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Association between the Presence of Clinical Nurse Specialists and Open Visitation Policy
in US Intensive Care Units

by

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THESIS

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Dedication and Acknowledgement

Many thanks to DorAnne Donesky and Elizabeth Scruth for being very patient mentors.

Many thanks to my family for always being there for me,

even though we have 16 hours of time difference.

Also, thanks to my best buddy, Matt Speciale, for sharing his positive energy every day.

Abstract

Background: Current evidence shows that an open visitation policy can benefit patients and families during ICU stays. Therefore, an unrestricted visitation policy in ICU has been proposed as part of patient-centered care. **Purpose:** the purpose of this secondary analysis is to explore the likelihood of an ICU with a CNS having an open visitation policy when compared to an ICU without a CNS. **Design:** A survey was conducted between 2008 and 2009, describing the ICU visitation practices in more than 600 hospitals across the United States. A limited number of ICUs has open visitation policies in place, and the clinical nurse specialist (CNS) was identified as one of the clinical leadership roles available within the units. **Methods:** Chi-square analysis was performed, with a p -value of <0.05 considered statistically significant. **Results:** No significant correlation was found between a CNS being present in the ICU and open visitation policy (OR 0.93, $p = 0.83$), regardless of hospital geographic regions. **Conclusion:** Although CNS presence was not associated with open visitation in this study, given the strong evidence to support the benefits to patients and the CNS role as change agent in the hospital system, liberalization of visitation in ICU is an area that could benefit from CNS advocacy.

Keywords: *intensive care units, open visitation, clinical nurse specialist*

Table of Contents

Introduction	1
Open Visitation in Intensive Care Unit	1
Clinical Nurse Specialist Role in Clinical Practice	3
Significance of Problem	4
Methods	4
Research Question	4
Hypothesis	5
Data Collection and Analysis	5
Results	6
Discussion	7
Conclusion	10
References	12
List of Appendices	
Appendix A. Characteristics of Hospitals	16
Appendix B. Comparison between Visitation Policies in ICU	17
Appendix C. Comparison of CNS Presence and Open Visitation Policy between Four Regions	18

Introduction

Open Visitation in the Intensive Care Unit

Open visitation is a new concept in the intensive care unit (ICU) setting. It is defined as zero restriction on visitation in the ICU setting, where family and friends can visit their loved ones in the ICU at any time. In addition, open visitation allows visitors to come to the ICU with no restriction on duration, number of visitors, age, and whether or not visitors are immediate family members (Liu, Read, Scruth, & Cheng, 2013).

As the ICU is a very complex environment with advanced technologies, patients and families experience physiological stress during their stay (Sharma, Maben, Kotian, & Ganaraja, 2014). Jackson, Mitchell, and Hopkins (2015) showed that this physiological stress was likely to persist post discharge up to two years. However, traditionally family and friends have been restricted from visiting their loved ones in the ICU, which limits their ability to provide psychological support to ICU patients. Clinicians, especially nurses and physicians, are concerned that an open visitation policy impedes patient care, causes undue stress to the patient physiologically, and fatigues family and friends (Berti, Ferdinande, & Moons, 2007; Berwick & Kotagal, 2004; Giannini, 2007). Increased risk of infection, increased workload, constraints on the efficiency of the ICU, and patient's privacy violations are additional reasons for medical-nursing teams' concerns about an open visitation policy (da Silva Ramos, Fumis, Azevedo, & Schettino, 2013; Giannini, 2007).

Despite the negative perspectives of some providers, the implementation of open visitation can be manageable with minimal disruption of patient care (Garrouste-Orgeas et al., 2008). The American Association of Critical-Care Nurses (AACN), American College of Critical Care Medicine (ACCM), and Society of Critical Care Medicine (SCCM) have published

guidelines and recommendations supporting open visitation policies (American Association of Critical Care Nurses, 2016; Davidson et al., 2007). A revision of the latter guidelines from SCCM on patient and family centered care, including family visiting recommendations, is being submitted for publication (Personal communication from an SCCM Task Force member, 2016). Limited studies explore current visitation policies in American ICUs. Liu and colleagues (2013) surveyed the ICU visitation policies of 606 US and found that the majority of ICUs (90%) had a restricted visitation policy; two thirds (62%) of ICUs had more than three restrictions, particularly related to visiting hours and number or age of the visitors. Most ICUs (95%) permitted some exceptions to the policies when necessary, such as additional visitors and visiting hours (Liu et al., 2013).

