Assessing Agreement Between Salivary Alpha Amylase Levels Collected by Passive Drool and Eluted Filter Paper in Adolescents With Cancer

Suzanne Ameringer, PhD, RN, Cindy Munro, PhD, RN, ANP-C, FAAN, and R.K. Elswick Jr., PhD

A cancer diagnosis poses many challenges for adolescents, and the psychological stress associated with some of these challenges may have detrimental effects. Stressors that have been identified by children and adolescents with cancer include painful procedures (Hedstrom, Ljungman, & von Essen, 2005; McCaffery, 2006; Woodgate, Degner, & YanoFSky, 2003), frequent and extended hospital stays (McCaFFery, 2006), alopecia, difficult symptoms (Hedstrom et al., 2005; McCaffery, 2006; Woodgate, 2005), and uncertainty (Stewart, Lynn, & Mishel, 2010; Woodgate et al., 2003). The few studies on psychological stress in children and adolescents with cancer have noted both short- and long-term effects. In the short-term, psychological stress has been linked to greater symptom severity (Docherty, Sandelowski, & Preisser, 2006; McCaffery, 2006) and higher levels of anxiety (Hedstrom et al., 2005; Hockenberry-Eaton, Dilorio, & Kemp, 1995). In the long-term, psychological stress in survivors of cancer in childhood and adolescence has been associated with post-traumatic stress disorder (PTSD) (Rourke, Hobbie, Schwartz, & Kazak, 2007; Schrag, McKeown, Jackson, Cuffe, & Neuberg, 2008). Psychological stress in adolescents with cancer may be a targeted area for oncology nursing intervention, but the prevalence and degree have not been studied extensively. A biobehavioral approach to investigating psychosocial functioning, including psychological stress, is highly recommended for adolescents with cancer (Moore, 2004). However, validated biologic measures of psychological stress are limited. The purpose of this study was to examine the validity of a method for collecting one biologic marker of psychological stress: salivary alpha amylase (sAA). Efficient, easy-to-obtain biologic markers of stress may enhance development of clinical research and lead to future use in clinical settings by oncology nurses.