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The Challenge of Continuity of Care: Evolution of a Nursing Care Model in NICU

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ABSTRACT

The aim of the study is to improve the continuity of nursing care for NICU patients and families by development and implementation of a nursing care delivery model that demonstrates a decrease in the Continuity of Care Index (CCI*) by 25% within 6 months. Twenty-four nurse volunteers joined the "Continuity of Care Taskforce" and committed to working in a designated pilot area for 6 months or more to test the evolving model of care. Improvement in continuity of care was measured by number of nurses per infant then calculating the Consistency of Care Index (CCI) per infant during defined lengths of stay. The mean for non-pilot pods of randomly selected patients was significantly greater than the mean number of nurses per patient in the pilot pod ($P = .015$). The percent change in CCI mean of pre-data to post-pilot data revealed a linear decrease in nurses to patients with LOS of 45 days or less.

Continuity of care (COC) has been defined as fewer nurses per patient care experience. Little is known about the use of COC in neonatal and pediatric care. COC is significantly associated with decreased nurse-sensitive pediatric adverse events. Parents' perceptions of overall nursing COC are correlated to the number of nurses caring for an infant. Some authors have suggested this model of care delivery improves patient outcomes through relationship-based caregiving. Staff has increased their knowledge of patient/family needs by means of more frequent care opportunities.

Background

There is little research that addresses continuity in nursing care (CINC) and its impact on patient outcomes especially in pediatric and neonatal patients. Most of the research has been in adults and may bear no correlation with outcomes or family and staff satisfaction in neonatal or pediatric settings.

Parents have said they value their relationship with the bedside nurse as the most significant aspect contributing to a positive experience and satisfaction with their infants' care. Furthermore, parents have described nursing behaviors that promote relationship building through different nursing roles that provide the framework of the model of negotiated partnership[1] (see Fig. 1). Nursing actions from this model include: 1) cautious guidance, 2) perceptive engagement and 3) subtle presence (see Table 1). These actions are brought about by specific nursing roles of teacher, guardian, and facilitator. Nurse/parent relationships built through negotiated partnerships support parent involvement in the care of their infant(s). Random assignments of nurses may inhibit parents' development of trust with individual nurses and delay or block partnerships that support parent participation through negotiated partnership.

An examination of the relationship between CINC and patient outcomes in a pediatric surgical intensive care unit (PSICU) is one of the few studies found in pediatrics.[2] Continuity of care in this context was obtained by assigning fewer different nurses to each patient with the idea that repetitive assignment to the same patient will provide nurses more opportunities to build their knowledge of the patient and thereby achieve better outcomes through more appropriate and timely care. The measurement of CINC in this study was modified from an earlier version and in this research a lower CCI numerical value indicated less CINC (low continuity).[3] The calculation of CCI was determined as a ratio of the total number of different nurses assigned to a patient to the total number of nursing shifts for 7 days prior to the day data were collected.

Of 332 patients, the average CCI was 0.36 (less continuity) where the range is from 0 (low CINC) to 1 (high CINC). Patients with a high CINC experienced fewer nurse-sensitive adverse events ($P = .05$) and PSICU-acquired infections. A high CINC was also associated with more ventilator days ($P = .01$) and longer LOS ($P < .001$), unexpected outcomes with these investigators. There were limitations to this study in that secondary, historical data not collected specifically for this study's purpose was used and charge nurses determined assignments. If charge nurses felt that complex patients who were expected to have worse outcomes needed better continuity then the patient acuity could be a factor in how assignments were made. The charge nurses may have assigned fewer nursing staff to the sickest patients. More research is needed however; reducing error and infections alone may not be indicative of

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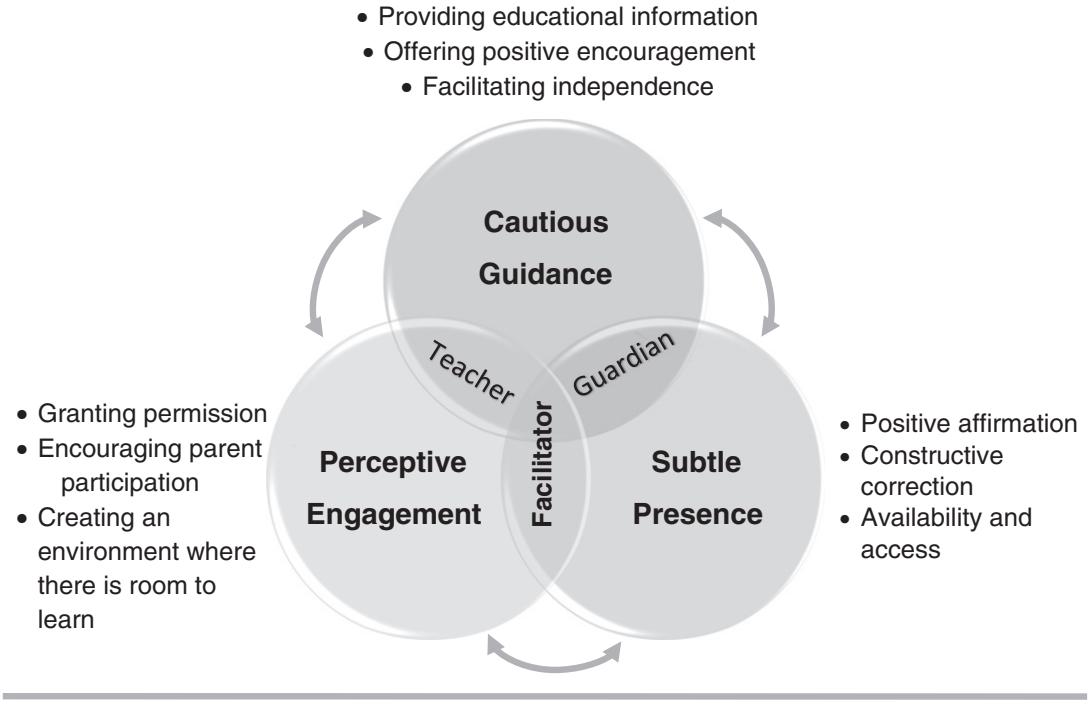

