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Missed Care Relates to Nurse Job Enjoyment and Intention to Leave in Neonatal Intensive Care

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Abstract

Aim(s): To determine relationships among missed nursing care, job enjoyment, and intention to leave for neonatal nurses.

Background: Being unable to provide required nursing care to infants could contribute to poorer neonatal nurse job outcomes, which may exacerbate staffing challenges. Little evidence exists about how missed nursing care relates to neonatal nurse job outcomes.

Method(s): The design was cross-sectional. Secondary data from the 2016 National Database of Nursing Quality Indicators Registered Nurse Survey were used, which included nurse ratings of job enjoyment, intention to leave, and missed nursing care. American Hospital Association data from 2016 were used to describe hospitals. Linear and logistic regressions were calculated.

Results: There were 5,824 neonatal nurses. Mean nurse job enjoyment was 4.26 out of 6 (SD=0.97). On average, 15% of nurses intended to leave their position. Each one unit increase in missed nursing care was associated with a .26 decrease in job enjoyment and a 29% increased odds of intention to leave after controlling for nursing and hospital characteristics.

Conclusions: Missed nursing care can influence nurse job enjoyment and intention to leave in neonatal care units.

Implications for Nursing Management: Neonatal nurse managers should address missed nursing care to improve neonatal nurse job outcomes.

Keywords

Missed nursing care; neonatal intensive care unit; nurse job outcomes; job enjoyment; intention to leave

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Infants in the neonatal intensive care unit (NICU) are a vulnerable population requiring continuous nursing care. Having nurses who enjoy their work and desire to stay are essential goals for NICU nurse managers. Being unable to complete all required care may contribute to decrease nurse job enjoyment and commitment.

NICU nurses provide a range of care activities to maintain infants' physiological status while also promoting infant and parent bonding, which is crucial for infant care after discharge. Inadequate time to provide care may result in missed nursing care, which is defined as care activities that are either omitted completely or significantly delayed (Kalisch, Landstrom, & Hinshaw, 2009). Missed nursing care occurs globally (Jones, Hamilton, & Murry, 2015).

Nurse job enjoyment is defined as "an indicator of nurses' general satisfaction with their work" (Taunton et al., 2004, p. 109). Nurse managers who can reduce conditions that contribute to missed nursing care could increase nurses' job enjoyment and improve the retention of their staff. Intention to leave is often quantified as a nurse's plan to leave a position within the next year (Aiken, Clarke, Sloane, Lake, & Cheney, 2008). As staff retention is important for providing consistent, safe care, NICU nurse managers require evidence regarding the relationships between missed nursing care and nurse job outcomes.

Results from a study on adult care settings suggest a relationship between missed nursing care and nurse job outcomes, such as job satisfaction (Kalisch, Tschannen, & Lee, 2011). The potential influence of missed nursing care on NICU nurse job enjoyment and intention to leave are unknown. To address job outcomes at both ends of a spectrum, the study examined how missed nursing care related to job enjoyment and intention to leave in a sample of U.S. NICU nurses. This paper contributes to our understanding of missed nursing care as a modifiable factor that, if reduced, may help increase job enjoyment and decrease intention to leave in NICU staff nurses.

Background

Missed Nursing Care in the NICU Setting

Literature about missed nursing care in the NICU setting to date has been focused on its prevalence (Tubbs-Cooley, Pickler, Younger, & Mark, 2015b), its antecedents (Tubbs-Cooley, Mara, Carle, Mark, & Pickler, 2019), its variation across hospitals (Lake, Staiger, Edwards, Smith, & Rogowski, 2018a; Tubbs-Cooley et al., 2017), and its association with poor patient outcomes (Rochefort, Rathwell, & Clarke, 2016; Tubbs-Cooley, Pickler, & Meinen-Derr, 2015a). The most frequently reported missed nursing care activities in samples of Canadian NICUs were care coordination, discharge planning, parental teaching and support, and infant comfort care (Rochefort & Clarke, 2010; Rochefort et al., 2016). In one U.S. NICU, nurses reported missing attendance at daily rounds, oral care, bathing, and including parents in the baby's care as the most "frequently missed" activities (Tubbs-Cooley et al., 2015b). In a sample of 303 U.S. NICUs, 36% of nurses missed one or more care activities on their last shift; planning and communication activities, e.g., teaching families, were missed more often than clinical activities (Lake et al., 2018b).

