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Nursing Burnout: Cross-Sectional Study at a Large Army Hospital

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ABSTRACT The purpose of this study was to examine the levels of burnout among U.S. Army and civilian nursing personnel assigned to a large military treatment facility. Using a cross-sectional design, a convenience sample of eligible participants (n = 364) completed the Maslach Burnout Inventory. T-test and ordinal logistic regression were used to analyze data. Findings suggest that both groups were experiencing a moderate level of burnout. However, civilian nursing personnel demonstrated statistical lower levels of emotional exhaustion and depersonalization. Findings suggest that nursing personnel who worked the day shift, no more than 8 hours a day and had fewer patient care contacts with military personnel injured in Iraq or Afghanistan reported lower levels of emotional exhaustion and depersonalization. This study provides ideas for policy changes at medical treatment facilities that are experiencing similar challenges.

INTRODUCTION

Direct patient care can be stressful, perhaps more so for novice nurses and those taking care of high acuity patients, such as military service members injured during war. Because advances in battlefield medicine have led to increased survival rates for war-injured military personnel, many have returned from the current wars in Afghanistan, Iraq, and elsewhere with acute and long-term nursing care needs. As of December 2008, 856 military personnel with war-related amputations have been treated at Army medical treatment facilities.[1] Approximately 160,000 service members have been treated for traumatic brain injury (TBI).[2] Nursing personnel also care for military members who have sustained other illnesses and injuries related to the wars; however, those with TBI and amputations receive the highest visibility. For nursing personnel who care for these patients, prolonged exposure to chronic stress, intense client relationships, and extended work hours can be emotionally draining and lead to burnout. Nursing personnel who experience burnout are less effective in their jobs and may even develop uncaring attitudes toward their patients and even themselves.[3]

Investigators remain intrigued by the Army hospital practice environment and its effect on nursing personnel who work in these environments; however, recent interest in examining nurse burnout as a primary outcome has waned, supplanted by compassion fatigue.[4,5] Not to be confused with compassion fatigue, burnout is defined as a syndrome that consists of emotional exhaustion, depersonalization, and reduced personal accomplishment.[6] Compassion fatigue is a social, physical, spiritual, and emotional exhaustion that results in an inability to care for others.[7] Burnout and compassion fatigue share similar attributes, but are different. Investigators have found that burnout among nurses in the civilian sector is strongly related to a decline in quality patient care, poor patient outcomes, and negative effects on the nurse. Moreover, nursing personnel who work extended hours and become exhausted, are more likely to unintentionally injure themselves by needle sticks, become fully burned out, and develop musculoskeletal disorders.[8–10]

Currently, Army leaders lack empirical evidence to adequately address the nurse practice environment and its influence on nurse burnout. Few investigators have examined burnout among military nurses[11–14] and of published studies, little can be generalized. For example, in one study, the nurses who participated worked at different hospitals, in different countries, and were exposed to different work environments. In another study, some of the participants were a mix of bedside staff nurses and nurse managers. Another limitation of these studies is reflected in the small sample sizes. Finally, one of the studies was conducted among nurses who worked in a highly specialized burn unit, a perfect setting in which to conduct a study of nurse burnout and stress, but an environment that the average nurse will rarely be exposed to. When nursing personnel become burned out, unit readiness can be negatively affected because these personnel are no longer able to think or function at peak performance. Moreover, they may no longer view nursing in a military context as a rewarding career option. Because of this, we continue to believe that the exploration of nurse burnout is of value, which led to the aim of this study.