Research evidence highlights the need to change the practice of restricted visiting policies in ICUs. In a single-center study, it was found that an unrestricted visiting policy was associated with a lower anxiety score and lower increase of thyroid stimulating hormone, which was believed to reduce cardiovascular complications (Fumagalli et al., 2006). This was a pilot study where a randomized sequence of 2-months of restricted and unrestricted visiting policies was applied for two years in a 6-bed cardiology ICU. In addition, no correlation was found between open visitation and ICU-acquired infections, despite the findings of a lower bacterial contamination rate in the restricted ICU (Fumagalli et al., 2006). This study, however, defined unrestricted visitation policy as unlimited total number and duration of visitors, however, only one visitor at a time was accepted. Another observational study conducted in an eight-bed medical-surgical ICU also showed that transitioning practice from restricted to partially restricted visitation policy was not associated with an increased rate of ICU-acquired infections (Malacarne, Corini, & Petri, 2011).

Recent studies in other countries also examined the impact of liberalized visitation in the ICU for families and relatives. A qualitative study from four ICUs in Switzerland found that patients and relatives perceived family presence positively as they were directly involved in treatment explanations to the patients (Di Bernardo et al., 2015). This study also presented data on family presence and quality of care, however, it did not provide clear measurement of the quality of care. In Brazil, lower rates of depression and anxiety symptoms were found among families in an open ICU (Fumis, Ranzani, Faria, & Schettino, 2015). The same study also found a correlation between open visitation policy and families' satisfaction (Fumis et al., 2015). These findings contradicted those of a cross-sectional observational study among Saudi families, where there was no difference between open versus restricted visitation policy on family satisfaction (Baharoon et al., 2014).

Clinical Nurse Specialist Role in Clinical Practice

Clinical nurse specialists (CNSs) are Advanced Practice Registered Nurses (APRN), known for their role in implementing evidence-based practice and leadership. CNS practice influences three spheres: patient, nurse/nursing practice, and the organization/system (The National CNS Competency Task Force, 2010). Three substantive areas defines CNS practice: 1) manage care of complex and/or vulnerable patients; 2) support and educate interdisciplinary staff; and 3) facilitate change and innovation within healthcare system" (Lewandowski & Adamle, 2009). More recently, the National Association of Clinical Nurse Specialists (NACNS) explored the various duties of CNSs, mostly employed in hospital settings (National Association of Clinical Nurse Specialists, 2015). One common competency shared by CNSs from this survey was their extensive knowledge and skills in translating research into practice through literature review and research-based projects, known as evidence-based practice (EBP). Several studies

and clinical project reports have reflected the competencies of the CNS, specifically in quality improvement and policy changes at the system-wide level (Bahr, Senica, Gingras, & Ryan, 2010; Custer, 2010; Stupnycky, Smolarek, Reeves, McKeith, & Magnan, 2014). The ability to critically appraise current evidence is imperative to guide CNSs in developing clinical recommendations and practice/policy change. A CNS demonstrates knowledge and skills in clinical leadership roles in various ways, including clinical practice evaluation and standardized care promotion and implementation (Babine, Honess, Wierman, & Hallen, 2014; Bahr et al., 2010; Custer, 2010). All of these activities show that CNSs are experts in integrating evidence into clinical practice through policy development or changes.

Significance of Problem

Since CNSs demonstrate skills and competencies in EBP and improving practice change through their influence in policy change or development within institutions, we wondered whether the availability of a CNS within the critical care setting would increase the likelihood of the unit to have an open visitation policy. In their study, Liu and colleagues (2013) collected data on whether each unit had a CNS. However, they did not explore whether the presence of a CNS in the unit impacted open visitation policies. We conducted a secondary analysis of the data to explore the likelihood of an ICU with a CNS having an open visitation policy when compared to an ICU without a CNS.

