Implementing a Distress Screening Instrument in a University Breast Cancer Clinic: A Quality Improvement Project

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Distress remains a pervasive experience of patients with cancer. As a result, a quality improvement project was conducted in the breast cancer clinic of a university cancer center in the midwestern United States. Nurses identified a need to increase identification of distress over a six-month period when they made only eight referrals for distress support during 1,291 patient encounters. The eight referrals were the result of patient exhibitions of severe distress in the clinic. To increase identification of distress, as well as referrals for support before patients exhibited severe distress, the National Comprehensive Cancer Network’s Distress Thermometer screening tool was implemented in the clinic from June 1 through July 6, 2010. The instrument was completed by each participant during a patient encounter, followed by a review of the responses with a nurse. Referrals for support were offered by nurses when responses indicated a significant level of distress. Nurses increased identification of distress by using the instrument. In addition, referrals for support increased before patients exhibited severe distress. Nurses are positioned to improve care by identifying distress and making referrals for support.

Cancer-related distress is widespread. The Institute of Medicine (Adler & Page, 2008) reported that 29%–43% of patients with a cancer diagnosis experience significant levels of distress, which may be pervasive and long lasting. In a study of patients with non-Hodgkin lymphoma and breast, prostate, colon, and gynecologic cancers, Armes et al. (2009) reported that 1,425 patients returned packets about distress at the end of their treatments. At that time, 30% reported significant distress. Six months later, 1,152 returned packets about distress, and 60% showed no improvement (i.e., long-lasting distress) (Armes et al., 2009).

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Literature Review

Impact of Distress

Distress has devastating consequences for patients with cancer. NCCN (2012) described distress as disturbing psychological, social, and spiritual discomfort of varying intensity experienced by patients with cancer. In addition to causing discomfort, distress can impact the trajectory of cancer and its treatment. In an extensive review of literature from 1974–2007 concerning quality of life in patients with breast cancer, Montazeri (2008) reported that psychological factors (e.g., distress) predict quality of life in this population. More concerning, Thomas, Thomas,
Nandamohan, Nair, and Pandey (2009) found that screening for distress can predict loss of patients with cancer to follow-up for needed treatment. In addition, a meta-analysis by Satin, Linden, and Phillips (2009) identified one expression of distress, depression, as a predictor of progression of cancer and death. Therefore, identifying distress potentially benefits patients with breast cancer in multiple ways. That is particularly true if distressed patients are referred appropriately for supportive care.

**Distress Screening Tools**

**Hospital Anxiety and Depression Scale:** Several instruments have been developed to improve the identification of distress among patients with cancer. The oldest and most thoroughly tested instrument is the Hospital Anxiety and Depression Scale (HADS). The HADS was developed by Zigmond and Snaith (1983), who reported that it was reliable for identifying depression and anxiety in a medical outpatient setting of a hospital. In cancer care, the HADS has become a gold standard for distress screening; in addition, several instruments, including the Distress Thermometer, have been compared to the HADS (Clover, Carter, Mackinnon, & Adams, 2009; Dabrowski et al., 2007; Gil et al., 2005; Jacobsen et al., 2005; Keir, Calhoun-Eagan, Swartz, Saleh, & Friedman, 2008; Tuinman, Gazendam-Donofrio, & Hoekstra-Weebers, 2008).

In a study of 340 patients with cancer, both the HADS and the Distress Thermometer indicated that 29% of patients were experiencing significant distress (Clover et al., 2009). Of note, a meta-analysis by Mitchell, Meader, and Symonds (2010) included recommendations for the use of the HADS as a screening instrument in cancer care, although concerns existed about the length of the HADS and the amount of time required to screen for distress.

**Distress Thermometer:** The NCCN Distress Thermometer is effective for identifying distress and takes less time to administer than the HADS (Clover et al., 2009) (see Figure 1). Akizuki, Yamawaki, Akechi, Nakano, and Uchitomi (2005) reported a sensitivity of 84% and specificity of 69% for detecting significant distress with the Distress Thermometer. The NCCN tool performed better than the Patient Health Questionnaire 9-Item Depression Module in the identification of depression (Hegel et al., 2008). Jacobsen et al. (2005) reported that the Distress Thermometer with a cutoff score of 4 had optimal sensitivity and specificity with the HADS and the Brief Symptom Inventory. Tuinman et al. (2008) found that the Distress Thermometer identified 85% of HADS cases (sensitivity) and 67% of HADS cases (specificity).

To view the most recent and complete version of the NCCN Guidelines, go online to NCCN.org.
noncases (specificity). In addition, the Distress Thermometer is briefer than the HADS and has worked well in clinical oncology settings (Clover et al., 2009; Dabrowski et al., 2007).