Aim

The purpose of this study was to determine whether there were differences in the level of burnout among Army nursing personnel and civilian nursing personnel assigned to a large U.S. Army teaching hospital. Although the work environments of these civilian and military nursing personnel are similar, the lifestyle of military personnel differs considerably due to the military rank structure, the promotion and reward system, the education and training requirements, and the opportunity to

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14. ABSTRACT

The purpose of this study was to examine the levels of burnout among U,S, Army and civilian nursing personnel assigned to a large military treatment facility. Using a cross-sectional design, a convenience sample of eligible participants (n = 364) completed the Maslach Burnout Inventory, 7"-test and ordinal logistic regression were used to analyze data. Findings suggest that both groups were experiencing a moderate level of burnout. However, civilian nursing personnel demonstrated statistical lower levels of emotional exhaustion and depersonalization. Findings suggest that nursing personnel who worked the day shift, no more than 8 hours a day and had fewer patient care contacts with military personnel injured in Iraq or Afghanistan reported lower levels of emotional exhaustion and depersonalization. This study provides ideas for policy changes at medical treatment facilities that are experiencing similar challenges.

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retire with a pension after 20 years of service. Another notable difference is the sense of connection that military nurses feel toward caring for the military's war fighters who sustain life changing illnesses and injuries stemming from the war and the loyalty among a respected military retiree health care beneficiary population. However, these benefits come with a sacrifice uncommon among civilian nursing personnel who work in civilian hospital settings. For example, military personnel commit to multiyear contractual obligations during which time they are severely restricted in seeking alternative job opportunities and lifestyles, they are uncompensated for extra duties and work hours, they are involuntarily moved to multiple assignments throughout the world during their career, they train for war, and they must be ready to deploy to austere environments on a moment's notice.[15–26] Army nurses are also expected to participate on committees, some of which require the nurse to work on scheduled off-duty days; and they must maintain rigorous physical fitness programs to successfully complete the biannual Army physical fitness test. There are other mandatory training requirements too numerous to mention. The point is that these additional duties and requirements add workload and hours to the Army nurse's work week. Because of this, there is additional stress placed on the Army nurse and his/her family.

METHODS

Sample and Setting

Using a cross-sectional design, a paper-and-pencil survey was administered to eligible active duty and Department of the Army Civilian (DAC) nursing personnel. Nursing personnel were defined as registered nurses (RN), licensed practical nurses (LPN), certified nursing assistants (CNA), and Army medics (equivalent to civilian emergency medical technicians). To be eligible, participants must have been on a nursing unit for at least 6 months, worked full-time, and provided direct patient care. We chose 6 months as the minimum time on the unit, because, by this time, the nurses had completed orientation and were viewed as competent, independently functioning staff members. Because of their role as fully functioning staff nurses, we believe they would have been more cognizant of the workload and stressors associated with the work environment than would have been the case were they in orientation or being supervised by a preceptor. Contract nurses were excluded because of Army regulations that prohibit them from participating in research studies.[27] Contract nurses comprised 54% to 81% of the hospital's nursing staff in some areas, but their intermittent work schedules, control of assignments, differences in pay and benefits, and lack of personal identification with the organization, makes them different than the population of interest for this study. The investigators recruited from the target population during all shifts (day, evening, and night), to include weekends. The setting was a large U.S. Army hospital on the east coast that supported graduate medical education, Army nurse corps specialty training courses, and a large wounded warrior population (military service members wounded in Afghanistan or Iraq). We recruited nurses who did and did not routinely care for wounded warriors who had sustained amputations and/or traumatic brain injuries.

Recruitment

After obtaining institutional review board approval, eligible active duty Army and civilian nursing personnel were targeted for recruitment. First, investigators provided information briefings to the nursing leadership to explain the study. These meetings were followed by recruitment briefings aimed at the target population during the nursing staffs' morning and evening change of shift reports. The nursing staffs were provided information about the study's purpose, design, eligibility, risks, and benefits, and that no compensation would be provided. Investigators provided each volunteer a formal information letter that provided these details in writing. Participants were required to verbalize understanding of the letter's content before being enrolled. Afterward, investigators provided participants a packet that included two data collection forms: a demographic and work-related data collection form and a paper-and-pencil version of the Maslach Burnout Inventory. Participants' anonymous completion and return of the forms to a sealed receptacle in the nursing research office was considered voluntary consent.