Methods

Research Question

The research question for this study was: is it more common for an ICU with a CNS to have an open visitation policy?

Hypothesis

As we believe that CNSs influence clinical practice, we hypothesize that there will be a statistically significant association between an ICU having a CNS on staff and having an open visitation policy.

Data Collection and Analysis

All data are from the previous study conducted by Liu and colleagues (2013). In the study, hospitals throughout the US were grouped into categories of community hospitals, federal government hospitals, and university-affiliated hospitals. Hospitals were identified based on the 2007 American Hospital Association registry for the community and federal hospitals, and 2008 Association of American Medical Colleges website for US medical schools and teaching hospitals. The hospitals also were grouped based on geographic locations: Midwest, Northeast, South and West.

Telephone surveys were conducted by three pre-trained persons specifically for the purpose of the original investigation (Liu et al., 2013). The survey assessed visitation policy practices within the hospital and critical care units. Interviews were administered to either the ICU leadership, nurse managers, or educators who were familiar with the visitation policies. Collected data included number of beds within the hospital and ICU, presence or absence of ICU leadership (medical director or clinical nurse specialist), and visitation policies. The latter characteristics were identified based on visiting hours, visiting duration, number and age of visitors and limitation to the immediate family of the patient. The survey also asked if there were any exceptions allowed to the visitation policies in the ICUs.

In the present study, we described categorical variables (open visitation, ICU CNS present, and hospital location/region) with frequencies and percentages for each level of the

variable. To determine if the CNS presence in the ICU was related to open visitation policy, a chi-square analysis was performed. A p-value of < 0.05 was considered statistically significant. We also examined location/region to determine if it was related to the open visitation policy. Data analysis was conducted using IBM SPSS version 22 (IBM Corporation, New York, USA). Since the federal definition of human research did not apply to this study, institutional review board (IRB) review was not obtained from either University of California, San Francisco (UCSF) Human Research Protection Program & IRB or Kaiser Permanente Northern California IRB.

Results

Of the 606 hospitals that completed the primary survey, 450 hospitals' survey data were available for analysis. The other hospitals either were closed, merged with another system, or did not have an ICU. Of 450 hospitals, 347 hospital data was valid for statistical analysis to answer our research question. The other 103 hospitals' data were missing due to no response to visitation policy. From 347 hospitals, the majority of the hospitals were community hospitals ($n = 291$, 83.9%) and 154 hospitals (44.4%) were from the South region. Characteristics of the survey data are presented in table 1.

Analysis of 347 hospitals showed that 47 hospitals (13.5%) had open visitation policies in their ICUs. One hundred eight hospitals (31%) had a CNS present in their ICUs, and 14 of these hospitals (13%) implemented open visitation policies. The remaining 239 hospitals (69%) did not have a CNS in their ICUs and 33 (13.8%) of them had open visitation (Figure 1). We found that there was no correlation between having a CNS present in an ICU and open visitation policies (OR 0.930, $p = 0.83$). We also analyzed whether region/location of the hospital was related to having a CNS and open visitation policies in ICUs. No regions had statistically a significant association between CNS presence and open ICU visitation policy (South OR 1.09, p

= 0.85; Northeast OR 0.83, $p = 0.83$; Midwest OR 2.58, $p = 0.30$; West OR 0.30, $p = 0.25$).

Figure 2 compares the CNS presence and open visitation policies across all four regions.

Discussion

This study was the first to examine the association between CNS presence and visitation policies in American ICUs. Contrary to our proposed hypothesis, the presence of a CNS did not influence ICU visitation policies, regardless of geographic regions. From the initial study (Liu et al., 2013), 10% of ICUs in the survey had open visitation policies, mostly in hospitals with <150 beds. Open visitation has been strongly recommended for implementation in the past decade (American Association of Critical Care Nurses, 2016; Davidson et al., 2007; The Joint Commission, 2011). President Obama has proposed a less restrictive visitation policy, especially in hospitals that participate in Medicare or Medicaid (The White House, 2010). As evidence shows many benefits when open visitation is in place, professional organizations recommend more liberal visitation policies not only in the hospital setting, but also specifically in critical care settings (American Association of Critical Care Nurses, 2016; Davidson et al., 2007; The Joint Commission, 2011). Although liberal visitation policies have received increased awareness and discussion, no new data on the topic has been collected since Liu and colleagues (2013) data was collected in 2008.

