotional exhaustion and contributed to personal accomplishment. Spiritual well-being reduced emotional exhaustion and depersonalization; physical well-being was associated with personal accomplishment. Meaning in patient care and hope were independent predictors of the signs and symptoms of burnout. Phase 2 models explained approximately 40% of the variance in each aspect of burnout, providing a strong base on which to design an intervention to support nurses working in specialties in which burnout is high.

Discussion

Our results confirmed the relationship among the variables involved in burnout, including modulating factors such as resilience and hope, and support the development of strategies to reduce nurses' vulnerability to emotional exhaustion.

Data were gathered as phase 1 of a 2-phase project to cultivate resilience among nurses in highly stressful specialty and critical care environments, where an aging population, growing needs, and increased nurse workloads add fuel to an already intense level of burnout.[13] Nurses in high-stress areas in this study scored high on measures of burnout but still felt personal accomplishment related to their work. Nurses with spiritual well-being, hope, resilience, and higher scores on meaning in patient care were protected against burnout. This finding is consistent with findings that resilient nurses identified related factors of spirituality and optimism as resources they draw upon to cope with their stressful work environments.[57] Institutional support of these protective factors may reduce burnout among nurses. As in studies[58-60] that characterized nursing as a stressful profession, the participants in our study scored high on stress. Although a mean stress score of 13.0 has been reported for the general population (30-44 years old),[53,61] the mean score for all participants (mean age, 37 years) in our study was 16.5, and scores across specialty areas were similar.

Our data support previous findings[13,21,24,26,29,31,62,63] that nurses working in high-risk areas, especially critical care, are at increased risk for burnout. Sustained exposure to clinical situations in which conflicts arise about treatment goals for critically ill patients may lead nurses to act contrary to their values; the resulting moral distress and generalized stress lead to emotional and spiritual exhaustion,

burnout, and suffering.[6] These sources of suffering threaten the nurses' authenticity and integrity[2] and their sense of meaning,[3] commitment, and hope.

Our data also show a strong association between burnout and resilience, consistent with the results of other studies.[24,42,43,64,65] Participants in our study who scored lower on the burnout subscales of emotional exhaustion and depersonalization scored higher on resilience. Participants who scored higher on the personal accomplishment subscale scored higher on resilience. Higher levels of resilience were associated with increased hope and reduced stress.

Resilience scores were relatively flat across years of experience, consistent with results of Gillespie et al,[45] who found that years of experience or employment did not explain resilience at statistically significant levels in operating room nurses. Seemingly contradictory findings were reported by Gillespie and colleagues[45,66] for other nursing settings when experience was considered in the context of workplace stress but the impact of experience on resilience was not directly addressed. In subsequent research,[66] Gillespie's team found modest associations between years of experience and resilience, accounting for a small but statistically significant amount of variance in resilience. Published findings on resilience are mixed, pointing to the need for further research[45,66] and underscoring the importance of cultivating innate resilience via transformational interventions for nurses facing high levels of workplace stress.[65] Our finding that resilience is relatively constant over years of nursing experience suggests that cultivating the conditions of internal resilience to help nurses survive and thrive in high-intensity settings over time may be possible.[67]

> **Moral distress was a significant predictor of all 3 aspects of burnout.**

Our data show a moderate correlation between moral distress and burnout. As scores for moral distress increased, so too did emotional exhaustion and depersonalization, perhaps as a result of powerlessness or lack of control, as studies[68-71] on the perception of autonomy and nurse satisfaction have suggested. Although our results suggest moral distress may not be a prerequisite for burnout, it certainly contributes to burnout.

Emotional exhaustion appears to have the greatest predictive validity for burnout.[28] An understanding of the dynamics leading to emotional exhaustion can guide the development of mitigating interventions. As recently proposed,[72] when clinicians become empathetically overaroused by morally distressing situations, they may engage in unregulated responses that contribute to emotional exhaustion. If emotional exhaustion is the first step in burnout,[26] strategies to help nurses expand their coping

capabilities, increase their resilience, and regulate their emotions in morally challenging situations have the potential to reduce burnout and its consequences.[72,73] Cultivating mental and emotional stability via strategies such as mindfulness can enable nurses to function in stressful and emotionally charged situations without being overwhelmed.[74]

Our results also suggest that higher levels of self-reported physical and spiritual well-being are associated with decreased levels of emotional exhaustion. If this association is real, interventions to help nurses expand their repertoire of activities to support their physical well-being (eg, exercise,[75-77] healthy eating,[77,78] and adequate sleep[79]) may help reduce burnout and mitigate moral distress. In one investigation,[77] even 15 minutes of additional exercise improved the study participants' health. Similarly,

> Emotional exhaustion has the greatest predictive validity for burnout.

strategies to connect to the spiritual dimensions of life can offer additional resources when a person is confronting morally distressing situations.[80,81] Training for physicians in mindfulness, communication, and self-awareness can enhance spiritual well-being and improve attitudes associated with patient-centered care.[81,82] Our findings suggest that nurses who are dealing with morally distressing situations could derive similar benefits from such training.