Measures

Classic burnout is a syndrome that consist of three components: emotional exhaustion, depersonalization, and reduced personal accomplishment.[6] Emotional exhaustion is an inability to give any more of oneself. Depersonalization is a feeling of cynicism toward one's clients/patients. Finally, reduced personal accomplishment is a feeling that one's job is no longer rewarding or that one is no longer competent. For this study, burnout was operationalized as a syndrome that consists of emotional exhaustion, depersonalization, and reduced personal accomplishment as measured by the Maslach Burnout Inventory-Human Services Inventory, hereafter referred to as the MBI. The MBI is a 22-item norm-referenced instrument that is used by researchers nationally and internationally. The instrument's 22 items reflect direct measures of emotional exhaustion (8 items), depersonalization (5 items), and reduced personal accomplishment (9 items). For these items, participants respond to a 7-point Likert-type scale, asking questions about how often they experience certain feelings or perceptions, with anchors of never = 0 and every day = 6. For each subscale, the items are summed and means and standard deviations calculated. Each subscale stands alone, but together, they are used to categorize into low, medium, or high levels of burnout on the basis of an established normative range for health care workers.[6]

As an example, to be categorized as moderately burned out, a group's emotional exhaustion mean subscale score must be

within the range of 19 to 26; for depersonalization, the range is 6 to 9; and for reduced personal accomplishment, the range is 34 to 39. For emotional exhaustion and depersonalization, higher scores reflect more of the attribute. A higher level of the attribute is considered negative. For personal accomplishment, the reverse is true. That is, higher scores reflect the positive attribute of personal accomplishment. Lower scores are negative (i.e., reduced personal accomplishment).

Because the MBI's reliability and validity has been established for use among nurses who work in hospital settings,[6,28–30] investigators have used the instrument extensively to examine burnout among civilian nurses both nationally and internationally.[8,31–36] Investigators have also used the MBI to examine burnout among military nurses.[11,13] Investigators used the MBI most recently in the Army Hospital Work Environment Study.[37] Findings from this study have not been published. However, psychometric testing of the instrument during a secondary data analysis supported evidence for reliability and validity when used among civilian and military nurses who work in Army hospitals (Lang GM, The Work Environment of Army Hospital Nurses: Measurement and Construct Validity, unpublished dissertation, University of Maryland, Baltimore, 2007).

Data Analysis

The unit of analysis for this study was the group. Group differences between military and civilian were analyzed using the independent *t*-test. Ordinal logistic regression was used to test the hypothesis that burnout is related to demographic and workrelated demands. Statistical analyses were performed with SPSS 16.0 (SPSS, Chicago, IL).

RESULTS

Between March and April 2008, the investigators provided recruitment literature to 600 eligible nursing personnel. Of these, a convenience sample of active duty Army and Department of the Army civilian nursing personnel throughout all settings (n = 364; 60%) agreed to participate in the study. This resulted in a sufficiently powered study to test the hypotheses (power = 0.80, $\beta = 0.20$, effect size = medium).[38,39]

Table I provides the sample characteristics. Most participants were RNs: Army nurse corps officers (n = 123), followed by civilian RNs (n = 97). Most of the Army participants had a bachelor's degree in nursing, worked on inpatient units, worked 12-hour shifts, worked overtime (>80 hours per pay period), and routinely cared for Operation Iraqi Freedom/ Operation Enduring Freedom (OIF/OEF) and amputee patients. The majority of civilian participants also worked on inpatient units and provided care for military personnel injured in Iraq and Afghanistan. However, most civilians worked the day shift, worked fewer than 12-hour shifts, worked less overtime, and had less than a bachelor's degree in nursing. Civilian nursing personnel were, on average, older than their Army counterparts (43 ± 11 years vs. 30 ± 8). We collected data to determine overall how many participants had been deployed.

