Measuring Preoperative Anxiety in Patients With Breast Cancer Using the Visual Analog Scale

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Preoperative anxiety is a prevalent concern with deleterious effects in patient recovery and is not routinely assessed in the preoperative screening process. When it is assessed, it may prompt an increase in the use of anesthetic agents, heightened postoperative pain, and prolonged hospitalization. Preoperative women with breast cancer face anxiety as it relates to anesthesia, surgery, and recovery. The preoperative anxiety visual analog scale may identify and quantify anxiety in this population, provide advocacy and support, and improve the preoperative screening process.

Methods

This prospective pilot study used the preoperative VAS (Kindler et al., 2000) to quantify anxiety in women with breast cancer who were aged older than 18 years, as it related to anesthesia, surgery, and recovery. The tool has been compared to the State Trait Anxiety Inventory (STAI), with the VAS measuring fear of anesthesia correlating with the STAI ($r = 0.55$, $p < 0.01$) and the association of the VAS measuring fear of surgery and the STAI ($r = 0.66$, $p < 0.01$) (Kindler et al., 2000). The VAS has 10 questions and is based on a Likert-type scale ranging from 0 (indicating no preoperative anxiety) to 10 (indicating the highest level of preoperative anxiety). An average score of 4.5 or greater is significant for preoperative anxiety (Ebirim & Tobin, 2010).

Approval from Memorial Sloan Kettering Cancer Center and Monmouth University institutional review boards were obtained. The inclusion criteria were (a) women with breast cancer; (b) aged older than 18 years; (c) undergoing primary breast cancer surgery; (d) never diagnosed with anxiety or depression; (e) not taking prescribed anxiolytics or antidepressants; and (f) must be able to speak, read, and write English at the fifth-grade level.

One-hundred and fifty women undergoing breast cancer surgery were seen from February to March 2014 at the preoperative testing unit; 102 eligible women consented and completed the preoperative VAS tool. Data were analyzed using SPSS®, version 22. Descriptive statistics were used to analyze the distribution of scores according to ages. Sixty-two percent of women had invasive breast cancer ($n = 63$), and 63% had breast-conserving surgery ($n = 64$).

Results

Of the 102 women who completed the preoperative VAS tool (0–10 scale), 75% scored greater than 4.5, which was significant for anxiety. The youngest age group...