

INVESTIGATING THE PERCEPTION OF NURSES IN NEONATAL INTENSIVE CARE UNITS OF TABRIZ UNIVERSITY OF MEDICAL SCIENCES REGARDING MISSED NURSING CARE, ITS REASONS, AND ITS RELATIONSHIP WITH JOB SATISFACTION, 2016

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ABSTRACT

Title of Study: Perception of nurses in neonatal intensive care units of Tabriz University of Medical Sciences regarding missed nursing care and its reasons

Introduction: Nurses have various roles in different contexts, the most important of which is care which may be partially or completely missed or delayed during a shift. The present study was conducted with the aim of determining the frequency of missed nursing care and its reasons from the viewpoint of nurses in the neonatal intensive care units of hospitals affiliated with Tabriz University of Medical Sciences.

Materials and Methods: In this descriptive-correlational study, all the nurses working in neonatal intensive care units of Al-Zahra, Children, and Taleghani Hospitals affiliated with Tabriz University of Medical Sciences with a minimum 6 months of work experience and a B.S. degree were surveyed. Data collection instruments included the Nurses' Primary Care on Each Shift Questionnaire and the MISSCARE Survey. The collected data were analyzed using SPSS 16.

Results: In this study, 63.83% of the 94 nurses surveyed reported that they had partially or completely missed some cares during the previous shift. Mean number of missed cares on a shift was 3.78, the most important missed nursing care was parent psychological care program, and the reason for this was the intensity of the mentioned task. In this study, no statistically significant difference was observed between mean number of missed nursing cares on a shift and the nurses' demographic variables and employment history ($p > 0.05$).

Conclusion: Nurses in neonatal intensive care units miss part of their duties or carry them out with delay on each shift. The most important reasons for missing or incomplete delivery of nursing care in neonatal intensive care units include the heavy work load, intensity of nursing, shortage of human force, and difficulty of using electronic devices for recording the care.

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Introduction

The birth of an infant is a phenomenal event, followed by many emotional and physical changes in the mother and infant. Most infants admitted to neonatal intensive care units (NICUs) require intensive care because of prematurity, low birth weight (LBW), and treatment problems. Although technology is necessary for the health and growth of infants in NICUs, an efficient medical team is the foundation of these units. Infants, especially those admitted to these units, have a critical condition, are more sensitive to the environment, and cannot take care of themselves. Therefore, the quality of neonatal care and the factors affecting it have been emphasized [1]. The significance of nursing care as an important and influential mechanism affecting the outcome of illness is ever increasing [2-4].

Nurses have various duties in the hospitals, e.g. care, communication, training, counseling, management, and research, the most important of which is care [5]. One of the dimensions of the process of administering nursing care is missed nursing care. Missed nursing care or necessary nursing care are cares which are delivered partially or with delay on a shift [6].

In different studies, nurses reported various reasons for missing necessary care, including unpredictable changes in the required care, patients' emergency conditions, heavy workload, and shortage of nursing personnel [7-8]. In addition, conditions of the hospital; personal characteristics of nurses; number of nurses; patient-nurse ratio; hours of patient care; nurses' age, level of education, work experience, and access to resources required for delivering nursing care have been mentioned as factors related to missed nursing care [9-11].

No study had been conducted in Iran on missed nursing care or different opinions regarding the reasons for missed nursing care, including nurse-related reasons and the nature and conditions of their job. Moreover, missed nursing care and the quality of delivered care are important in the outcome of neonatal admittance. Therefore, the present study was conducted with the aim of determining the frequency and reasons of missed nursing care from the viewpoint of nurses working in NICUs of Al-Zahra, Children, and Taleghani Hospitals affiliated with Tabriz University of Medical Sciences.

Materials and Methods:

In this descriptive-analytical study, all the nurses working in NICUs of Al-Zahra, Children, and Taleghani Hospitals affiliated with Tabriz University of Medical Sciences who had at least a B.S. degree and a minimum 6 months of working experience in these units were investigated in terms of the frequency of missed nursing cares on a shift and their reasons. In order to evaluate missed nursing care, we utilized the MISSCARE Survey. This questionnaire consisted of two parts. The first part included 35 necessary nursing cares in hospital units whose delivery or non-delivery was marked with three options (0- I delivered it completely; 1 - I delivered it partially or did not deliver it; 2 - It was not part of my duties on this shift) by the nurses in a self-report manner.