TABLE I. Demographic and Work Characteristics of Nursing Personnel (n = 364)

	Army N = 187 (52%)	Civilian N = 176 (48%)	Total N = 363
Practice Level (PRTCE)			
RN	123 (66)	97 (55)	220 (61)
LPN	22 (12)	47 (27)	69 (19)
Medic/Aide	41 (22)	32 (18)	74 (20)
Education Level (EDUC)			
Less Than Bachelor's in Nursing	60 (33)	95 (57)	155 (45)
Bachelor's in Nursing	109 (61)	50 (30)	159 (46)
Master's in Nursing	11 (6)	21 (13)	32 (9)
Recent Return from Deployment (DPLY)			
Yes	36 (19)	6 (4)	42 (12)
No	151 (81)	168 (96)	319 (88)
Setting (STTNG)			
Inpatient	152 (81)	104 (59)	256 (70)
Outpatient	35 (19)	72 (41)	107 (29)
Shift Worked (SHFT)			
Days	69 (38)	106 (60)	175 (50)
Nights	36 (20)	41 (25)	77 (22)
Combination Days/Nights	77 (42)	24 (15)	101 (28)
Shift Type (SHFTTYP)			
8 Hours	25 (14)	72 (43)	97 (28)
12 Hours	146 (80)	79 (47)	225 (65)
Combination 8 Hours/ 12 Hours	11 (6)	16 (10)	27 (7)
Overtime Work > 80 Hours/Pay Period (OT)			
Yes	119 (66)	70 (41)	189 (54)
No	62 (34)	101 (59)	163 (46)
Works Second Job (TWOJOBS)			
Yes	15 (8)	31 (18)	46 (13)
No	167 (92)	140 (82)	307 (87)
Routinely Cares for OIF/OEF soldiers (PTTYPE)			
Yes	128 (68)	124 (71)	252 (69)
No	59 (32)	52 (29)	111 (31)
Routinely Cares for Amputee Soldiers (CAREAMP)			
Yes	109 (58)	89 (51)	198 (55)
No	78 (42)	86 (49)	162 (45)
Routinely Cares for TBI Soldiers (CARETBI)			
Yes	87 (47)	71 (40)	158 (44)
No	98 (53)	105 (60)	203 (56)
Age in Years (SD)	30 (8)	43 (11)	
Range	19–59	22–63	

OIF/OEF, Operation Iraqi Freedom and Operation Enduring Freedom. Some columns may not sum to total because of missing data.

The findings suggest that because so few had been deployed, we do not show the results.

Means and standard deviations suggest that both groups were moderately burned out. Since the primary aim of this study was to determine whether there were differences in the level of burnout between the groups, an independent *t*-test was used to address this question. The Army nursing personnel group fared worse on both the emotional and depersonalization subscales than the civilian group (25 ± 12.09 vs. 19 ± 12.32, $t = 4.22$, $p < 0.001$) and (8 ± 6.61 vs. 5 ± 5.38, $t = 4.27$, $p < 0.001$), respectively. Reduced personal accomplishment was not noticeably different between the groups (Table II).

Because there was evidence of burnout, an ordinal logistic regression model was fitted to the data to test the hypothesis that burnout was related to demographic and work-related variables listed in Table I. The investigators used ordinal logistic regression because this allowed emotional exhaustion, depersonalization, and reduced personal accomplishment to be used as ordinal dependent variables, categorized into low, medium, and high thresholds. However, with ordinal logistic regression, only the first two—low and medium—thresholds are examined, statistically, because the third would be redundant. As shown in Table III, emotional exhaustion is coded as threshold low = 1 and threshold moderate = 2. The predictor variables are shown under the term, "location." The predictor variables' coefficients are referenced against the dependent variable threshold on the basis of whether the coefficient is preceded by a negative sign or a positive sign. A predictor variable with a negative coefficient indicates the variable is related to threshold low = 1 (e.g., low emotional exhaustion). When a predictor variable has a positive coefficient, it means the variable is related to the higher threshold (e.g., moderate emotional exhaustion).