Notable missed nursing care antecedents studied in the NICU setting include poorer work environments (Lake et al., 2018a; Lake et al., 2018b) and higher nurse patient loads (Lake et al., 2018b; Tubbs-Cooley et al., 2019).

There is limited evidence linking missed nursing care in the NICU to poorer patient outcomes. Missing parental support, teaching, and infant comfort was associated with decreased nurse-assessed neonatal pain control (Rochefort et al., 2016). Missed or delayed oral feeding opportunities was associated with increased time to discharge (Tubbs-Cooley et al., 2015a).

One reason nurses may be dissatisfied with their jobs is that they do not have enough time to complete the care that they know will affect patient outcomes; however evidence about this is limited. In the adult population, units with increased missed nursing care had more staff who intended to leave (Tschannen, Kalisch, & Lee, 2010), while those with less missed nursing care had greater job satisfaction (Kalisch et al., 2011). Evidence is lacking to understand the extent to which missed nursing care influences NICU nurse job outcomes.

Nurse Job Outcomes in the NICU

NICU nurse job satisfaction varies across samples. In a Canadian sample, 18.6% of nurses were dissatisfied with their job (Rochefort & Clarke, 2010). Overall job satisfaction in a sample of U.S. Midwestern nurses was moderate (mean=4.07 on a scale of 1 to 5) (McDonald, Rubarth, & Miers, 2012). In another study, predictors of NICU nurse job satisfaction included support, family centered care, performance obstacles, work schedule, education, and employment status (Lavoie-Tremblay et al., 2016).

Aim and Objective

This study addresses the minimal information about NICU nurse job outcomes in general, and how missed nursing care may contribute to these outcomes. The study aim was to determine the relationship between missed nursing care, job enjoyment, and intention to leave among NICU nurses.

Methods

Conceptual Framework

Kalisch's missed nursing care model (Kalisch & Lee, 2010) guided this study. The missed nursing care model presents missed nursing care as a process influenced by nursing and hospital characteristics that may predict staff job outcomes and patient outcomes. Our study tested whether missed nursing care was influential to nurse job outcomes, including nurse job enjoyment and intention to leave among NICU nurses. The hypotheses were:

1. Increased missed nursing care will be associated with decreased nurse job enjoyment.
2. Increased missed nursing care will be associated with increased intention to leave.

Study Design and Sample

The study design was cross-sectional. Secondary data from the 2016 National Database of Nursing Quality Indicators® (NDNQI®) RN Survey (Press Ganey, 2016) and the 2016 American Hospital Association (AHA) annual survey were linked. Job enjoyment, intention to leave, missed nursing care, the nurse work environment, patient acuity, patient load, acuity-adjusted patient load, nurse education, nurse experience, and nurse satisfaction with pay, and NICU level were calculated using NDNQI data. Hospital characteristics, such as ownership, were calculated using AHA data.

The key independent variable for regression models was missed nursing care. Dependent variables for regression included nurse job enjoyment and intention to leave. The nurse sample inclusion criteria included being a staff RN and reporting complete data on the key variables. RNs must have spent a minimum of 3 months on the unit and at least 50% of their job time in direct patient care to be eligible for the NDNQI survey. This was not human subjects research; data were de-identified and not linkable to personal identifiers.

