

**PATIENT REPORTS OF NURSING CARE AND THE
RELATIONSHIP TO NURSE STAFFING**

by

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DEDICATION

To my husband Rory, Mom, and Dad

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ABSTRACT

Missed nursing care is defined as any aspect of required patient care that is omitted or delayed. Previous studies of missed nursing care, as reported by nursing staff, have found evidence that inpatient unit nurse staffing levels affect the amount of missed nursing care. This study evaluated patient reports of missed nursing care (measured as missed communication, missed basic care, and missed timeliness) and relationships between missed nursing care and three inpatient unit nurse staffing measures: Registered nurse hours of care per patient day (RNHPPD), all nursing staff hours of care per patient day (NHPPD), and registered nurse (RN) skill mix. Additionally, patient related and unit related characteristics contributing to reports of missed nursing care were examined as covariates. **METHODS:** A secondary data analysis was conducted using survey data from 729 adult patients from 20 inpatient units in 2 acute care hospitals in the Midwest region of the United States, as well as hospital administrative data. **RESULTS:** Patients reported mouth care and mobilization to be the elements of nursing care most frequently omitted. The nurse staffing variables were correlated with missed timeliness but not missed communication or basic care. The timeliness of nursing care was found to be negatively associated with RNHPPD ($r = -.14, p = <.001$), NHPPD ($r = -.09, p = .015$), and RN Skill Mix ($r = -.13, p = .0004$). That is, as each of the staffing variable levels increased, reports of missed timeliness decreased. Hierarchical linear modeling found RN Skill Mix to be a predictor of patient reported missed timeliness ($p = .01$). Additionally, patients who were younger, had poorer health, and who had a history of a psychiatric

diagnosis reported more missed timeliness. The nurse staffing variables were not found to be predictors of patient reported missed communication or basic care. **CONCLUSIONS:** The results of this study suggest that the level of nurse staffing impacts the timeliness of nursing care. Having higher ratios of registered nurses to other nursing staff was particularly important, resulting in patients receiving their care more quickly.

CHAPTER 1

INTRODUCTION

This study explores patient reports of missed nursing care and the relationships between inpatient unit nurse staffing variables and patient reported missed nursing care. Additionally, unit and patient characteristics contributing to patient reported missed care are studied. This introductory chapter presents the background of the research problem this study addresses. Additionally, the purpose and specific aims of the study are provided along with the conceptual framework, definitions of key terms, and research questions.

Background and Problem

Following the Institute of Medicine's (IOM) report, *To Err is Human: Building a Safe Health System* (IOM, 2000), patient safety issues became the focus of great concern. Patient safety has been defined as freedom from accidental injury (IOM, 2000). While not all clinical errors cause injury, injury can result from error. The Institute of Medicine has defined error as:

1. the failure of a planned action to be completed as intended or
2. use of a wrong plan to achieve an aim (Reason, 1990).

Omissions of nursing care are often unrecognized errors affecting patient safety. These errors can pose serious risks such as failure to rescue, inadequate nutritional intake,

and decreased mobility (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Rasmussen et al., 2004; Zisberg et al., 2011). Errors of *omission* have been described as failure to do the right thing, whereas errors of *commission* are doing something wrong. Both types of errors can potentially result in undesirable outcomes (AHRQ, 2012). Until recently, errors of omission (such as failure to reposition patients as scheduled or provide mouth care) have received little attention in the patient safety and quality literature, which has mainly focused on errors of commission (such as administering the wrong medication to a patient). According to the Agency for Healthcare Research and Quality (AHRQ), errors of omission are more difficult to recognize and likely represent a larger problem than errors of commission (AHRQ, 2012).

The concept of “Missed Nursing Care,” was developed by Dr. Beatrice Kalisch and aimed at addressing nursing care omissions in the process of delivering nursing care. Kalisch, Landstrom, and Hinshaw (2009) defined missed nursing care as any aspect of required patient care that is omitted or delayed. Missed nursing care was operationalized using the Missed Nursing Care Survey (*MISSCARE Survey*). This tool measures missed nursing care and the reasons for missed nursing care as reported by nursing staff (Kalisch & Williams, 2009).

Two studies involving fourteen hospitals found overall missed nursing care prevalence that ranged from 37% to 77% (Kalisch, Landstrom, & Williams, 2009; Kalisch, Tschannen, Lee, & Friese, 2011). In a study of three hospitals with a total sample of 459 nurses, the six most frequently reported types of missed nursing care were the ambulation of patients (84%), assessment of the effectiveness of medications (83%), patient turning every two hours (82%), mouth care (82%), patient teaching (80%), and

the timeliness of medication administration (80%) (Kalisch, Landstrom, & Williams, 2009). Gravlin and Bittner (2010) obtained similar results in a study of nurse and nursing assistant reports of missed nursing care.