TABLE II. Burnout Subscale Scores by Army and Civilian Nursing Personnel (n = 364)

	Army n = 187	Civilian n = 176		
Burnout Domains	Mean (SD)	Mean (SD)	t	p
Emotional Exhaustion	25 (12.84)	19 (12.32)	4.22	<0.001
Depersonalization	8 (6.61)	5 (5.38)	4.27	<0.001
Reduced Personal Accomplishment	39 (6.87)	39 (7.92)	−0.22	0.830

Note: Normative Burnout Subscale Data Established for Healthcare Workers

	High	Moderate	Low
Emotional Exhaustion	≥27	19–26	≤18
Depersonalization	≥10	6–9	≤5
Reduced Personal Accomplishment	≤33	34–39	≥40

Using this method for interpretation, the results in Table III suggest that nursing personnel who did not routinely provide care to military personnel injured in Iraq and/or Afghanistan (β = −0.471, p = 0.045) and those who work day shift (β = −0.584, p = 0.031) were more likely to be categorized with low emotional exhaustion. Limiting work to 8 hours a day trends toward less emotional exhaustion. However, the level of significance (p = 0.05) was not met (β = −0.827, p = 0.063). A higher level of emotional exhaustion (β = 0.473, p = 0.047) and depersonalization (β = 0.673, p = 0.004) was associated with being among the Army nursing personnel as shown in Tables III and IV. Eight-hour shift work was related to less depersonalization (β = −0.928, p = 0.039).

TABLE III. Ordinal Logistic Regression Model Predicting Emotional Exhaustion for Army and Civilian Nursing Personnel

	Estimate β	SE	Wald	df	p	Confidence Interval (95%) Lower, Upper Bounds
Threshold (Ordinal Dependent Variable)						
Emotional Exhaustion (Low = 1)	−0.926	0.525	3.10	1	0.078	−1.95, 0.10
Emotional Exhaustion (Moderate = 2)	−0.016	0.522	0.001	1	0.975	−1.04, 1.00
Location (Independent Variables)						
Practice Group						
Army	0.473	0.238	3.95	1	0.047	0.007, 0.939
Civilian	0[a]					
Recent Return from Deployment (DPLY)						
No	0.270	0.332	0.659	1	0.417	−0.382, 0.921
Yes	0[a]					
Shift Worked (SHFT)						
Days	−0.584	0.271	4.63	1	0.031	−1.15, −0.052
Nights	−0.201	0.298	0.457	1	0.499	−0.785, 0.382
Combination Days and Nights	0[a]					
Shift Length (SHFTTYP)						
8 Hours	−0.827	0.445	3.46	1	0.063	−1.69, 0.044
12 Hours	−0.260	0.407	0.407	1	0.523	−1.05, 0.538
Combination 8 and 12 Hours	0[a]					
Overtime Work >80 Hours/Pay Period (OT)						
No	−0.386	0.222	3.01	1	0.082	−0.822, 0.049
Yes	0[a]					
Routinely Cares for OIF/OEF soldiers (PTTYPE)*						
No	−0.471	0.235	4.02	1	0.045	−0.931, −0.011
Yes	0[a]					

Final Model −2 Log Likelihood = 275.62, χ^2 (df, 8) = 46.05, $p < 0.001$. Goodness of Fit, Pearson χ^2 (df, 134) = 122.47, p = 0.753 Link Function = Logit. Nagelkerke R^2 = 0.142. Parallelism −2 Log Likelihood 268.43, χ^2 (df, 8) = 7.18, p = 0.517. Negative (−) estimates indicate a predictor variable is associated with low emotional exhaustion = 1. Positive (+) estimates indicate an independent variable is associated with moderate to high emotional exhaustion = 2.
[a]Parameter is set to 0 because it is redundant.