CNSs possess core competencies that include system leadership and research competencies, including translation, use of evidence, and evaluation of clinical practice (The National CNS Competency Task Force, 2010). As an APRN, a CNS plays an important role in directing/leading EBP in the clinical setting. A CNS provides his/her insights and clinical expertise to the administrative leadership of the healthcare system in redefining and/or changing institutional policies. Therefore, we believed that having a CNS on staff in a critical

care/intensive care unit would make it more likely for the unit to have an open visitation policy. Our findings, however, showed no relationship between having a CNS present within the ICU and the unit having an open visitation policy.

A CNS incorporates broad roles and competencies. In the clinical setting, the CNS role varies between institutions and the scope of practice of a CNS is often quite different from state to state. Some states recognize the CNS as an APRN with full scope of practice including prescriptive authority while others require collaboration, residency, or do not provide the CNS with advanced practice authority (National Association of Clinical Nurse Specialists, 2010). In addition, job descriptions for a CNS might focus only on clinical research or projects in one hospital, while in another hospital a CNS is mainly responsible for clinical education. Furthermore, many CNSs have larger responsibilities that cover more than one unit (National Association of Clinical Nurse Specialists, 2015).

As evidence shows that open visitation is an important practice that needs to be adapted into the clinical setting (American Association of Critical Care Nurses, 2016; Davidson et al., 2007; The Joint Commission, 2011; The White House, 2010), the CNS plays a critical role in ensuring that institutions are aware of this issue. However, based on this study, the lack of a relationship between CNS presence and open visitation policies in ICU could be due to many factors. Cabana and colleagues (1999) categorized three major barriers to implementing EBP. The first barrier was knowledge, which demonstrated clinicians' lack of familiarity and awareness of information or available guidelines. The second barrier was attitude, where clinicians did not agree with the evidence, believed that the evidence was not feasible, or had various interpretations of guidelines which led to a lack of agreement between providers. Behavior was another barrier, which included complexity of the environment, feasibility of

current policy or guidelines, and lack of time and resources to help disseminate the evidence into practice (Cabana et al., 1999). Although Cabana and colleagues (1999) discussed this issue specifically in regard of physician's practice, it provides a general perspective of how complex the EBP implementation is in daily clinical practice.

A multicenter qualitative study that examined clinician adherence to guidelines in ICU (Sinuff, Cook, Giacomini, Heyland, & Dodek, 2007) also identified important barriers for EBP implementation. These barriers included high workload and responsibilities, severity, acuity, and complexity of patient illness, too many guidelines and complexity of the guidelines to follow, and inconsistency in adherence by intensivists (Sinuff et al., 2007). This study used a qualitative approach to explore the behavior of clinicians in regard to practice change when implementing EBP guidelines. In addition, this study included multidisciplinary clinicians (intensivists, physician directors, nurses, educators, managers, respiratory therapists [RT] and RT educators) in the samples. Thus, this study highlighted the complexity of practice change in the critical care environment, where multidisciplinary team work is needed the most.

A more recent descriptive survey conducted by Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan (2012) specifically examined EBP practice from the nursing perspective. They found that nurses identified resistance from colleagues, nurse leaders and managers as the major barriers to carrying out EBP. Furthermore, individual beliefs of nurses on EBP have been shown to impact the implementation of EBP in clinical practice (Wallen et al., 2010). In a quasi-experimental mixed method study, Wallen and colleagues (2010) also found that nurse' beliefs regarding implementation of EBP were improved if they had EBP mentors. Therefore, as an APRN, a CNS plays a significant role as a mentor in improving EBP culture by nurses, which in turn, should lead to a better EBP implementation.

In this present study, a CNS presence was not an indicator for having an open visitation policy in ICUs. Despite the fact that open visitation in ICUs has been recommended by many professional organizations (American Association of Critical Care Nurses, 2016; Davidson et al., 2007; The Joint Commission, 2011; The White House, 2010), few hospitals have changed their practice whether or not a CNS is employed in ICU. Practice change based on evidence is a complex process, as described above, and the CNS role is only one factor in changing closed visitation into more liberal visitation policies in the complex ICU system.

