Parents’ Verbal and Nonverbal Caring Behaviors and Child Distress During Cancer-Related Port Access Procedures: A Time-Window Sequential Analysis

Jinbing Bai, PhD, MSN, RN, Felicity W.K. Harper, PhD, Louis A. Penner, PhD, Kristen Swanson, PhD, RN, FAAN, and Sheila J. Santacroce, PhD, RN, CPNP, FAANP

Purpose/Objectives: To study the relationship between parental verbal and nonverbal caring behaviors and child distress during cancer-related port access placement using correlational and time-window sequential analyses.

Design: Longitudinal, observational design.

Setting: Children’s Hospital of Michigan and St. Jude Children’s Research Hospital.

Sample: 43 child–parent dyads, each with two or three video recordings of the child undergoing cancer-related port placement.

Methods: Two trained raters coded parent interaction behaviors and child distress using the Parent Caring Response Scoring System and Karmanos Child Coping and Distress Scale, respectively. Mixed modeling with generalized estimating equations examined the associations between parent interaction behaviors and parent distress, child distress, and child cooperation reported by multiple raters. Time-window sequential analyses were performed to investigate the temporal relationships in parent–child interactions within a five-second window.

Main Research Variables: Parent caring behaviors, child distress, and child cooperation.

Findings: Parent caring interaction behaviors were significantly correlated with parent distress, child distress, and child cooperation during repeated cancer port accessing. Sequential analyses showed that children were significantly less likely to display behavioral and verbal distress following parent caring behaviors than at any other time. If a child is already distressed, parent verbal and nonverbal caring behaviors can significantly reduce child behavioral and verbal distress.

Conclusions: Parent caring behaviors, particularly the rarely studied nonverbal behaviors (e.g., eye contact, distance close to touch, supporting/allowing), can reduce the child’s distress during cancer port accessing procedures.

Implications for Nursing: Studying parent–child interactions during painful cancer-related procedures can provide evidence to develop nursing interventions to support parents in caring for their child during painful procedures.

Children with cancer undergo repeated painful procedures such as lumbar punctures, bone marrow aspirations, and accessing of ports for regular monitoring of their disease, treatment effectiveness, and treatment-related toxicities or side effects (Blount, Piir, Cohen, & Cheng, 2006; Hockenberry et al., 2011; Pizzo & Poplack, 2010). Children report experiencing more pain and distress related to these procedures than from the cancer itself (Hedström, Haglund, Skolin, & von Essen, 2003). Among survivors, prior experiences with distressing and painful procedures can lead to avoidance of regular primary care and monitoring for adverse effects of their cancer therapies (Pate, Blount, Cohen, & Smith, 1996). Supportive care strategies, such as pharmacologic and nonpharmacologic approaches and combinations of both,