TABLE IV. Reduced Ordinal Logistic Regression Model Predicting Depersonalization for Army and Civilian Nursing Personnel

	Estimate β	SE	Wald	df	p	Confidence Interval (95%) Lower, Upper Bounds
Threshold (Ordinal Dependent Variable)						
Depersonalization (Low = 1)	−0.601	0.517	1.35	1	0.245	−1.61, 0.413
Depersonalization (Moderate = 2)	0.408	0.517	0.624	1	0.429	−0.605, 1.42
Location (Independent Variables)						
Practice Group						
Army	0.673	0.235	8.22	1	0.004	0.213, 1.13
Civilian	0[a]					
Unit Type						
Outpatient	−0.450	0.298	2.27	1	0.131	−1.03, 0.135
Inpatient	0[a]					
Shift Worked (SHFT)						
Days	−0.413	0.289	2.04	1	0.153	−0.979, 0.153
Nights	0.435	0.296	2.16	1	0.142	−0.145, 1.01
Combination Days and Nights	0[a]					
Shift Length (SHFTTYP)						
8 Hours	−0.928	0.451	4.24	1	0.039	−1.81, −0.045
12 Hours	−0.353	0.396	0.795	1	0.373	−1.13, 0.423
Combination 8 and 12 Hours	0[a]					
Overtime Work > 80 Hours/Pay Period (OT)						
No	−0.184	0.226	0.666	1	0.415	−0.626, 0.258
Yes	0[a]					

Final Model −2 Log Likelihood = 308.05, χ^2 (df, 8) = 33.98, $p < 0.001$. Goodness of Fit, Pearson χ^2 (df, 144) = 168.66, $p = 0.078$ Link Function = Logit. Nagelkerke $R^2 = 0.107$. Parallelism −2. Log Likelihood 302.48, χ^2 (df, 8) = 5.57, $p = 0.695$. Negative (−) estimates indicate a predictor variable is associated with low emotional exhaustion = 1. Positive (+) estimates indicate an independent variable is associated with moderate to high emotional exhaustion = 2.
[a]Parameter is set to 0 because it is redundant.

Before interpreting the results of ordinal logistic regression, it is important to ensure that test assumptions were met. For emotional exhaustion and depersonalization, the models were significant and the model fit was good. Specifics regarding these test assumptions are shown in the legends of each table. The reduced personal accomplishment model did not meet the test assumptions. Because of this, the results were not interpreted and are not reported.

DISCUSSION

Both groups of nursing personnel were moderately burned out. However, the Army nursing personnel had statistically higher levels of emotional exhaustion and depersonalization. Ordinal logistic regression findings suggest that belonging to the Army nursing personnel group, working other than day shift, working more than 8 hours per shift, and routinely providing care to soldiers who were injured in Iraq and Afghanistan were work demands associated with emotional exhaustion and depersonalization. Surprisingly, age was not associated with burnout. It is not clear why this is and deserves further investigation. Perhaps, older, more experienced nurses consciously or unconsciously moderate the demands of work by pacing themselves. Another explanation might be that older nurses develop tolerance for environmental factors that would otherwise be associated with emotional exhaustion and perceived feelings of depersonalization.

When Freudenberger introduced the concept of burnout in 1974, he recognized, anecdotally, that burnout was associated with a strong sense of mission, long working hours, and intense interpersonal relationships with patients.[41,42] Recent evidence suggests that Freudenberger was correct. Extended work hours, stress, and intense patient workloads are related to burnout, needle sticks, musculoskeletal injuries, job dissatisfaction, decreased organizational commitment, absenteeism, and turnover.[6,8,29,42–47] Moreover, burnout among nurses is associated with lower quality care, less patient safety, and poor patient outcomes.[8,42,48]