Study limitations should be acknowledged. The survey for this secondary analysis was conducted between 2008 and 2009. Thus, this study does not reflect the current visitation policies in the American ICUs. The survey also did not clearly address numbers of ICUs the CNS covered, whether it was one or more ICUs per one CNS. The definition of the CNS being 'present' in the ICU was also not clear and can be interpreted differently. In addition, definitions of open visitation and/or unrestricted visitation vary within the literature, and thus, may provide confusion to the readers.

Conclusion

A clinical nurse specialist is an advanced practice nurse whose roles impact the patient, nursing, and system/organization (The National CNS Competency Task Force, 2010). System leadership and practice change are some of the major competencies CNSs provide in the practice environment (Lewandowski & Adamle, 2009). CNSs are expected to lead clinical practice improvement by utilizing their advanced knowledge and skills. Visitation liberalization is an excellent example of an area where the CNS could lead change in current clinical practice. However, evidence from this study shows that this was not happening in 2008 - 2009. It is

important that CNSs collaborate with other professionals and leaders in improving patient outcomes and providing the best experience of care for patients and families.

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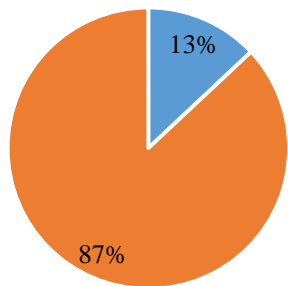
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doi:10.1111/j.1365-2648.2010.05442.x [doi]

Appendix A. Characteristics of hospitals

Characteristic	Frequency
Number of hospitals	450
Data for analysis	347
Missing data	103
Hospital type	
Community	291
Government/county	23
University	8
Other	25
Hospital location/region	
South	154
Northeast	53
Midwest	73
West	67
ICU available	347
ICU clinical nurse specialist present	108
Open visitation policies	47

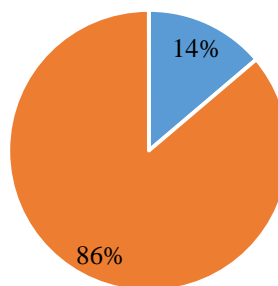
Appendix B. Comparison between visitation policies in ICU.

A. CNS Present



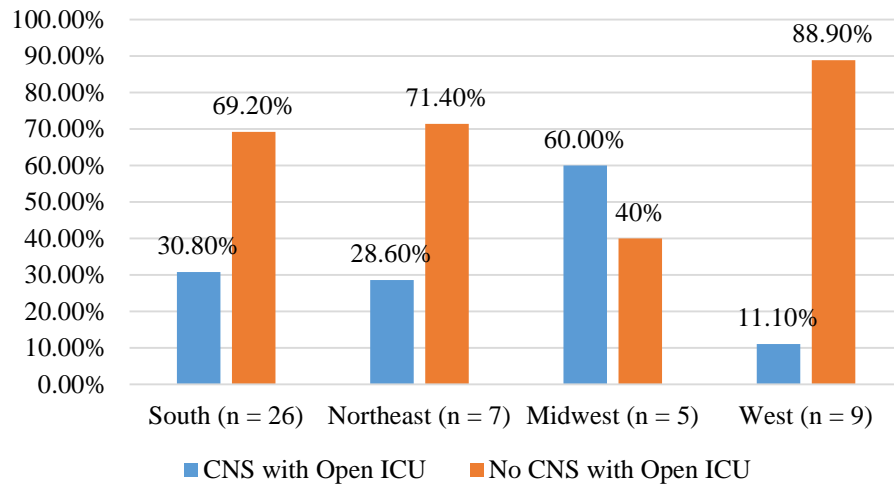
■ Open ICU ■ Closed ICU

B. CNS Not Present



■ Open ICU ■ Closed ICU

Appendix C. Comparison of CNS presence and open visitation policy between four regions.

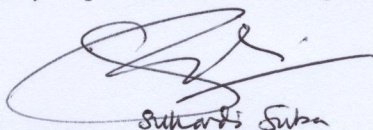


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