Cross-Cultural and Inter-Professional Knowledge Translation of Developmentally Supportive Care in an Indian NICU

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Recommended Citation
Carroll, OTD, OTR/L, Amy and Toth-Cohen, PhD, OTR/L, Susan, "Cross-Cultural and Inter-Professional Knowledge Translation of Developmentally Supportive Care in an Indian NICU" (2015). Department of Occupational Therapy Posters and Presentations. Paper 22.
https://jdc.jefferson.edu/otpresentations/22

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A cross-cultural, and inter-professional NICU Team, including an American OT, used knowledge translation (KT) frameworks to apply current global evidence in developmentally supportive care in ways that were useful, cost effective, and meaningful to the families and staff in their tertiary care NICU setting in Gurgaon, India. The team used Pre & Post videotaping of routine care and procedures to measure the change in practice.

**Objectives**

1. Increase NICU nurses’ use of DSC during routine care and procedures
2. Decrease the use of non-supportive behaviors

**Methods**

- **Subjects:** A DSC team explored DSC practices and facilitated implementation in NICU care through the KT initiative. The team consisted of the director/neonatologist, the pediatric intensivist, a senior resident, the lactation counselor/family educator, and the occupational therapist (OT). Nine NICU nurses in 2 cohorts participated in the KT.

- **Procedure:** The DSC team conducted a needs assessment reviewed literature and created a 5 week KT program based on the modified CIHR model and informed by contextual knowledge organized using the Interaction-Focused Model.
  - Prior to the KT, the full NICU team received an overview of DSC.
  - During the KT clinical guides, best evidence, and practice techniques associated with DSC were shared.
  - Each week also included practical instruction, small group simulated experiences, and finally hands-on application related to the weekly topic.
  - The KT finished with a strength-based team planning session for continued DSC in the NICU.
  - The DSC team measured the integration of DSC into infant care through pre/post videos taken during routine care or procedures.
  - Videotapes were scored via a DSC Behavior Checklist.

**Results:** Mean scores for the occurrence of DSC behaviors increased in 5 of 6 categories and mean score for the occurrence of (developmentally) non-supportive behaviors decreased in 6 of 6 categories. The overall percentage of DSC behaviors increased and the overall percentage of non-supportive behaviors decreased in the post DSC KT videos.

**Discussion:** Findings support OT facilitated inter-professional collaboration using KT frameworks to integrate new knowledge into clinical care in cross-cultural settings.

**Conclusion:** KT models were useful. DSC practices were integrated into NICU care measured post KT.

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**Background: Knowledge Translation**

- Knowledge translation is the process of moving what we learned through research to the actual applications of knowledge in a variety of practice settings and circumstances (Sudsawad, 2007).
- Implementing research knowledge in everyday practice is the most challenging step of evidence-based practice (Iott, 2012).
- This know-do gap is considered one of the most important challenges for public health in this century (WHO, 2006).
- Health care providers face a myriad of cultural, contextual, and interpersonal factors during a knowledge translation process. Attention to differences in worldview and cultural perspectives is critical for occupational therapists wishing to provide culturally relevant care (Iwama, Thomson, & MacDonald, 2011; World Federation of Occupational Therapists, n.d.; Watson, 2006).

**Background: Why Developmentally Supportive Care**

- The third trimester of fetal development is a critical time in brain development that can be altered by the environmental and sensory experiences of the infant (Als, 1998, Vandenberg, 2007).
- DSC is widely practiced in NICUs in developed nations to help minimize risks to infant development (Coughlin, Gibbins, Hoath, 2009).
- DSC interventions are used to minimize infant stress in the NICU through: control of external stimuli like light and sound, clustering of daily care (feeding, diaper changes etc.), positioning or swaddling, and calming techniques (Symington & Pinelli, 2009).
- Surveys of families receiving care and the NICU staff revealed a need to increase the use of DSC for the infants.

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**Outcomes**

Comparison of pre (N =16) & post (N =16) knowledge translation videotapes of 9 nurse participants during routine care/procedures of infants in the NICU.

**Figure 1. Mean occurrence of positive DSC behaviors (N= 25) per category (pre/post)**

**Figure 2. Mean occurrence of non-supportive behaviors (N= 24) per category (pre/post)**

**Figure 3. % Use of DSC and Non-Supportive Care over Time**

*Pre, mid, and post Developmentally Supportive Care Knowledge Translation