The second part comprised questions on the reasons for missing nursing care, including 24 questions with 3 options of "significant reason", "moderate or minor reason", and "no reason for missing the care", completed by nurses in a self-report manner. The number and percentage of each option is reported.

This questionnaire was developed by Kalisch and Williams (2009) [12].

The content and face validity of this questionnaire was examined by surveying 10 professors in the Nursing Faculty and neonatologists, and corrections were made. The validity of the first and second parts of the questionnaire was 87% and 86%, respectively.

The demographic characteristics of nurses was evaluated using a researcher-made questionnaire which comprised questions on age, type of shift, number of shifts, number of patients on each shift, university degree, and work experience.

The collected data were analyzed using SPSS 16. The Mann-Whitney U test, Kruskal-Wallis test, and independent-samples t-test were employed for data analysis, and $p < 0.05$ was considered significant.

Results:

We surveyed 96 nurses from among whom 94 completed all the questionnaires and returned them. All nurses were women. Mean and standard deviation (SD) of the participants' age was 33.41 ± 5.21 years. Mean and SD of the number of missed nursing cares on a shift was 3.78 ± 4.66 cares. The percentages of nurses who had completely delivered all the cares for a shift, completely missed the cares, and partially delivered the cares equaled 36.17%, 7.45%, and 56.38%, respectively (Table 1).

The most important missed nursing cares were: psychological support (34.41%), suggested oral feeding on time when the infant was ready (30.9%), primary cares and evaluating them according to the protocol (28.7%), developmentally supportive care, nest care, skin-to-skin care (27.7%), and critical tests and vital signs proportionate to the age of the infant based on the protocol (23%).

The most important reasons for missing nursing care were: intensity (95%), unexpected increase in the number of patients (92%), unpreparedness of parents for training (91%), difficulty of using electronic devices for recoding the cares (90.7%), lack of access to the required medications (90.6%), lack of necessity for delivering the care (89.5%), and shortage of auxiliary and clerical personnel (83.2%).

In this study, based on logistic regression results, no statistically significant difference was observed between nurses who had missed nursing cares on a shift and those who had not in terms of the variables of age, marital status, major, working experience in NICUs, university degree, time of shift, number of beds, number of overtime, number of shifts per month, and number of infants receiving care ($p < 0.05$) (Table 2).

Discussion:

In this study, 63.83% of the surveyed nurses declared that they had partially delivered or completely missed one or more cares on a shift. Mean number of missed nursing cares on a shift was 3.78.

In a qualitative study by Tubbs-Cooley et al. (2014), the percentage of missed nursing cares in an NICU on a shift was reported to be 9.5-17.5%. The least and most missed nursing cares were administering medications to the high-risk group according to the protocol of the healthcare center and re-evaluation of infants based on the special conditions of the last care or shift, respectively [13].

In a study by Tubbs-Cooley et al. (2012) on nurses working in intensive care units in France, the most important reasons for missing nursing cares and the decrease in the quality of work were reported to be the heavy daily workload of nurses in the units [14].

In a descriptive cross-sectional study by Ball et al., mean missed nursing activities on a shift was 7.8 cares, the most important reason for missing the cares was heavy work load, and the major missed cares were holding sessions for talking to and comforting the patients (66%) and educating them (52%). Furthermore, a statistically significant relationship was found between the number of missed cares and heavy workload [2].

In a multicenter study by Kalisch et al. (2011), the most important reason for missing necessary nursing cares were: workload, limitation of resources, level of inter-shift communications, worker absenteeism, and personnel inadequacy in understanding the conditions. Also, a statistically significant correlation was reported between workload and the number of missed cares. Moreover, the difference in the quality of hospitals was partially due to missed necessary cares [8].

In a cross-sectional study by Kalisch et al. (2011), mean number of missed nursing cares was 1.55 and the most important missed cares were changing the position of infants (76%), attending the care conference (66%), and oral care (66%). Results indicated a statistically significant correlation between the nurses' number of work hours in a day per patient and missed nursing cares [15].

In a study by Blackman et al. (2014) on Australian hospitals, the most important factors affecting missed necessary nursing cares were the nature of shift work, allocation of nursing resources, healthcare professional relationships, workload, prediction of workload, nurses' satisfaction with their present job, and their desire for remaining in their jobs [16].