Variables and Measures

Outcomes—*Job enjoyment* was measured using the Job Enjoyment Scale (JES) (Taunton et al., 2004). The JES has seven items rated on a Likert rating scale from 1–6, with options ranging from “strongly disagree” (1), to “strongly agree” (6). An example JES item is, “We find real enjoyment in our work on our unit.” (Taunton et al., 2004). The JES items were adapted from Brayfield and Roth’s (1951) index of job satisfaction (Taunton et al., 2004). Mean scores for each RN were computed. The JES was found to have concurrent validity through principal components analysis, and items loaded onto a single factor (Taunton et al., 2004). The Cronbach’s alpha has been found to be acceptable at .87 (Taunton et al., 2004). The alpha in the current sample was .91.

Intention to leave was measured using a single item: “What are your job plans for the next year?” Response options included: stay in my current position, stay in direct patient care but in another unit in this hospital, stay in direct patient care but outside this hospital, leave direct patient care but stay in the nursing profession, leave the nursing profession for another career, or retire. Any “leave” response option was classified as intention to leave.

Main Predictor—*Missed nursing care* was measured by the following question that included 17 care activities: “On the most recent shift you worked, which of the following nursing activities were necessary but left undone due to time constraints?” Care activities included several activities specific to the NICU (e.g., help or counsel breastfeeding mothers) and predominantly universal nursing care activities (e.g., surveillance). Respondents were instructed to check all that apply. Missed nursing care was calculated as total number of all missed nursing care items. The prevalence of nurses who missed any care activities was generated to classify nurses into two categories: no care activities missed or at least one care activity missed. The prevalence for each care activity missed for this sample is not described in this paper, as it is almost identical to results published in a prior study using these data sources (Lake et al., 2018b).

Nursing Characteristics—The *nurse work environment* was measured using the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002). The PES-NWI is a 31-item measure with 5 subscales: nurse manager leadership, ability, and support (5 items), staffing and resource adequacy (4 items), nurse participation in hospital affairs (9 items), nursing foundations for quality of care (10 items), and nurse-physician collegial relations (3 items) (Lake, 2002). The PES-NWI is valid and reliable at the individual- and organization-level (Lake, 2002). Items were averaged across nurse respondents to create subscale mean scores and a composite score for the work environment.

One half of the sample hospitals took a version of the RN survey without the PES-NWI. Items from that non-PES-NWI version were used to derive a facsimile PES-NWI composite score, as reported elsewhere (Lake et al., 2018b).

Patient load was measured as the number of patients assigned to an RN on the last shift worked. Nurses who reported greater than six patients were recoded as missing, consistent with another report (Lake et al., 2018b), as nurses reporting a higher patient load than six may have a non-staff nurse role.

Nurse respondents were asked to report the *acuity* of each infant assigned on the last shift, using a 5-level scale of NICU infant acuity (Rogowski et al., 2015). Level 1 is the lowest and Level 5 is the highest acuity (Rogowski et al., 2015). Prior evidence has established the use of acuity weights to calculate the acuity-adjusted patient load (Lake et al., 2018b). Acuity weights, defined as the “observed fraction of a nurse assigned to an infant of each acuity level” (Lake et al., 2018b, p. 6), ranged from 0.36 for Level 1 to 0.96 for Level 5 (Rogowski et al., 2015). For this study, the *acuity-adjusted patient load* was calculated as the sum of the number of patients each nurse reported caring for multiplied by the infants’ acuity level (Lake et al., 2018b).

Nurse education was measured from the survey item, “What is your highest level of nursing education?” The percentage of nurses with at least a baccalaureate degree in nursing (BSN) was calculated.

Nurse years of experience on the unit was measured with the multiple-choice question, “How many years have you been employed as an RN on your current unit?” Response options ranged from “less than 3 months” to “more than 55 years.” Nurses indicating fewer than 3 months of experience on the unit were excluded.