The Distress Thermometer can be completed by the patient in fewer than five minutes (Holland et al., 2010). The tool has two parts: (a) the thermometer, a visual scale in which distress is rated from 0 (no distress) to 10 (extreme distress), and (b) a list of problems that can contribute to distress (Holland et al., 2010). A score on the thermometer of 4 or higher indicates a level of distress that needs additional evaluation (NCCN, 2012). A referral for additional evaluation and support might be made based on the problems selected on the list.

Theoretical Underpinnings

The Neuman systems model is based on a premise that prevention is the primary means of nursing for influencing healthcare outcomes (Neuman & Fawcett, 2011). Prevention is a way for nurses to strengthen resistance, as well as the normal and flexible defenses protecting the basic structural energy sources of individuals (Neuman & Fawcett, 2011). According to the model, primary prevention decreases the possibility of an encounter with a stressor, secondary prevention involves early case finding, and tertiary prevention brings readaptation (Neuman & Fawcett, 2011). Implementing the Distress Thermometer during this quality improvement project involved educating patients about distress and cancer (primary prevention), administering the Distress Thermometer (secondary prevention), and referring patients for additional evaluation and support (tertiary prevention).

Project Implementation

The Johns Hopkins Nursing evidence-based practice model and guidelines and the practice question, evidence, and translation (PET) model were used for guidance (Newhouse, Deartholt, Poe, Pugh, & White, 2007). In the Johns Hopkins Nursing model, nurses evaluate evidence for implementing a quality improvement project, whereas the PET model is used for successfully implementing that project. The project described in this article was designed to answer the following question: Among patients in a university breast cancer clinic in the midwestern United States, will the Distress Thermometer facilitate identification of distress and referral for support by nurses? The project team was led by a doctor of nursing practice (DNP) student from the University of South Alabama. Approval from the institutional review board (IRB) of the University of South Alabama was required because the project was led by a student, even though it was not considered human research. The IRB representative at the agency where the project was implemented considered the work as a quality improvement project, and approval was not required.

From June 1 through July 6, 2010, all patients who visited the clinic on Tuesdays and Fridays were offered the opportunity to participate in the project. Informed consent was obtained in the privacy of the examination room by the DNP student. A clinic nurse discussed the commonness of distress with cancer, and the Distress Thermometer was administered. A clinic nurse discussed the individual responses with each participant, collected the instrument, offered a referral for support to participants with scores of 4 or higher, and arranged referrals for participants who agreed to them. Options for referral included psychiatric mental health nurse practitioner, social worker, chaplain, dietitian, primary care provider, and oncology provider.

Data for the six months prior to the project were noted by the clinic nurses, who kept a simple list of patients who were referred by the nurses in the clinic for support because of distress. In addition, a statistician was consulted to determine appropriate statistical analyses for the project. Absolute risk (AR), a ratio or percentage that each event happened in comparison to not happening at that time, was calculated for identifying distress and making referrals for support before and during the project.

Results

A total of 104 patients were approached, and all consented to participate in the quality improvement project. See Table 1 for demographic characteristics. In the six months prior to the project, clinic nurses identified eight patients with distress from 1,291 encounters, and those eight patients were referred for support. For this quality improvement project, AR was 0.6% for being identified with distress and 0.6% for being referred for support. During the project, 55 patients were identified by clinic nurses as having distress according to the Distress Thermometer. Among the participants identified with distress, 11 were referred for support. The AR for being identified with distress using the Distress Thermometer was 53% during the project, and the AR for being referred for support was 10%. In addition, individual

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<th>TABLE 1. Sample Demographics</th>
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<td><strong>N = 104</strong></td>
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Note. Because of rounding, not all percentages total 100.
AR showed improvement for identifying distress and making referrals for support during the project.

Discussion and Conclusions

The results of this quality improvement project showed that using the Distress Thermometer increased nurse identification of distress and referrals for support in the practice setting where the project was implemented. However, the results are not generalizable to other settings. The project is valuable as an example of nurses in a breast cancer clinic improving identification of distress and referral for support using the Distress Thermometer. This project was viewed as a pilot to explore implementing the NCCN (2012) distress management guidelines throughout the facility. Additional work will be required before full and sustainable implementation can occur in this setting.

Implications for Nursing

Nurses frequently are in direct contact with individuals with breast cancer in oncology and other settings. Therefore, nurses are positioned to identify distress among patients and make referrals for support. The NCCN Distress Thermometer is an effective tool that can be used by nurses in busy settings such as oncology to identify patients with distress.

References


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