Evidence-based practice (EBP) is a problem-solving approach to clinical practice that integrates the conscientious use of best evidence in combination with a clinician’s expertise and patient preferences and values regarding decisions about patient care (Melnyk & Fineout-Overholt, 2005). As depicted in Figure 1, developing an EBP program requires six integral steps. Once a problem is identified and the literature reviewed, clinical judgment and the consideration of patient concerns and values are essential to ensure that the evidence applied is relevant and appropriate. The evidence must be suited to the work setting and patient population; otherwise, the adoption of evidence into practice likely will achieve limited success. Thus, to be successful, an EBP program must become a philosophy of care.

Identifying the Problem

Fall prevention continues to be a priority throughout health care. The Joint Commission (2007) continues to list reduction of the risk of patient harm from falls as one of its national patient safety goals. A fall-prevention program in oncology presents special challenges based on disease process, side effects of chemotherapy, and the sedating effect of opioids and antihistamines.

Critiquing the Evidence

The literature contains limited evidence related to successful fall-prevention interventions. Studies were identified by searching the PubMed®, Ovid MEDLINE®, and Ovid CINAHL® databases. Searches were performed using various combinations of subject headings and key words: patient falls, fall-prevention intervention(s), and fall risk assessment. All results were restricted to being published since 2001, and the reference lists of all articles were consulted to identify additional studies. Three articles applicable to developing a fall-prevention program for patients with cancer were identified.

In a systematic review conducted by Evans, Hodgkinson, Lambert, and Wood (2001), six risk factors predicted patient falls: altered mental status, altered mobility, history of falls, toileting needs, medications, and age. Although the research was not specific to patients with cancer, five of the six factors are applicable to medical oncology. Altered mental status is common among patients with cancer as a result of high fever or disease that affects the central nervous system. Generalized weakness is a common problem, especially in those with anemia following chemotherapy. Furthermore, nausea, vomiting, and diarrhea often leave patients in a weakened state. Toileting needs are a risk factor because chemotherapy frequently induces diarrhea and because aggressive hydration causes urgent and frequent urination. Medications such as sedatives, analgesics, and antihistamines alter central nervous system function, increasing the risk for falling. Additionally, a history of falling is well documented as a predictor of the potential to fall in the future (Evans et al.; Krauss et al., 2005). Finally, although age certainly is a risk factor for falling, historical fall data on oncology units indicate that patients who fall often are younger than 65 years and frequently underestimate their risk for falling.

In a case-control study by Krauss et al. (2005), care-related risk factors that predicted falls in hospitalized patients included altered gait or balance deficit, confusion, use of sedatives, and use of diabetic medications. Some patients with cancer experience peripheral neuropathy, which may result in a reduced sense of foot placement while walking, thus increasing the potential for falling. The impact of diabetes added an additional dimension to the risk-analysis profile. Many patients with cancer experience steroid-induced hyperglycemia, and patients without a history of diabetes may be unaware of the effects of glycemic management, such as hypoglycemia or glycemic symptoms such as frequent urination and peripheral neuropathy (Krauss et al.).

Meade, Bursell, and Ketelsen (2006) reported results from a quasi-experimental study on hourly rounds to reduce use of call lights, improve patient satisfaction, and reduce falls. Their study compared hourly rounds from 6 am–10 pm and every-two-hour rounds from 10 pm–6 am; a second group practiced every-two-hour rounds around the clock; a third control group used no formal

**Evidence-Based Practice**

**Applying Evidence to Develop a Medical Oncology Fall-Prevention Program**

**Leslie Miller, RN, BSN, OCN®, and Catherine M. Limbaugh, RN, MSN, OCN®**

Leslie Miller, RN, BSN, OCN®, is an assistant clinical manager and Catherine M. Limbaugh, RN, MSN, OCN®, is the fellowship program coordinator for the bone marrow transplant unit, both in the Siteman Cancer Center at Barnes-Jewish Hospital in St. Louis, MO.

Digital Object Identifier: 10.1188/08.CJON.158-160
rounding procedure. The group that performed hourly rounds had significant reductions in patient falls. In addition, the intervention reduced use of call lights and improved patient satisfaction. The findings support those of Potter, Barr, McSweeney, and Sledge (2003), who found that the number of patient care hours was inversely associated with patient falls. Thus, the use of hourly rounds as an intervention promotes the assessment of fall risk factors while facilitating fall-prevention strategies.