Nurse satisfaction with pay was measured the NDNQI Job Satisfaction Scale subscale for Pay, which included three questions. An example question was, “Our present salary is satisfactory to myself and RNs I work with” Response categories ranged from 6 (strongly agree) to 1 (strongly disagree). A mean score was calculated. Nurse satisfaction with pay was measured to describe the sample and to control for pay in regression models. The missing data for nurse satisfaction with pay was 59%; a dummy variable for regression was used to preserve the full sample.

Hospital Characteristics—*NICU level, hospital beds, hospital ownership, and hospital teaching status* were all included to describe the NICU setting. NICU level was derived from NDNQI data, while all other hospital characteristics were derived from AHA data.

Linear and logistic regression models at the nurse level were estimated for job enjoyment and intention to leave, respectively. Bivariate models were estimated followed by models that incorporated nursing unit characteristics in a second model and hospital characteristics in a final model. Missed nursing care, the nurse work environment, and acuity-adjusted patient load were standardized for regression interpretation.

Results

There were 5,824 staff RNs, 303 NICUs and 280 hospitals included. In this sample the mean job enjoyment score was 4.26 (SD=0.97), which means that the typical response was to “tend to agree” that they enjoyed their job. Fifteen percent of nurses intended to leave. On average, nurses in this sample reported having missed almost one care activity (mean=0.88, SD=1.60) out of the 17 possible activities to report on their last shift, with a substantial range from 0 to 15 care activities missed. For the 303 units across this sample, nurses rated the work environment, on average, as 2.95 (SD=0.27), equivalent to “agree” (Table 1). The average patient load was 2.5 babies. Three-quarters of RNs had a BSN education, and average nurse experience on the unit was about 9 years. The mean for satisfaction with nurse pay, 3.50, is the scale midpoint, falling between “tend to agree” and “tend to disagree.” Other nursing characteristics (i.e. patient acuity, patient load, acuity-adjusted patient load) are presented in Table 1.

Job Enjoyment and Intention to Leave by Missed Nursing Care

For nurses who reported not missing any care activities (n=3,746), the mean job satisfaction was 4.45 (SD=0.88), and 12% of these nurses intended to leave. For nurses who missed at least one care activity (n=2,078), the mean job enjoyment was 3.92 (SD=1.00), and 20% of these nurses intended to leave.

Relationship between Missed Nursing Care and Job Enjoyment

In a bivariate model, a one SD increase in missed nursing care was associated with a .35 SD decrease in the job enjoyment scale. In a model controlling for nurse characteristics, a one SD increase in the work environment score was associated with a .36 SD significant increase in job enjoyment. The associations among BSN nursing education, acuity-adjusted patient load, and years on the unit and job enjoyment were minimal. In a model controlling for nurse and hospital characteristics the coefficient for missed nursing care decreased to .26, while that for the work environment did not change. Nurses working in a Level 4 NICU and a for-profit hospital indicated lower job enjoyment compared to nurses not working in such settings. Nurses working in a teaching hospital that was not an academic medical center indicated more job enjoyment compared to nurses not working in these settings (Table 2).

Relationship between Missed Nursing Care and Intention to Leave

In a bivariate model, a one SD increase (1.6 items) in missed nursing care was significantly associated with 46% higher odds of intending to leave. The odds of intending to leave decreased to 31% after controlling for nurse characteristics; as well as the nurse work environment, acuity-adjusted patient load, BSN education, years on unit, and satisfaction with pay. A final model controlling unit and hospital characteristics, such as NICU level, hospital ownership, and teaching status, yielded a similar increased odds (29%) of intention to leave. A one SD increase in the work environment was significantly associated with a 27% decreased odds of intending to leave. A one SD increase in the acuity-adjusted patient load was significantly associated with a 18% increased odds of intending to leave. Compared to non-BSN nurses, nurses with a BSN had a 1.53 odds of intending to leave. A one SD increase in nurse satisfaction with pay was associated with a 20% decrease in odds of intending to leave. Compared to nurses not working in a for-profit hospital, nurses working in for-profit hospitals had 1.45 significantly higher odds of intending to leave (Table 3).