The frequency ratio of missed nursing cares in the present study were more than those in Tubbs-Cooley and less than those in Ball et al. Mean number of missed nursing cares on a shift in the present study were more than those in Kalisch and less than those in Ball et al. These differences may be partly because of the difference in conducting the studies, methods of data collection, or the nurses' honesty in completing the questionnaires. However, another part of these differences is real and caused by the difference in the quality and grades of hospitals and meeting the standards of nurse-patient ratio. Another reason for the small number of missed nursing cares in some hospitals, as those in Turkey reported by Kalisch et al. [8], is the presence of patients' companions and relatives in the hospital who cooperate in certain primary cares such as oral feeding, bathing and going to the toilet, and moving, and also decrease the number of missed nursing cares. Another important point in missed nursing cares is that vital cares which are directly linked to patient health are rarely missed. If, for some reason, nurses cannot carry out all their duties, they delay cares which do not pose a threat to patients' life. Nevertheless, based on the findings of numerous studies, the most important missed nursing cares include inadequate care for patients, lack of attention to primary physical cares, and poor preparation of patients or their companions for discharge [2-3, 7, 10, 14, 17].

In most studies, the most important reasons for missing nursing cares were: heavy workload, limitation in resources, weak inter-shift communications, worker absenteeism, personnel inadequacy in understanding the conditions, nature of shift work, and nurses' job satisfaction. All the studies on missed nursing cares were conducted in European or developed countries (USA, France, Turkey, etc.) with relatively standard hospitals. We could not find any studies in developing countries to make a comparison.

Conclusion:

Nurses in NICUs miss part of their duties or carry them out with delay on each shift. The most important reasons for missing or incomplete delivery of nursing care in NICUs include the heavy work load, intensity of nursing, shortage of human force, and difficulty of using electronic devices for recording the care. Although job satisfaction score was average among the studied nurses, low job satisfaction did not affect missing nursing cares.

Results of some studies have revealed a correlation between nurse staffing and the quality of patient outcome [18, 19] and a significant relationship between the quality of nursing care and the number of missed nursing cares [20].

The frequency of missed primary cares and the factors affecting them vary in different hospitals and different times. Consequently, conducting periodic epidemiological studies in each hospital and identifying the frequency and reasons of missed necessary nursing cares can improve the quality of hospital services and decrease the unfavorable outcomes of admittance.

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Tables and Figures

Table 1: Frequency distribution of missed nursing cares on a shift

Status of care delivery on a shift	Number (Percentage)
Completely delivered	34 (35.17)
Completely missed	7 (7.45)
Partially delivered	53 (56.38)
Total	94 (100)

Table 2: Logistic regression results for variables predicting missed nursing care

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	EXP(B)
Age (years)	-0.05	0.20	0.00	1.00	0.98	0.99
Marital status (Married - single)	-1.75	1.46	1.44	1.00	0.23	0.17
Major (Nursing - M.S. of Neonatal Care)	-0.01	26858.96	0.00	1.00	1.00	0.99
University Degree (B.S., M.S., PhD)	17.97	23569.83	0.00	1.00	1.00	-
Employment Status (Full, Temporary, Contractual, Recruitment)	0.13	0.74	0.03	1.00	0.86	1.14
Work experience (years)	0.09	0.26	0.12	1.00	0.72	1.1
Work experience in NICU (years)	-0.31	0.19	2.68	1.00	0.10	0.73
Overtime (hours)	0.00	0.04	0.01	1.00	0.94	1.35
Shifts per month (number)	0.09	0.09	1.01	1.00	0.31	0.001
Sick Infants (number)	-0.23	0.70	0.11	1.00	0.74	1.39
Under-care infants	0.30	0.63	0.23	1.00	0.63	1.04

(number)						
Type of shift (Morning, evening, night, rotational)	-7.54	6320.32	0.00	1.00	1.00	1.11
Beds (number)	0.33	0.23	2.06	1.00	0.15	1.49
Level (1, 2, 3)	0.05	0.70	0.00	1.00	0.95	1.05
Recording system (Paper, electronic, mixed)	0.08	0.58	0.02	1.00	0.89	1.11
Type of care (Case method, Functional, Mixed)	-10.38	6439.47	0.00	1.00	1.00	0.000
Constant	37.05	34325.07	0.00	1.00	1.00	

