Cognitive Dysfunction and Its Relationship to Quality of Life in Breast Cancer Survivors

Diane Von Ah, PhD, RN, Kathleen M. Russell, DNS, RN,
Anna Maria Storniolo, MD, and Janet S. Carpenter, PhD, RN

Purpose/Objectives: To examine relationships between capacity to direct attention and the quality-of-life (QOL) domains of psychological and physical well-being in breast cancer survivors.

Design: Descriptive, correlational.

Setting: National Cancer Institute–designated oncology and county hospital outpatient clinics in the midwestern region of the United States.

Sample: 134 breast cancer survivors aged 32–79 years ($\bar{X}$ = 56.3, SD = 9.4) with a mean of 6.4 years since diagnosis (SD = 2.8, range = 1–10).

Methods: Secondary analysis of questionnaire data measuring cognitive dysfunction and two QOL domains. Descriptive statistics, Pearson or Spearman correlations, and multiple regression analysis were used.

Main Research Variables: Capacity to direct attention, as well as psychological and physical well-being.

Findings: Deficits in capacity to direct attention were related to poorer QOL, including more depressive symptoms, lower well-being, poorer physical functioning, and greater fatigue.

Conclusions: Capacity to direct attention was related to psychological and physical well-being in breast cancer survivors.

Implications for Nursing: Nurses are in a prime position to assess breast cancer survivors' capacity to direct attention and resulting relationships with QOL. Findings suggest that nursing interventions that address survivors' capacity to direct attention may have a broad impact on QOL.

Breast cancer survivors constitute the largest group in the cancer survivor community, and more than 2.4 million female breast cancer survivors are estimated to be living in the United States (American Cancer Society, 2007; Reis et al., 2007). Almost 83% of breast cancer survivors report some degree of cognitive dysfunction (Jenkins et al., 2006), and complaints related to attention are common (Cimprich, So, Ronis, & Trask, 2005). Although cognitive dysfunction after cancer has been identified as a national research priority (Oncology Nursing Society, 2007; Reuben, 2004), few studies have empirically explored the relationship between cognitive dysfunction and quality of life (QOL) in people with cancer (Ahles & Saykin, 2001; Hess & Insel, 2007; Reid-Arndt, 2006).

Cognitive dysfunction is assumed or hypothesized to negatively affect QOL in patients with cancer (Hess & Insel, 2007). The assumption or hypothesis may be based at least partially on findings from individuals with noncancer-related cognitive dysfunction (e.g., multiple sclerosis, mild cognitive impairment) who often experience diminished QOL (Cutajar et al., 2000; Janardhan & Bakshi, 2000). The extent to which subtle changes in cognitive dysfunction after cancer and its treatment are associated with impaired QOL has not been well tested (Ahles & Saykin, 2001; Hess & Insel; Reid-Arndt, 2006).

This article reports the results of a secondary analysis focused on empirically examining the relationship between self-reported cognitive dysfunction and QOL in breast cancer survivors. Self-reported cognitive dysfunction was measured in terms of the capacity to direct attention (CDA) because that ability is vitally important to other cognitive abilities, such as acquiring important information, planning activities, making decisions, completing tasks, and accomplishing goals (Cimprich et al., 2005; Lezak, Howieson, & Loring, 2004). Findings from this study may be particularly useful to nurses in understanding the consequences of CDA in breast cancer survivors and, ultimately, in providing appropriate supportive care. Furthermore, empirically testing the relationship is important for specifying QOL outcomes that should be considered in future descriptive or intervention research studies (Ahles & Saykin, 2001).