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Missed nursing care: a concept analysis

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Abstract

Title. Missed nursing care: a concept analysis.

Aim. This paper is a report of the analysis of the concept of missed nursing care.

Background. According to patient safety literature, missed nursing care is an error of omission. This concept has been conspicuously absent in quality and patient safety literature, with individual aspects of nursing care left undone given only occasional mention.

Method. An 8-step method of concept analysis – select concept, determine purpose, identify uses, define attributes, identify model case, describe related and contrary cases, identify antecedents and consequences and define empirical referents – was used to examine the concept of missed nursing care. The sources for the analysis were identified by systematic searches of the World Wide Web, MEDLINE, CINAHL and reference lists of related journal articles with a timeline of 1970 to April 2008.

Findings. Missed nursing care, conceptualized within the Missed Nursing Care Model, is defined as any aspect of required patient care that is omitted (either in part or in whole) or delayed. Various attribute categories reported by nurses in acute care settings contribute to missed nursing care: (1) antecedents that catalyse the need for a decision about priorities; (2) elements of the nursing process and (3) internal perceptions and values of the nurse. Multiple elements in the nursing environment and internal to nurses influence whether needed nursing care is provided.

Conclusion. Missed care as conceptualized within the Missed Care Model is a universal phenomenon. The concept is expected to occur across all cultures and countries, thus being international in scope.

Keywords: concept analysis, errors of omission, missed care, nursing, patient safety, unmet nursing needs

Introduction

For more than a decade, a great deal has been published related to nursing environment, nursing workload and patient outcomes. Researchers have examined the number and characteristics of the nurses caring for patient populations (Blegan *et al.* 1998, Blegan & Vaughn 1998, Sochalski 2004; Dimick 2001; Aiken *et al.* 2002, Lankshear *et al.* 2005, Needleman *et al.* 2002), the number of hours of care per day provided by nurses (Blegan *et al.* 1998, Blegan & Vaughn 1998, Sochalski 2004, Dimick 2001; Aiken *et al.* 2002, Lankshear *et al.* 2005, Needleman *et al.* 2002), workload

(Sochalski 2004), communication patterns and complexity of the environment (Montgomery 2007) and the acuity and care demands of patients needing care (Dimick 2001; Lankshear *et al.* 2005). These factors have been correlated with patient outcomes such as falls (Sochalski 2004), medication errors (Blegan & Vaughn 1998, Blegan *et al.* 1998, Sochalski 2004), decubiti (Lichtig *et al.* 1999), nosocomial infections (Needleman *et al.* 2002), upper gastrointestinal bleeding (Needleman *et al.* 2002), 'failure to rescue' incidents (Aiken *et al.* 2005), pulmonary complications (Dimick *et al.* 2001), increased hospital costs (Needleman *et al.* 2002) and mortality (Aiken *et al.* 2005; Needleman *et al.* 2002). While these studies may differ in method, topic and outcome, they all point towards a premise that the environment within which nurses work, the patient care demands and the staffing available to provide that care all have an impact on patient outcomes.

Recognizing that the nursing work environment has an impact on outcomes for patients, the Institute of Medicine (IOM) published in their 'Quality Chasm Series', a set of recommendations for transforming the work environment of nurses (Institute of Medicine 2004). This report focuses on the current state of knowledge relative to the linkages to safety and errors in nursing care and cites many factors that affect the work of nursing: increased severity of patient illness, shorter hospital stays, frequently redesigned work, declining numbers of available nursing staff, frequent patient turnover, high staff turnover, long work hours, rapid increases in new knowledge and technology and increased complexity of the nursing work environment. The IOM report largely addresses the potential impact of these factors on errors in care, but it does not address the choices that face nurses when they must deal with all these factors in their environment and yet make decisions about how they will do their best to provide care to their patients.

In the midst of multiple demands and inadequate resources, what choices do nurses make to provide the best care possible? There are times when they find it impossible to fulfill all nursing care requirements or choose not to complete all aspects of care for a variety of reasons. In these circumstances, nurses may abbreviate the care, may delay the care (e.g. give a medication due at 09:00–11:30 hours.), or may simply omit the care (e.g. not developing the patient's plan of care).