Reference

1. Sy Tomas, Tram S, O'hara L. Relation of employee and manager emotional intelligence to job satisfaction and performance. *J Vocat Behav.* 2006;63(4):461-73.
2. Ball JE, Murrells T, Rafferty AM, Morrow E, Griffiths P. 'Care left undone'during nursing shifts: associations with workload and perceived quality of care. *BMJ quality & safety.*2013. doi:10.1136/bmjqs-2012-001767.
3. Cho S-H, Yun S-C. Bed-to-nurse ratios, provision of basic nursing care, and in-hospital and 30-day mortality among acute stroke patients admitted to an intensive care unit: Cross-sectional analysis of survey and administrative data. *International journal of nursing studies.* 2009;46(8):1092-1101.
4. Kalisch BJ, Lee KH. Missed nursing care: Magnet versus non-Magnet hospitals. *Nursing outlook.* 2012;60(5):e32-e9.
5. Aghdami M, Alhani F. Obstacles to implementation of professional pediatric nursing job description in the pediatric hospitals. 2011;23(67): 69-79.
6. Kalisch BJ, Landstrom GL, Hinshaw AS. Missed nursing care: a concept analysis. *Journal of advanced nursing.* 2009;65(7): 1509-1517.
7. Gravlin G, Bittner NP. Nurses' and nursing assistants' reports of missed care and delegation. *Journal of Nursing Administration.*2010; 40(7/8): 329-335.
8. Kalisch BJ, Tschannen D, Lee H, Friese CR. Hospital variation in missed nursing care. *American Journal of Medical Quality.* 2011:1062860610395929
9. Thomas-Hawkins C, Flynn L, Clarke SP. Relationships between registered nurse staffing, processes of nursing care, and nurse-reported patient outcomes in chronic hemodialysis units. *Nephrology nursing journal: journal of the American Nephrology Nurses' Association.* 2008;35(2):123.
10. Al-Kandari F, Thomas D. Factors contributing to nursing task incompleteness as perceived by nurses working in Kuwait general hospitals. *Journal of clinical nursing.* 2009;18(24):3430-40.
11. Castner J, Wu Y-WB, Dean-Baar S. Multi-level model of missed nursing care in the context of hospital merger. *Western journal of nursing research.* 2014:0193945914535670.
12. Kalisch BJ, Williams RA. Development and psychometric testing of a tool to measure missed nursing care. *Journal of Nursing Administration.* 2009;39(5):211-9.
13. Tubbs-Cooley HL, Pickler RH, Younger JB, Mark BA. A descriptive study of nurse-reported missed care in neonatalintensive care units. *Journal of advanced nursing.* 2015;71(4):813-24.
14. Tubbs-Cooley HL, Pickler RH, Mark BA, Carle AC. A research protocol for testing relationships between nurse workload, missed nursing care and neonatal outcomes: the neonatal nursing care quality study. *Journal of advanced nursing.* 2015;71(3):632-41.

15. Beatrice J Kalisch, Dana Tschannen, Kyung Hee Lee. Do staffing levels predict missed nursing care? . *International Journal for Quality in Health Care*. 2011; 23(3): 302–308
16. Blackman I, Henderson J, Willis E, Hamilton P, Toffoli L, Verrall C, et al. Factors influencing why nursing care is missed. *Journal of clinical nursing*. 2015;24(1-2):47-56.
17. Lucero R.J., Lake E.T. & Aiken L.H. (2009) Variations in nursing care quality across hospitals. *Journal of Advanced Nursing* 65(11), 2299–2310. doi:10.1111/j.1365-2648.2009.05090.x.
18. Hugonnet, S., Chevreton, J., & Pittet, D. The effect of workload on infection risk in critically ill patients. *Critical Care Medicine* 2007; 35: 76-81.
19. Stone, P.W., Mooney-Kane, C., Larson, E.L., Horan, T., Glance, L.G., Zwanziger, J., & Dick, A.W. Nurse working conditions and patient safety outcomes. *Medical Care*, 2007;45: 571-578.
21. Sochalski J. Is more better?: the relationship between nurse staffing and the quality of nursing care in hospitals. *Med Care*. Feb; 2004 42(2 Suppl):II67–73. [PubMed: 14734944]