Data from this current study provided recent reliability and validity evidence that the MBI is a valid instrument for use among nurses who work in Army hospital settings. These data demonstrated overall instrument reliability (Cronbach's α = 0.80) with the emotional exhaustion subscale demonstrating the strongest evidence of internal consistency (Cronbach's α = 0.89). This was followed by depersonalization (Cronbach's α = 0.76) and a weak reduced personal accomplishment subscale (Cronbach's α = 0.64), which is congruent with findings from other studies.[29] Because of weak evidence demonstrated for the reduced personal accomplishment subscale, some investigators have abandoned the three-domain conceptualization of burnout in favor of a one- or two-domain model based exclusively on emotional exhaustion, or emotional exhaustion and depersonalization.[8,29,36,43] For this study, we examined the classic three-domain approach to establish a baseline for Army hospitals and because of its acceptance nationally and internationally.[8,33,34,36,43,48] Findings from this study suggest that the two-domain approach was able to discriminate between levels

of burnout among the groups. This can mean several things: (1) reduced personal accomplishment is a lagging indicator of burnout, (2) the threshold for reduced personal accomplished is difficult to attain among nursing personnel who work in a system that revolves around a very important national mission and a highly visible promotion and reward system, or (3) the level of measurement error associated with the reduced personal accomplishment subscale (Cronbach's $\alpha = 0.64$) is indicative of systematic flaws in the items.

Leading scholars suggest that burnout should not be about blaming the employee, but, rather is indicative of a demanding work environment.[3,8] Because of this, nurse leaders must focus on creating a healthy work environment. At the study hospital, an astute nurse leadership team did several things right. Most importantly, they did not perceive burnout as a character flaw among the nursing personnel. Instead, leaders at the senior, middle, and junior levels took this opportunity to meet with the investigators, listen to the findings, develop strategies, and implement incremental changes that optimize the work environment. First, leaders on the orthopedic ward instituted monthly debriefing sessions for nursing staff, which were facilitated by mental health professionals. The orthopedic ward was chosen first, because nursing personnel on this unit were the most exposed to war-injured soldiers. Next, leaders instituted 8-hour shifts for all newly arriving junior Army nurse corps officers. These 8-hour shifts would be in effect during several phases of the officers' 26-week transition program. Currently, 80 officers are working under the new policy. This initiative was not extended to newly hired civilian nurses.

Unfortunately, many nurse managers and nursing staffs are beholden to 12 hours and rotating shifts.[49] At the height of the nursing shortage, 12-hour shifts were popular because they provided a short-term solution to staffing problems. These holdover practices are still very popular but there is evidence that the work hours associated with these scheduling practices hurt nurses physically and emotionally and compromise patient safety.[9,10,49] Nevertheless, nurse managers and staff nurses—even in Army hospitals—trade this short-term solution for a potential long-term harm because staff nurses like these schedules. For example, in the civilian sector, investigators examined the relationship between work schedules, job satisfaction, burnout, and patient outcomes among nurses ($n = 805$) at 13 hospitals in the New York City area. The findings suggest that, on average, nurses who worked 12-hour shifts were more satisfied than nurses who worked 8-hour shifts and were less likely to experience emotional exhaustion.[52] Moreover, there were no significant differences in patient outcomes on the basis of 12-hour vs. 8-hour shifts. Because of the evidence suggested by these findings, some of the nursing units that participated in the study transitioned to 12-hour shifts.

CONCLUSIONS

Findings from the studies of nurse burnout provide a mixed picture. However, this is not surprising, because, although studies draw different conclusions, it is important to keep in mind that nurse practice environments are not homogeneous. Therefore, findings are unique to each organization—and among participants—where the data were collected. The findings from this study suggest that nursing personnel who work in a large Army teaching hospital are not immune to emotional exhaustion. Even this generalization is limited to a few military treatment facilities. Readiness is a priority for the Army community. Because of this, we recommend that Army hospital leaders continue to take an interest in research related to nurse burnout and continually monitor the nurse practice environment and demands placed on nurses, so that proactive policies are developed, standards adopted, and training is implemented that optimizes the environment. At a time when Army hospitals are experiencing turbulence because of military personnel deployments, every effort must be taken to optimize the work environment for the military and civilian nursing personnel who remain behind. We may have to use 12-hour shifts to meet these goals. However, we must develop a strategy that takes into account the long-term consequences of these operational decisions.

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