Background

Definition of missed nursing care

Missed nursing care is a newly defined concept and refers to any aspect of required patient care that is omitted (either in part or in whole) or delayed. Missed nursing care is an error of omission. The patient safety movement has identified two major types of errors – acts of commission (such as marking the incorrect eye for surgery) and acts of omission (such as not ambulating the patient). Acts of commission have received considerable attention in the literature, while acts of omission have been essentially unaddressed.

The phenomenon of missed nursing care was first identified by Kalisch (2006) in a qualitative study of missed nursing care. Twenty-five focus groups were conducted with nurses, nursing assistants and unit secretaries in two hospitals. Nine elements of regularly missed nursing care (ambulation, turning, delayed or missed feedings, patient teaching, discharge planning, emotional support, hygiene, intake and output documentation and surveillance) and seven themes relative to the reasons nursing staff gave for missing this care (too few staff, poor use of existing staff resources, time required for the nursing intervention, poor teamwork, ineffective delegation, habit and denial) were delineated.

Based on this work, it became clear that further delineation of the concept of missed care is needed to clarify what missed care refers to and how it differs from other related concepts. Despite the fact that missed nursing care occurs, it has not been defined or identified as an important nursing phenomenon to understand and study. While Sochalski (2004) identified in her study of the quality of nursing care in hospitals that nursing care was sometimes left 'unfinished', the authors found no other studies that identified the regular omission of various elements of nursing care.

Significance of the concept

Because missed care appears to be a fundamental concept in nursing, it is interesting to speculate as to why it has been addressed so little. In working with nurses in a variety of settings, we have found that they are fully aware that care is missed and can readily identify it. However, unless asked, they do not openly acknowledge or discuss it. In other words, it is an 'undiscussable' in most patient care units. This may be due to the fact that nurses feel guilty ('No matter what, I should be able to do what is best for the patient'), powerless to correct the situation ('This is the way it is, so it is useless to think about it. Nothing can be done about it') or fearful ('I have to chart that I or the nursing assistant did things even if it isn't true because I will be called on the carpet') (Kalisch 2006). Attree (2007) identified fear of repercussions, retribution, blame for raising concerns and perceptions that the concerns would not be dealt with as reasons for nurses not reporting problems in meeting standards of practice. Nursing staff in the missed care study by Kalisch (2006) expressed these same beliefs.

The belief that guilt, powerlessness and fear are behind the lack of open acknowledgment of missed care is further validated by the reaction of nurses when the concept is introduced to them either in focus group discussions, personal interactions or formal presentations of study data on missed care. Virtually all nurses react to missed care with a great deal of emotion (e.g. anger, sadness, frustration, worry). Most describe lowered self-esteem because they are not providing quality nursing care, while a few communicate a 'who cares' attitude ('Why care, no one else does?'). The vast majority also express pleasure and relief that missed care is 'out in the open', referring to it as 'a secret' (Kalisch 2006). Not acknowledging missed care is similar to the tradition of hiding patient errors and near misses, which the current patient safety movement is trying to correct. Talking about missed care 'out loud' in focus groups appears to have a temporary therapeutic effect because nurses bottle it up inside themselves and expend a great deal of energy covering it over (Kalisch 2006).

Because missed care is not acknowledged, it has not been analysed or studied. Consequently, we have little understanding of what is actually occurring at the point of care delivery. For example, how do nurses make decisions on a day-to-day basis as to what care to give, what to delay or what to omit? A concept that is of such vital importance and relevance to nurses (and patients) calls for an accepted theoretical definition which will allow scientists to communicate about the concept and study its attributes empirically, as well as its impact on patient quality and safety and nurses' work environments.

The study

Aim

The aim of the study was to analyse the concept of missed nursing care.

Method

Walker and Avant's (2005) method of concept analysis was used. These authors streamlined Wilson's (1963) method and introduced an 8-step process: select concept, determine purpose, identify uses, define attributes, identify model case, describe contrary cases, identify antecedents and consequences and define empirical referents.