Building on the three-hospital study, Kalisch, Tschannen, Lee, and Friese (2011) conducted a study of ten hospitals and found ambulation of patients to be missed 76.1% of the time, attendance of interdisciplinary care conferences 65.5% of the time, mouth care 64.5% of the time, administration of medications within thirty minutes of their scheduled time 59.8% of the time, and turning of patients every two hours 59.4% of the time. Missed nursing care has the potential to diminish patient safety and the quality of care received by patients and foster poor patient outcomes, as was illustrated by Aiken, Clarke, Sloane, Sochalski, and Silber (2002) in their study which linked inadequate basic care of patients to failure to rescue patients.

The concept of missed nursing care can be helpful in interpreting the relationship between nurse staffing variables and patient outcomes as the mechanism by which staffing influences outcomes. Significant relationships have been found between nurse staffing and missed nursing care. In a study of 4,288 nursing staff members on 110 patient care units, higher levels of registered nurse hours per patient day (RNHPPD) were found to be correlated with lower levels of missed nursing care as reported by nursing staff ($r = -0.27, p < 0.01$) (Kalisch, Tschannen, & Lee, 2011). Kalisch, Tschannen, and Lee (2011) also found a negative correlation between missed nursing care and nursing hours per patient day (NHPPD) ($r = -0.32, p < 0.01$) with higher NHPPD associated with lower levels of missed nursing care. NHPPD was also found to be a significant predictor of missed nursing care ($\beta = -0.45, p = 0.002$). Missed nursing care has also been found to

mediate the relationship between nursing hours per patient day and inpatient fall rates, a patient outcome (Kalisch, Tschannen, & Lee, 2011).

The above findings provide evidence that inpatient unit nurse staffing affects the amount of missed nursing care as reported by nursing staff. However we do not know whether this relationship holds true using patient reports of missed nursing care. Building on the missed care research, a qualitative study of patient reports of missed nursing care was conducted (Kalisch, McLaughlin, & Dabney, 2012). The responses revealed that patients and/or their family members demonstrated having the ability to fully or partially report on whether and how often they received specific elements of nursing care including ambulation, bathing, discharge planning, explanation of the nursing care plan, hand washing, medication administration, mouth care, and response to call lights. Based on the findings from this qualitative study, a quantitative survey of patient reports of nursing care was developed. The present study seeks to extend this research by further exploring patient reports of missed nursing care and examining their relationship to unit nurse staffing levels and type.

Purpose

There is growing evidence of missed nursing care in inpatient units (Kalisch, Landstrom, & Williams, 2009; Kalisch, Tschannen, Lee, & Friese, 2011; Gravlin & Bittner, 2010). Previous studies of missed nursing care and the relationship between nurse staffing and missed nursing care were based on the reports from nurses and nursing assistants. This study proposes to examine the frequency and types of missed nursing

care, as reported by hospitalized adults on acute care units, and the relationships among inpatient unit nurse staffing levels and patient reports of missed nursing care.

Conceptual Framework

The Patient Reports of Missed Nursing Care Model will be used to guide this study (see Figure 1). This model is informed by Donabedian's structure, process, and outcome framework and adapted from Kalisch's Missed Nursing Care Model (Donabedian, 1988; Kalisch & Williams, 2009).

According to Donabedian (1988), the information from which one can draw inferences about quality can be classified in three categories: structure, process, and outcome. Structure focuses on the relatively static characteristics of the individuals providing care and the setting in which care is delivered. The adequacy of staffing is a structure characteristic. Evaluation of process focuses on what is taking place during the delivery of care, and outcomes capture whether health care goals are achieved (Wyszewianski, 2009).

When measuring quality in terms of structure, the assumption is that having good structure provides a greater likelihood of having good process and good outcomes. Having bad structure removes the capacity to produce quality care. If the structure is good and the process of care is determined to be efficacious, then there is a higher probability of having good outcomes. When evaluating whether a bad outcome is related to poor quality one must examine the intervening process to determine whether poor practice was the culprit. If bad outcomes are related to bad process, then there is poor quality of care. Bad structure implies bad process, which implies bad outcomes.

However, good structure in and of itself does not tell us about the quality of care because it could lead to either good or bad process, and the good or bad process could also have good or bad outcomes. Examination of the efficacy of the care process is required to determine if quality care was delivered (Wyszewianski, 2009).

According to the Patient Reports of Missed Nursing Care Model, structure variables are the characteristics of the individuals involved in the provision of care in terms of their numbers and classification (i.e., registered nurse, licensed practical or vocational nurse, nursing assistant). The process variables are patient reports of nursing care received related to nurse communication, basic care, and timeliness, and the outcome variables are patient reported adverse events.