Moral distress in the nurses in our sample increased with more years of experience in nursing, in what appears to be a dose response. Nurses with 10 or more years of experience reported higher levels of moral distress than did nurses with fewer years of experience, suggestive of a cumulative impact. According to Epstein et al[12] and Hamric,[40] the experience of moral distress may crescendo over time. Our findings echo those of Hamric and Blackhall,[52] suggesting that the intensity of moral distress in critical care has remained high over time. Recent studies and anecdotal experience with ethics consultations support this conclusion[83,84] and underscore the need for individual- and system-focused interventions to mitigate the effects of moral distress in high-risk areas.[83-85]

Hope is associated with resilience and is possibly a factor in mitigating stress.[45-47] In our sample, nurses with the least experience reported higher levels of hope and lower levels of moral distress, generalized stress, and burnout (emotional exhaustion and depersonalization) than did nurses with more experience. Nurses with higher hope scores scored higher on personal accomplishment, suggesting that hope may fuel work satisfaction. If hope can reduce moral distress, enhance resilience, and prevent burnout, cultivating a nurse's capacity for hope may offer an antidote to attrition in the profession and to the detrimental effects of moral distress. The correlation between hope and resilience is strong,[45] and tools designed to measure resilience include aspects of hope.[47] Our data suggest that hope may be an independent predictor of burnout; if so, interventions to cultivate and preserve hope can protect against burnout. The relationship between hope and burnout may be a particularly fruitful area of inquiry because resilience and moral distress were only weakly related in our study.

Resilience involves the internal stability, awareness, and flexibility that enable a person to navigate high-stress situations in ways that reduce burnout and moral distress. Because clinically challenging situations most likely will not diminish, the goal must be to enable nurses to respond in ways that protect against detrimental consequences. Reaching this goal requires attention to personal and professional values, meaning, and hope, all of which are inherently related to resilience. Future research should include an exploration of the relationship between empathy, perspective taking, and personal accomplishment and how the erosion of empathy contributes to depersonalization.

In our sample, meaning scores were moderately associated with 2 aspects of burnout, depersonalization and personal accomplishment, and higher levels of meaning were correlated with decreased depersonalization and increased personal accomplishment. In a study[54] of professionals in genetics, meaning was inversely correlated with burnout and positively correlated with gratitude and professional satisfaction. These authors[54] also found that clinicians with more years of experience had higher meaning scores. In our study, meaning scores decreased with more years of experience. These contradictory findings suggest that helping nurses reconnect to the meaning of their work may reduce moral distress and burnout.

Our study has some limitations. One limitation is that 114 of 180 possible participants (63%) were enrolled from a single health system. Whether investigators in other geographical locations and in other health care cultures would have results similar to our findings is unknown.

Conclusion

Nurses working in high-risk areas such as pediatrics, oncology, and critical care are vulnerable to burnout because of patients' intense needs, uncertain outcomes, and the highly charged context of the nurses' work, particularly the impact of ongoing witnessing of suffering and death. Burnout is an important contributor to retaining trained nurses in their roles. Burnout scores of hospital nurses are

significantly high,[13,18] and in 1 study,[18] 1 of 5 nurses indicated that they intended to leave their position within 1 year. Targeting nurses in these high-risk areas will address an important segment of nurses who have the potential to most markedly affect a health care organization's bottom line.[1]

In short, our results confirmed the relationship among the variables involved in burnout, including modulating factors such as resilience and hope, and support the development of strategies to reduce nurses' vulnerability to emotional exhaustion.

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CE Test

Test ID A152405: Burnout and Resilience Among Nurses Practicing in High-Intensity Settings

Learning objectives: 1. Define and better understand burnout and moral distress. 2. Identify the impact that burnout and resilience have among nurses. 3. Discuss the results of the study.

1. Burnout scores are significantly higher for nurses who work in which of the following settings?
a. Hospitals
b. Schools
c. Clinics
d. Home care

2. Burnout is high in the following nursing areas, except which of the following?
a. Critical care
b. Medical/surgical
c. Pediatrics
d. Oncology

3. According to one study, which of the following percentages of critical care nurses left their positions in response to moral distress?
a. 10%
b. 13%
c. 16%
d. 19%

4. Resilience can be cultivated through all of the following except which?
a. Self-efficacy
b. Psychotherapy
c. Hope
d. Coping

5. Participants were recruited from how many hospitals?
a. 1
b. 2
c. 3
d. 4

6. Which of the following descriptive statistics was used to identify independent predictors of burnout?
a. Analysis of variance
b. Pearson correlation coefficient
c. Multiple variable linear regression analyses
d. Bivariate analysis

7. Nurses with which of the following years of experience had the highest mean scores on emotional exhaustion and depersonalization?
a. 1 to 5
b. 3 to 10
c. 5 to 10
d. 10 to 15

8. Which of the following was associated with low levels of personal accomplishment?
a. Emotional exhaustion
b. Stress
c. Fatigue
d. Anxiety

9. Which of the following was excluded from the models for phase 2?
a. Hope
b. Resilience
c. Personal accomplishment
d. Emotional well-being

10. Higher levels of resilience were associated with which of the following?
a. Increased hope and reduced stress
b. Decreased levels of burnout
c. Decreased depersonalization
d. Increased personal accomplishment

11. Which of the following scores were relatively flat across years of experience?
a. Burnout
b. Moral distress
c. Resilience
d. Stress

12. Which of the following appears to have the greatest predictive validity for burnout?
a. Moral distress
b. Hope
c. Emotional exhaustion
d. Depersonalization

Test ID: A152405 Contact hours: 1.0; pharma 0.0 Form expires: September 1, 2018. Test Answers: Mark only one box for your answer to each question.

1. ❏ a	2. ❏ a	3. ❏ a	4. ❏ a	5. ❏ a	6. ❏ a	7. ❏ a	8. ❏ a	9. ❏ a	10. ❏ a	11. ❏ a	12. ❏ a
❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b	❏ b
❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c	❏ c
❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d	❏ d

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