Data sources

The meaning of missed nursing care was grounded in the research literature of nursing and healthcare. Searches were carried out using the World Wide Web, MEDLINE, CINAHL and reference lists of related journal articles with a timeline of 1970 to April 2008. We used the terms of 'nursing', 'nurse', 'care', 'omitted', 'omission', 'missed', 'unmet', 'inadequate', 'unfinished', 'incomplete' and 'avoided'. These terms evolved from the focus group discussions with staff members in the previous study by Kalisch (2006). Any references published in English or translated into English were included.

Findings

Select concept and determine purpose

The first two steps of the concept analysis are described above. Step 1 entails the selection of a concept of interest, and step 2 focuses on determination of the aims of the analysis by answering the question, 'Why am I doing this analysis?'

Identify uses of concept

Step 3 of Walker and Avant's method involved an analysis of the uses of the concept of missed care. A review of the literature uncovered very little information. No other definitions of the concept of missed nursing care were discovered. In terms of empirical work, Sochalski (2004, p. II-67) identified 'unfinished' care as 'nursing tasks that are left undone'.

Sochalski (2004) quantified the number of nursing tasks not completed from a nurse's previous shift, but the only study focusing directly on missed nursing care is the qualitative investigation into aspects of missed care and reasons for missed care described above (Kalisch 2006). There are studies of the impact of specific aspects of care that are omitted. For example, failure to ambulate and turn patients, particularly older patients, has been linked to new-onset pneumonia, increased length of stay, readmission, increased pain and discomfort, decline in performance of activities of daily living, new institutionalization and death (Brown *et al.* 2004). Failure to adequately teach patients and prepare them for discharge has been shown to have negative outcomes (Spehar *et al.* 2005). In addition, patients have been found to be less well-nourished on discharge from hospital than when they were admitted, indicating that needed nutritional intervention does not always occur (McWhirter & Pennington 1994). However, none of these studies address the broader concept of missed nursing care.

Defining attributes

Step 4 involves the determination of the defining attributes, and is the 'heart of the concept analysis' (Walker & Avant

2005, p. 68). Numerous attributes, or defining characteristics, were identified in the aforementioned qualitative study, which provided rich data about missed nursing care and the attributes that contribute to this concept (Kalisch 2006). Figure 1 shows the Missed Nursing Care Model which illustrates the various attribute categories reported by nurses in acute care settings that contribute to missed nursing care: (1) antecedents within the care environment that facilitate or inhibit the practice of nursing; (2) elements of the nursing process; (3) internal perceptions and decision processes; (4) care that is provided as planned and care that is delayed or omitted and (4) patient outcomes. Each of these will be described below.

Antecedents

Antecedents of missed nursing care exist within the context of the care environment, are external to nurses and create a need for them to decide what care will be provided (Stage 1: Missed Nursing Care Model). They include: (1) labour resources available to provide patient care; (2) material resources accessible to assist in patient care activities and (3) various relationship and communication factors that have an impact on nurses' ability to provide care.

Labour resources address the number and type of nurse and assistive caregivers (competency level, education and experience of staff, etc.) available in relation to the demands for nursing care by patients. Medications, supplies and functioning equipment required for nursing care are material resources, the availability of which influences nurses' ability to provide care. The third antecedent is teamwork and communication among patient unit team members, between nurses and physicians and between nursing staff and ancillary personnel. The quality of the communication can lead to missed care. For example, if nursing assistive personnel neglect to inform the team leader or charge nurse that they have been unable to complete specific elements of care, the nurse leading the team will not provide back-up from other team members. Another example is that, if nursing staff do not inform other team members when they are overwhelmed or team members ignore the situation of one another, the care will be missed.

When any of these antecedents is present, nurses must proceed to examine the care that they have determined is needed. When the labour and material resources available to provide care conflict with the amount or timing of care to be provided, nurses must make choices or prioritize their work.

Nursing process

Nursing is the protection, promotion and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response and advocacy in the care of individuals, families, communities and populations (American Nurses Association, 2003). This conceptual analysis of missed nursing care suggests that the actions taken under these major functions caused by specific environmental antecedents, are incorporated in the nursing process and are influenced by certain internal processes of the nurse. In this analysis of missed nursing care, aspects of nursing care are based on the nursing process, which refers to a 'systematic, client-centered method for structuring the delivery of nursing care' (Kozier *et al.* 2004, p. 243). It is a deliberate, organized and scientific approach requiring thought, knowledge and judgement.