Discussion

Our motivation in conducting this study was to determine how missed nursing care was associated with job enjoyment at one end of the nurse job outcome continuum, and intention to leave at the other end. Missed nursing care was significantly associated with both job enjoyment and intention to leave, even after controlling with work environment and staffing. Results support that a one SD increase in missed nursing care was associated with a .26 decrease in job enjoyment, i.e., one fourth of an SD, after controlling for nursing and hospital characteristics. There was a stronger association between missed nursing care and intention to leave, however, as one SD increase in missed nursing care was associated with a 29% increased odds of intending to leave after controlling for nursing and hospital characteristics. Our findings support our hypotheses that increased missed nursing care would be associated with decreased job enjoyment and increased intention to leave. Results indicate a need for nurse managers to address missed nursing care, as it may contribute to NICU nurse job outcomes. In the following paragraphs, a discussion of the results compared to the literature will be provided.

The decrease in the influence of missed nursing care on job enjoyment after controls were accounted for in regression models, including other factors such as work environment and acuity-adjusted patient load, means that the influence of missed nursing care is present regardless of other influential factors. The same pattern was present for models with intention to leave as the outcome of interest, as adding covariates such as the nurse work environment in logistic regressions resulted in a minimal decrease of the influence of missed nursing care on intention to leave. That there is still a significant, independent influence of missed nursing care after controls were applied identifies missed nursing care as an influential factor that may influence nurse job enjoyment and intention to leave.

There was a significant association among the nurse work environment, NICU nurse job enjoyment, and intention to leave. Controlling for nursing and hospital characteristics, a one SD increase in the work environment was associated with a .35 increase in job enjoyment

and 27% lower odds of nurses intending to leave. These findings are consistent with a report about how nurse-physician collegial relations, a dimension of the work environment, was associated with decreased negative NICU nurse job outcomes, such as compassion fatigue and burnout (Sano, Schiffman, Shoji, & Sawin, 2018).

Some nursing characteristics, such as acuity-adjusted patient load, didn't have a large association with job enjoyment. There was a significant association between acuity-adjusted patient load and intention to leave. Nurses with a higher level of education reported a higher intention to leave. This could indicate that these nurses have more opportunities to find other jobs. Nurses reporting less satisfaction with pay were more likely to report an intention to leave.

Some hospital characteristics were significantly associated with job enjoyment and intention to leave when all variables were included in the final models. Controlling for nursing and hospital characteristics, nurses who worked in for-profit hospitals reported lower job enjoyment. Level 4 NICU nurses had slightly less enjoyment than the other units; however, the nurses in Level 4 NICUs care for the most complicated infant cases. The increased stress involved in more complex care management could play a role in decreasing job enjoyment. It is also notable that, although nurses who worked in Level 4 NICUs did not enjoy their job as much compared to non-Level 4 NICU nurses, these nurses did not also indicate a high intention to leave.

On average, job enjoyment was slightly higher for nurses who did not miss care activities compared to nurses who missed at least one care activity on their last shift (mean=4.45 vs. mean=3.92). This difference was modest in magnitude. There was a larger difference for the intention to leave prevalence, which was higher in the subset of nurses who missed nursing care at a rate greater than sample median compared to below the median (20% vs. 12%).

The prevalence of NICU nurse intention to leave in our U.S. sample was 15%. Job enjoyment was moderate on average (mean=4.26) but ranged widely from 1–6. In prior research, 18.6% of nurses reported being dissatisfied with their job across a Canadian sample of NICUs in a single item measure (Rocheffort & Clarke, 2010). Although this percentage is not directly comparable to our measure of job enjoyment, it is notable that the level of job dissatisfaction in another sample was similar to the percentage of nurses who intend to leave their job in our sample.