Fig. 1. The model of negotiated partnership.[1] Reprinted with permission: Reis, M. D., Rempel, G. R., Scott, S. D., Brady-Fryer, B. A., and Van Aerde, J., JOGNN, Wiley-Blackwell Publisher, 2010.

other important outcomes. Other potential outcomes related to the nurse–patient relationship, patient satisfaction and perceptions, or nurse retention, satisfaction, and knowledge sharing were not examined.

In a meta-synthesis of qualitative studies on continuity of care (COC), it was identified that patients perceive consistency of personnel on a regular basis as a requirement of COC.[4] Patients expressed that personal involvement of caregivers fostered COC. Other important elements of COC include fewer caregivers, communication between personnel and across care settings, accessibility, individualized-care, and a smooth, efficient discharge.

Knowing the patient is associated with having time with a patient and being present and mindful during the experience.[5] Practice settings may not support the nurse/patient or family relationship especially the available time commitment for sustained presence, continuity and consistency of care providers. Staffing difficulties may interfere with the dedicated time required by nurses to fulfill the expectations for COC.

The knowledge, skill, and attitude of nurses as well as repeated opportunities to care for the same patients are essential elements for developing a relationship with patients and families (Fig. 2). When leadership supports staff in building family relationships, they can use their knowledge, nursing skills, and caring attitudes to provide safe, effective and efficient care within the context of a therapeutic relationship.

Table 1
Nursing actions and roles in negotiating nurse/parent partnerships.[1]

Negotiated partnership: a relationship between two or more people that requires skillful actions or dealings to attain a common goal.
Nursing actions:
Perceptive engagement: Responding to stimuli through understanding or insight to establish emotional involvement or commitment.
Cautious guidance: Leading or directing another's way, while being conscientious and using forethought.
Subtle presence: Being "present" in a highly skillful, artful manner
Nurse roles:
Facilitator: Someone who helps bring about
Teacher: Someone who instructs by precept, knowledge, example, or experience
Guardian: Someone who protects or oversees

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How can CINC be achieved in a large mega-NICU in an urban setting? Is it possible to staff in such a way that familiarity and trust can emerge in that type of environment? One staff nurse thought it could be done and went about gaining the approvals and volunteers to make it happen on a trial basis using quality methods and a team of nurses to do it.

Aim

The aim of the study is to improve the continuity of care for NICU patients and families by the development and implementation of a nursing care delivery model that addresses the complex NICU environment. Our

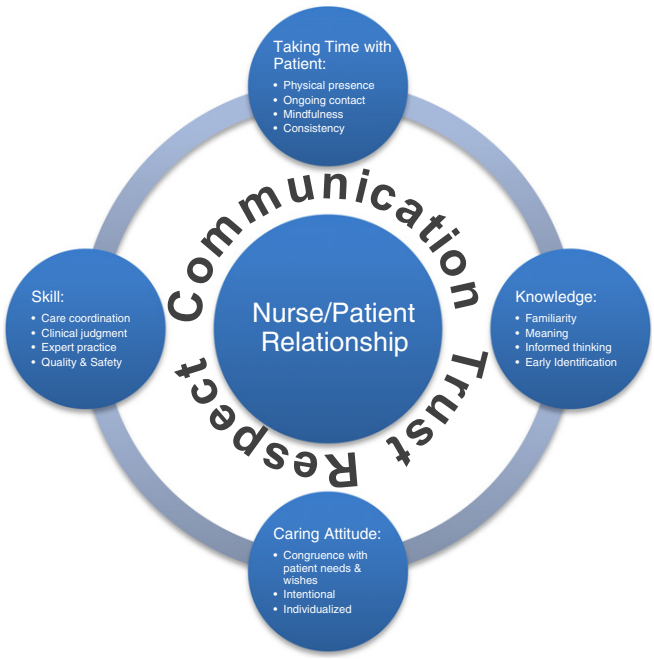

Fig. 2. Elements of a nurse/patient relationship. Author's rendition.