The five phases of the nursing process are assessment, diagnosis, planning, implementation and evaluation (Kozier *et al.* 2004). Within each step of the nursing process, there are nursing actions that are appropriate for a given patient.

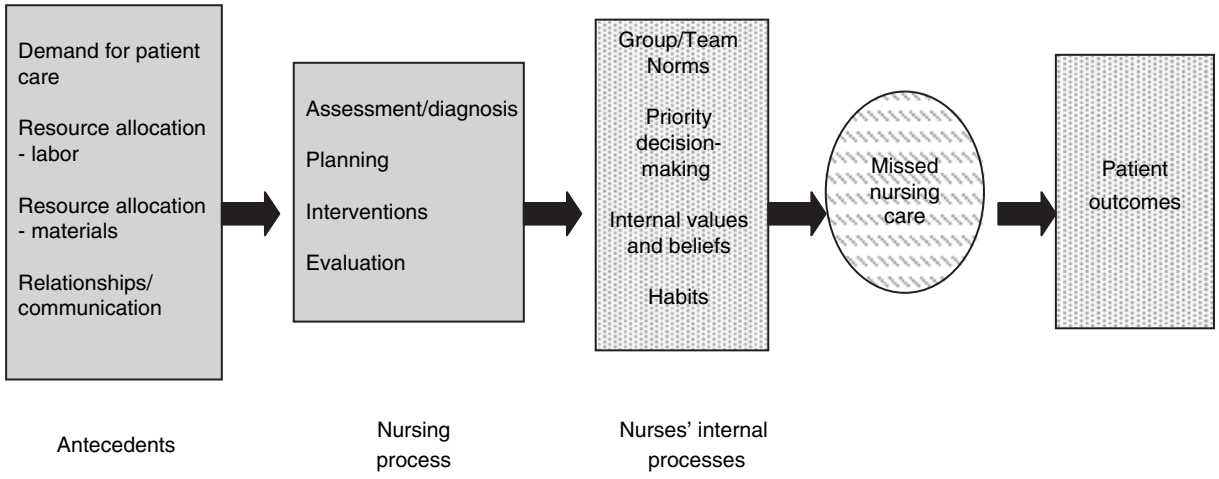

Figure 1 Missed Nursing Care Model.

While the nursing process has been criticized by some nursing scholars as positivistic and not representative of the simultaneous integrative nature of nursing, it does provide a common structure for nursing care.

Nurses' internal processes

The choice to complete, delay or omit items of patient care is influenced by four factors internal to a nurse, namely (1) team norms; (2) decision-making processes; (3) internal values and beliefs and (4) habits.

The first internal factor refers to the *norms of the team* within which individuals operate. Every team has a set of norms concerning acceptable behaviour by its members. Some norms will be strictly adhered to, while others will allow for a range of behaviour. Team or group norms are usually implicit, and new members learn these accepted behaviours relatively quickly. If nurses perceive that other nurses often do not, for example, ambulate patients as ordered or conduct discharge planning or if they are told by senior members of the team that they can skip selected care, for example, new members tend to conform to this. In many instances, not to do so would result in social isolation by the team (Homans 1992). Tetlock (1985) asserted that it is critical to remember that people make decisions as individuals, but they make those decisions within the social system to which they belong. When people fail to behave in accepted ways, they experience censure. Individuals want to avoid censure, seek approval and respect and enhance self-image.

The second internal factor is *priority decision-making*. When nurses determine the elements of care within the nursing process that are needed for patients, they do so based on their assessments of the patients' conditions and needs. Depending on the patients' conditions, nurses may include an item of care in the plan for the day, but also make judgements about how important that particular element of care is for a patient's healing process in the light of other demands on their time. Some planned elements of care may be determined to be lesser priorities for patients' healing. When antecedents demand that a priority decision be made, those elements of care are the ones nurses are most likely to delay or omit. This process is part of an ongoing cycle of assessment-intervention-assessment. Nurses are confronted with environments that change on a minute-by-minute basis with patients entering the unit, leaving the unit, patient conditions worsening and physicians and other providers appearing on the unit (Carayon & Gurses 2005, Gurses & Carayon 2007, Montgomery 2007).

