Impact of Childhood Leukemia Treatment on Attention Measured by the Continuous Performance Test Factor Structure

Kari M. Koerner, MPH, CHES, Kathleen C. Insel, PhD, RN, Marilyn J. Hockenberry, PhD, RN, PPCNP, FAAN, Lynnette L. Harris, PhD, Olga A. Taylor, MPH, and Ida M. (Ki) Moore, PhD, RN, FAAN

OBJECTIVES: To describe the impact of central nervous system–directed treatment on attention and its relation to academic outcomes in childhood acute lymphoblastic leukemia (ALL) survivors.

SAMPLE & SETTING: 51 children diagnosed with ALL at two pediatric oncology treatment centers in the southwestern United States.

METHODS & VARIABLES: A prospective, longitudinal design measured attention after a child was in remission, two years after the start of treatment, and at the end of treatment. Attention measures from the Conners’ Continuous Performance Test were grouped into composite subdomains based on a factor structure describing focused attention, hyperactivity/impulsivity, sustained attention, and vigilance.

RESULTS: Children treated for ALL exhibited decreased focused attention, sustained attention, and vigilance during and at the end of treatment when compared to age- and gender-normed references.

IMPLICATIONS FOR NURSING: Pediatric oncology nurses are in a position to ask patients and parents about neuropsychological difficulties during ALL treatment. Patients who experience these effects are at risk for decreased academic abilities after treatment.

KEYWORDS: attention; childhood leukemia; pediatric oncology; survivors

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