Organizational commitment could be an unobserved variable not included in our study that could help explain why some nurses stay in their jobs even when not experiencing optimal job enjoyment. Measuring organizational commitment may offer insight into why nurses in Level 4 NICUs, who do not have as high of job enjoyment as non-Level 4 NICU nurses, would not also have an equivalent intention to leave their job. The influence of organizational commitment in the NICU setting on missed nursing care and nurse job outcomes needs to be investigated in future research.

Our study had limitations. Cross-sectional data limit causal inference. Data for the independent and dependent variables were derived from the same source, which could introduce same-source bias. Data were derived from a national sample of NICU nurses, but

those nurses were working in hospitals that are part of a voluntary quality improvement program (NDNQI). Even so, there was still evidence that missed nursing care was associated with decreased job enjoyment and increased intention to leave in a sample of hospitals concerned with high quality care. Nurse satisfaction with pay's association with intention to leave should be interpreted with caution, as there was 59% missing data for the nurse satisfaction with pay variable.

Implications for Nursing Management

Our results support that nurse managers need to be aware of the relationship between missed nursing care and poorer nurse job outcomes, as there are actions that nurse managers can take to help reduce missed nursing care. The benefits for the nurse manager in reducing missed nursing care could be increased job enjoyment and decreased intention to leave among NICU nursing staff. There are three factors from the literature to consider as part of creating strategies to reduce missed nursing care in NICUs: increasing the number of staff RNs on the unit as needed based on infant acuity, assigning staff RNs to a patient load carefully in consideration of infant acuity and parental needs, and improving the overall nurse work environment (Lake et al., 2018b). Patient assignments should be altered through nursing management decisions, to the extent possible, to result in more time for each nurse to deliver higher quality of care for NICU infants. This may help reduce the burden on staff nurses who must otherwise ration required patient care, which could have unintended potential consequences for nurses and patients.

Nurse managers should also consider focusing on reducing missed nursing care in NICUs, because there are also benefits of reducing missed nursing care for patients (Rocheffort et al., 2016; Tubbs-Cooley et al., 2015a) and the hospital. Evidence from prior research supports a relationship between missed oral feeding opportunities and time to discharge, indicating that reduced missed nursing care could help decrease lengths of stay for infants and overall costs of NICU care (Tubbs-Cooley et al., 2015a). Reducing missed nursing care to improve patient outcomes may also have a positive feedback effect on improving nurse job outcomes, because part of nurse job satisfaction may relate to the nurse's ability to help the patient. Future research is needed to determine the extent to which interventions to reduce missed nursing care in the NICU may influence nurse job outcomes and patient outcomes.

Conclusion

In our sample of 303 NICUs, data from 5,824 staff RNs support that increased missed nursing care was associated with decreased job enjoyment and increased intention to leave their nursing position. Nurse managers need to consider strategies to address missed nursing care to mitigate its potential negative influence on nurse outcomes. Future research is needed to determine which strategies would be most effective for nurse managers to help reduce missed nursing care among staff RNs. High-quality care at the NICU level could set the stage for supporting a nurturing infant-parent dyad. It is important for nurse managers to consider the implications of reducing missed nursing care as a mechanism to improve nurse job outcomes, as high-quality nursing care is needed for the immediate and longer-term needs of the developing child.