The third internal factor is the *values, attitudes and beliefs* nurses hold about their roles and responsibilities. Built upon a foundation of internalized cultural values and norms, people's beliefs, feelings and expectations about the self play a fundamental role in shaping their behaviour (Stein 1995). In particular, individual nurses have internal values and beliefs about their roles as nurses, and these influence their behaviour. Even with antecedents forcing them to make decisions about what care will be provided or omitted, personal values and beliefs may compel nurses to provide certain aspects of care, while deciding to omit others. In this way, values, attitudes and beliefs have an effect on which parts of patient care they will provide, delay or omit. When behaviour is at odds with values, whether it is because nurses cannot or choose not to complete nursing care at the standard level, this often leads to feelings of regret and guilt. Larrick (1993) argued that regret threatens the self-image because regret makes people question their ability to make good decisions. Cognitive dissonance theory (Steele 1988), which supports this assertion, tells us that people will feel uncomfortable after making a decision, particularly if the choice they made had some potential undesirable effects and the alternative choice (not selected) had potential desirable effects.

Habits, the fourth internal factor, affect the ultimate decision by nurses to delay or omit care (Aarts *et al.* 1998). Once care is missed, and there is no apparent detrimental effect on a patient or no one notices, it is easier to decide to delay or omit that element of care the next time. We suggest that these habits may become so deeply embedded that nurses no longer make conscious decisions to omit the care. The care will just be omitted patient after patient unless the omission is noticed and addressed in some way.

Model cases

Step 5 of the concept analysis involves identification of model cases, which are examples of the concept that demonstrate all its attributes (Walker & Avant 2005). Two model cases for missed care have been developed as follows.

Model Case 1: Sudden increased in demand for care

A medical–surgical nurse is assigned four patients. Three have medications ordered for 09:00 hours. The other patient has an extensive dressing change, also due at 09:00 hours. Thinking ahead, the nurse thinks that she can complete this care between 08:30 and 09:30 hours. Then the Emergency Department (ED) calls the unit, informing them that they need to admit three patients as soon as possible, one of whom will be assigned to her. Suddenly, a nursing assistant runs up to her and says that one of her patients has an elevated blood pressure of 210/170. The

nurse immediately calls the physician, who says that the patient must be transferred to the intensive care unit. For the next hour, the nurse is engaged in paperwork and activities necessary to get the patient moved, including leaving her unit to transfer the patient. The ED patient assigned to her arrives on the unit at the same time that she gets back from the transfer. She receives the report from the ED nurse and then admits the patient. It is now 11:45 hours. She has delayed the dressing change and missed the 09:00 hours medications because most of them were due 4 hourly and it is time for the next dose.

Model Case 2: Team norms have an impact on a new graduate

A new graduate nurse joins the staff of an orthopaedic unit. Her preceptor is a very experienced nurse. Today is the first day on which she is being assigned a typical load – five patients, all of whom are at least 24 hours postoperative. She sees that they all need to be ambulated three times per day, and two of these episodes should fall within her 12-hour shift. She reviews each patient and concludes that each ambulation will take at least 20–30 minutes. This means that she will need to spend at least 3·5–4 hours on this activity alone. She approaches her preceptor and expresses concern about being able to complete all of her work. The experienced nurse says, 'Listen, you can't get everything done and ambulation takes so long. I say give your meds and treatments and ambulate the patient once and let it go at that'. She is surprised, but on the next shift she works she feels less stressed because she realizes that other nurses do not always ambulate the patients either.

Contrary cases

Step 6 involves the identification of other cases, which may include borderline, related, contrary, invented or illegitimate cases. In this analysis, we have included a contrary case. Contrary cases are clear examples of the opposite of the concept being analysed (Walker & Avant 2005). The following is a contrary case as it illustrates an error of commission rather than an error of omission or missed nursing care.

Contrary Case – Medication error

Pharmacy sends up an incorrect medication. The bottle and label are very similar to the correct medication. The nurse administers the drug in error. The error is due to systems and process problems. The hospital did not safeguard the nurse against unwittingly giving the wrong medication.

Identify antecedents and consequences

Step 7 of Avant and Walker's model involves the identification of antecedents and consequences of the concept. Antecedents are those events or incidents that must occur prior to the occurrence of the concept (Walker & Avant 2005). In the Missed Nursing Care Model, antecedents are occurrences that lead a nurse to determine that specific aspects of care will be provided and other care will not be completed. These antecedents are also key attributes of the model and have been above.

Consequences are those events or incidents that are the outcomes of the occurrence of the concept (Walker & Avant 2005). The consequences of missed care are far-reaching in terms of patient outcomes. If the missed care, for example, is ambulation, a patient may be discharged from the hospital in a debilitated condition and may be required to have weeks of physical therapy. Not turning a patient may result in skin breakdown and pressure ulcer formation. The absence of patient teaching may lead to complications and readmission. Mouth care missed with ventilated patients may lead to ventilator-associated pneumonia. Not bathing a patient could lead to not detecting a skin breakdown at an early stage (Kalisch 2006).

Define empirical referents

The 8th and final step is to determine the empirical referents for the defining attributes. Empirical referents are classes or categories of actual phenomena that, by their presence, demonstrate the existence of the concept (Walker & Avant 2005). As is true in other cases of non-abstract concepts, the defining attributes of Missed Nursing Care and the empirical referents are identical.

Missed care can be studied using a variety of methodologies. A preliminary quantitative tool to study staff perceptions of missed care – The MISSCARE Survey – has been developed and tested, with reliable and validity results (Kalisch & Williams in press). Additional studies are needed to validate the psychometric properties of this tool in a variety of settings and countries.

Data collected using the MISSCARE Survey can be correlated with staffing variables such as skill mix and hours per patient day; nurse variables such as educational level, satisfaction with nursing and current position, delegation ability of the nurse, turnover and vacancy rates, satisfaction with nursing, intent to leave or stay in the profession, the level of teamwork; clinical outcomes such as length of stay, fall rates, prevalence of pressure ulcers, infections, pain level, medication errors and disease-

What is already known about this topic

- Needed nursing care is sometimes omitted in everyday practice.
- There are both errors of commission and omission.
- Considerable attention has been paid to errors of commission, but little to errors of omission.

What this paper adds

- A definition of the concept of missed nursing care as an error of omission and the Missed Nursing Care Model demonstrating the concept's antecedents and consequences.
- Antecedents to missed nursing care are labour resources, material resources and communication/teamwork, which interact with the nursing process, and are filtered by the nurse's internal processes.
- The consequences of missed nursing care present threats to patient safety, and should be given consideration in policy development.

Implications for practice and/or policy

- Missed nursing care is a universal phenomenon that could threaten patient safety across all countries and cultures.
- The concept definition and initial Model for Missed Nursing Care can be used to develop/test nursing interventions for counteracting the negative outcomes of such omissions.
- Policies for dealing with missed care and its broader health and economic consequences need to be developed.

prevention indicators such as smoking cessation, pneumococcal vaccination rates and diabetic care.

Discussion

Study limitation

The Missed Nursing Care Model was developed based on the existing literature, the qualitative study by Kalisch (2006) and the results of the concept analysis process addressed in this paper. Thus, it was based on limited research and now requires further study and delineation.

Implications for theory, practice and policy

The Missed Nursing Care Model is a middle-range explanatory theory. The theory contains four antecedents which lead to how the nursing process is carried out, influence individual nurses' internal processes that guide which nursing care is missed, completed or delayed and ultimately lead to patient outcomes. Each of the concepts in this model can be measured and is expected to explain missed nursing care and thus patient outcomes. Testing of the Missed Nursing Care Model has major implications for the generation of a new middle-range theory explaining missed care and how to counteract such errors of omission. The MISSCARE Survey been administered in six hospitals of varying sizes and types in the United States of America (USA) and one hospital in Turkey. The Turkey study involved a translation and back translation of the tool and psychometric testing of it. The next steps in the programme of study involve correlating results of the MISSCARE Survey with actual staffing levels, patient outcomes and nurse turnover, and the development of interventions to decrease missed care.