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Table 1

Description of NICU Study Variables

<i>Outcomes (n=5,824 nurses)</i>	Mean (SD) or % (n)	Min	Max
Job Enjoyment	4.26 (0.97)	1	6
Intention to Leave Nursing Position, % (n)	15 (855)	-	-
<i>Predictor (n=5,824 nurses)</i>			
Missed Nursing Care, number	0.88 (1.60)	0	15
<i>Unit-Level Nursing Characteristic (n=303)</i>			
Nurse work environment	2.95 (0.27)	2.06	3.62
<i>Nurse-Level Nursing Characteristics (n=5,824)</i>			
Patient acuity	0.46 (0.13)	0.34	0.95
Patient load	2.48 (0.78)	1	6
Acuity-adjusted patient load	1.10 (0.30)	0.34	4.83
Nurse education ^a (% BSN)	0.76 (0.42)	0	1
Nurse experience ^b (Years on unit)	9.32 (9.27)	0.5	48
Nurse satisfaction with pay ^c	3.50 (1.40)	1	6
<i>Hospital Characteristics (n = 280)</i>			
NICU level, %	%		
2	27	-	-
3	68	-	-
4	5	-	-
Ownership, %			
Not-for-Profit	84	-	-
Public	8	-	-
For Profit	8	-	-
Teaching Status, %			
Academic Medical Center	20	-	-
Other teaching	36	-	-
Non-teaching	44	-	-
	Mean (SD)	Min	Max
Number of NICU Beds ^d	31 (21)	2	98

^aNumber of observations was 5,795 due to missing data^bNumber of observations was 5,483 due to missing data^cNumber of observations for satisfaction with pay was 2,381 due to missing data^dNumber of observations was 253 due to missing data

Table 2

Linear Regression Models of Associations among Missed Nursing Care, Job Enjoyment, Nursing Characteristics, and Hospital Characteristics (n = 5,824 nurses)

	Job Enjoyment Coefficient (95% CI)	Job Enjoyment and Nursing Characteristics Coefficient (95% CI)	Job Enjoyment, Nursing, and Hospital Characteristics Coefficient (95% CI)
Missed Care	-.35 ** (-.39, -.31)	-.26 ** (-.30, -.23)	-.26 ** (-.29, -.22)
Nurse work environment		.36 ** (.32, .40)	.35 ** (.32, .38)
Acuity-adjusted patient load		-.04 (-.08, .00)	-.04 (-.08, .00)
BSN Education		-.04 (-.08, .01)	-.02 (-.07, .02)
Years on Unit		-.01 ** (-.01, -.00)	-.01 ** (-.01, -.00)
NICU level 3			-.02 (-.12, .07)
NICU level 4			-.22 ** (-.36, -.08)
NICU beds			.00 (-.05, .06)
Public Hospital			-.05 (-.18, .08)
For Profit Hospital			-.25 * (-.47, -.02)
Academic Medical Center			-.01 (-.11, .09)
Other Teaching Hospital			.10 * (.01, .18)

* Significant at < 0.05

** Significant at < 0.01

Table 3

Logistic Regression Models of Associations among Missed Nursing Care, Intention to Leave, Nursing Characteristics, and Hospital Characteristics (n = 5,824 nurses)

	Intention to Leave Odds Ratios (95% CI)	Intention to Leave and Nursing Characteristics Odds Ratios (95% CI)	Intention to Leave, Nursing Characteristics, and Hospital Characteristics Odds Ratios (95% CI)
Missed Care	1.46 ^{**} (1.37, 1.56)	1.31 ^{**} (1.22, 1.40)	1.29 ^{**} (1.21, 1.39)
Nurse work environment		.72 ^{**} (.64, .81)	.73 ^{**} (.66, .81)
Acuity-adjusted patient load		1.19 ^{**} (1.07, 1.33)	1.18 ^{**} (1.06, 1.32)
BSN Education		1.50 ^{**} (1.24, 1.81)	1.53 ^{**} (1.26, 1.85)
Years on Unit		.98 ^{**} (.97, .99)	.98 ^{**} (.98, .99)
Pay		.80 ^{**} (.73, .87)	.80 ^{**} (.73, .87)
NICU level 3			.84 (.63, 1.11)
NICU level 4			1.06 (.74, 1.50)
NICU beds			1.03 (.88, 1.21)
Public Hospital			.93 (.66, 1.32)
For Profit Hospital			1.45 [*] (1.02, 2.05)
Academic Medical Center			.90 (.69, 1.17)
Other Teaching Hospital			.86 (.68, 1.09)

* Significant at < 0.05

** Significant at < 0.01