There are three implications for practice of the concept of missed nursing care and its explanatory model. First, missed care has been documented to influence patient outcomes negatively; for example, failure to ambulate and turn patients has been linked to new-onset delirium (Karmel & Iqbal 2003), pneumonia (Mundy & Leet 2003), increased length of stay and delayed discharge (Munin 1998, Karmel & Iqbal 2003, Mundy & Leet 2003, Whitney & Parkman 2004), increased pain and discomfort (Price & Fowlow 1994) and physical disability (Yohannes & Connolly 2003). Studies to date (Kalisch 2006, Kalisch *et al.* 2009) suggest that the volume of missed care is underestimated, and that the consequences to patients could be greater than currently understood. Secondly, important practice implications include the need to develop and test nursing interventions for counteracting the negative patient outcomes of missed care. Thirdly, the development of The MISSCARE Survey has implications for constructing major databases for the profession, such as with the USA-based National Database of Nurse Quality Indicators. The MISSCARE Survey could be a critical new measure for such data sets. Being able periodically to obtain data on missed care as well as having the ability to follow long-term trends for the improvement of such patterns provides important patient safety information.

The policy implications of investigating the concept of missed care are numerous, based on the predicted relationship to patient outcomes. With the advent of the Centers for

Medicare and Medicaid Services policy in the USA, which will not reimburse healthcare providers for complications contracted in hospitals, negative patient conditions developed due to missed care could cause sizeable economic losses to provider organizations.

Conclusion

Missed care as conceptualized within the Missed Care Model is a universal phenomenon and is generalizable to multiple clinical situations. Patient safety is central to the practice of nursing, and is influenced by errors of commission and errors of omission. Missed care needs to be examined within a theoretical context, studied systematically in multiple cultural contexts and openly recognized as a universal factor in patient safety. The consequences of missed nursing care present threats to patient safety, and should be given consideration in state and national policy development globally.

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Conflicts of interest

No conflict of interest has been declared by the authors.

Author contributions

BJK and GLL were responsible for the study conception and design, the data collection, the data analysis, and the drafting of the manuscript. BJK, GLL and ASH made critical revisions to the paper for important intellectual content. BJK provided administrative, technical or material support and was also responsible for supervising the study.

References

Aarts H., Verplanken B. & Knippenberg A.V. (1998) Predicting behavior from actions in the past: repeated decision making or a matter of habit? *Journal of Applied Social Psychology* **28**(15), 1355–1374.

Aiken L.H., Clarke S.P., Sloane D.M. & Sochalski J. (2002) Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association* **288**, 1987–1993.

Aiken L. (2005) Improving quality through nursing. In *Policy challenges in modern health care* (Mechanic D., Roget L., & Colby D., eds), Rutgers University Press, pp. 177–188.

American Nurses Association (2003) *Nursing's Social Policy Statement: Second Edition*. Washington, DC, Nursebooks.org.

Attree M. (2007) Factors influencing nurses' decisions to raise concerns about nursing care quality. *Journal of Nursing Management* **15**, 392–402.

Blegan M.A. & Vaughn T. (1998) A multi-site study of nurse staffing and patient occurrences. *Nursing Economics* **16**, 196–203.

Blegan M.A., Goode C.J. & Reed L. (1998) Nurse staffing and patient outcomes. *Nursing Research* **47**, 43–50.

Brown C.J., Friedkin R.J. & Inouye S.K. (2004) Prevalence and outcomes of low mobility in hospitalized older patients. *Journal of the American Geriatric Society* **52**(8), 1263–1270.

Carayon P. & Gurses A.P. (2005) A human factors engineering conceptual framework of nursing workload and patient safety in intensive care units. *Intensive and Critical Care Nursing* **21**(5), 284–301.

Dimick J.B., Swobada S.M., Pronovost P.J. & Lipsett P.A. (2001) Effect of nurse-to-patient ratios in the intensive care unit on pulmonary complications and resource use after hepatectomy. *American Journal of Critical Care* **10**, 376–382.

Gurses A.P. & Carayon P. (2007) Performance obstacles of intensive care nurses. *Nursing Research* **56**(3), 185–194.

Homans G.C. (1992) *The Human Group*. Transaction Publishers, New York, NY.

Institute of Medicine (2004) *Keeping Patients Safe: Transforming the Work Environment of Nurses*. National Academy Press, Washington, DC.

Kalisch B.J. (2006) Missed nursing care: a qualitative study. *Journal of Nursing Care Quality* **21**(4), 306–313.

Kalisch B.J. & Williams R. (2009) The development and psychometric testing of a tool to measure missed nursing care. *Journal of Nursing Administration* **39**(5), 5–10.

Kalisch B.J., Landstrom G.L. & Williams R. (2009) Missed nursing care: errors of omission. *Nursing Outlook* **57**(1), 3–9.

Karmel H.K. & Iqbal M.A. (2003) Time to ambulation after hip fracture surgery: relation to hospitalization outcomes. *Journal of Gerontology, Series A-Biological Sciences and Medical Sciences*. **58**(11), 42–45.

Kozier B. (2004) Unit 4: The nursing process. In *Fundamentals of Nursing* (ed.), Pearson Prentice Hall, Upper Saddle River, NJ.

Lankshear A.J., Sheldon T.A. & Maynard A. (2005) Nurse staffing and healthcare outcomes: a systematic review of the international research evidence. *Advanced Nursing Science* **28**, 163–174.

Larrick R.P. (1993) Motivational factors in decision theories: the role of self-protection. *Psychological Bulletin* **113**(3), 440–450.

Lichtig L.K., Knauf R.A. & Milholland D.K. (1999) Some impacts of nursing on acute care hospital outcomes. *Journal of Nursing Administration* **29**(2), 25–33.

McWhirter J.P. & Pennington C.R. (1994) Incidence and recognition of malnutrition in hospitals. *British Medical Journal* **308**, 945–948.

Montgomery V.L. (2007) Effect of fatigue, workload, and environment on patient safety in the pediatric intensive care unit. *Pediatric Critical Care Medicine* **8**(Suppl. 2), S11–S16.

Mundy L.M. & Leet T.L. (2003) Early mobilization of patients hospitalized with community-acquired pneumonia. *Chest* **124**(3), 883–889.

Munin M.C. (1998) Early inpatient rehabilitation after elective hip and knee arthroplasty. *Journal of the American Medical Association* **279**, 847–852.

Needleman J., Buerhaus P., Mattke S. & Stewart M. (2002) Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine* **346**, 1715–1722.

Price P. & Fowlow B. (1994) Research-based practice: early ambulation for PTCA patients. *Canadian Journal of Cardiovascular Nursing*. **5**(1), 23–25.

Sochalski J. (2004) Is more better? The relationship between nurse staffing and quality of nursing care in hospitals. *Medical Care* **42**, II-67–II-73.

Spehar A.M., Campbell R.R., Cherrie C., Palacios P., Scott D., Baker J.L., Bjornstad B. & Wolfson J. (2005) *Seamless Care: Safe Patient Transitions from Hospital to Home. Advances in Patient Safety: From Research to Implementation*, **Vol. 1**. AHRQ Publication No. 050021 (1). Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from: http://www.ahrq.gov/qual/advances/.

Steele C.M. (1988) The psychology of self-affirmation: sustaining the integrity of the self. *Advances in Experimental Social Psychology* **21**, 261–302.

Stein K.F. (1995) Schema model of the self-concept. *Image* **27**(3), 187–193.

Tetlock P.E. (1985) Accountability: the neglected social context of judgment and choice. *Research in Organizational Behavior* **7**, 297–332.

Walker L.O. & Avant K.C. (2005) *Strategies for Theory Construction in Nursing*. Pearson Prentice Hall, Upper Saddle River, NJ.

Whitney J.A. & Parkman S. (2004) The effects of early postoperative physical activity on tissue oxygen and wound healing. *Biological Research in Nursing* **6**(2), 79–89.

Wilson J. (1963) *Thinking with Concepts*. Cambridge University Press, New York, NY.

Yohannes A.M. & Connolly M.J. (2003) Early mobilization with walking aids following hospital admission with acute exacerbation of chronic obstructive pulmonary disease. *Clinical Rehabilitation* **17**(5), 465–471.

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