Applying the Evidence: A Case in Point

The nursing staff on the leukemia-lymphoma unit of the Siteman Cancer Center at Barnes-Jewish Hospital in St. Louis, MO, identified that the prevention of patient falls needed a more strategic approach. The unit practice committee (the patient-care-unit level of participation in the shared-governance model) routinely reviewed trends in the fall index and fall injury rates. Trends over the past year had shown a fairly stagnant fall index. The fall index averaged 4.88, with a desired target of 3.24. The fall index is a computation of number of falls divided by total patient days, multiplied by 1,000. The fall index is a common measurement used in hospitals across the country. The fall injury rate, which is a computation of number of injuries divided by total patient days, multiplied by 1,000, averaged 1.2, with a desired target of 1.27. Targets for fall index and fall injury rate are established by the hospital’s professional practice department. Fortunately, the fall injury rate was excellent, but with the increased risk for injury among the oncology population, a low injury rate needed to be sustained and improved if possible.

After a review of the literature, a two-pronged approach for a fall-prevention program was developed. The first approach was to re-educate staff on the fall risk factors pertinent to patients with cancer from the existing fall-prevention packet (see Figure 2). The second approach involved the implementation of a “purposeful rounding” protocol as a means to apply evidence of fall risks into hourly staff assessments and fall-prevention care activities. Details of the “purposeful rounding” protocol are outlined in Figure 3.

Before the protocol was implemented, an educational presentation was developed. The presentation emphasized the type of fall risks unique to patients with cancer. Staff learned how to conduct the purposeful rounding protocol and the rationale for the various fall-prevention strategies. Although use of call lights was reported to be reduced with hourly rounding (Meade et al., 2006), the staff realized that purposeful rounding was a means to provide excellent patient care while promoting patient safety.

During the first month of implementation, the staff documented rounds on a paper flow sheet located in each patient room as well as in the electronic medical record. Charge nurses and management staff checked on nursing staff each shift to ensure that rounds were being completed. Patient rooms were inspected visually and patients were asked whether a staff member had visited them each hour. Management reviewed the flow sheets to identify any staff members who needed additional follow-up when rounds were not being completed. After one month, staff members who successfully demonstrated the incorporation of purposeful rounding into their practice...

Figure 1. Steps to Develop an Evidence-Based Practice Program

- Identify the clinical question.
- Collect the evidence.
- Critically appraise the evidence.
- Integrate evidence into clinical practice.
- Evaluate the outcomes.
- Communicate the outcomes.

Figure 2. Fall Prevention Packet

- A sign for the patient’s door states, “Patient is on fall precautions.”
- A green identification band is worn only by patients on fall precautions.
- Educational pamphlet is provided to patients and families.
- Checklist with nursing interventions is included.
- High-risk medications and alternatives are listed (e.g., benzodiazepines, antihistamines, opioids, antiemetics).
- Examples of individualized and relevant patient interventions are provided.
  – Ordering a bed exit alarm
  – Lowering the bed for patient ease while exiting.
were designated as competent in rounding and no longer completed flow sheets. After two months, no paper flow sheets were in use; however, electronic documentation continued.

Evaluation of Outcomes: A Case in Point

After implementation of the protocol, mentors monitored the unit’s monthly fall index and fall injury rates to determine whether purposeful rounding had improved outcomes. Prior to implementation of the protocol, the unit’s fall index was 2.97. The first month after implementation, no patients fell, resulting in an index of 0.0. However, during the second month, the fall index rose to 7.32. The number of beds on the oncology unit was 23. The oncology unit practice committee reviewed the cases of the patients who had fallen and found neither trends nor the need to change any care activities. The patients who fell were identified properly as being at risk, and fall precautions had been in place. Over the next six months, the fall index consistently decreased and the unit reached a level of 3.28, well below its targeted goal. The unit fall injury target was met at 0.94. In addition to the decrease in patient falls, patient satisfaction scores improved from 56% to 82% six months after the program was implemented.

Summary

Sustaining permanent purposeful rounding is an ongoing challenge. To be effective, an EBP protocol must be incorporated into a nursing unit’s culture. In other words, to hold the gains resulting from the practice change, the institution had to make hourly rounding a standard of practice that would become automatic for all members of the nursing staff. Nursing staff is more motivated to participate in EBP when they actualize favorable outcomes in patient care. When EBP is ingrained in a unit’s culture, patients and nursing staff benefit.

Author Contact: Leslie Miller, RN, BSN, OCN®, can be reached at lsm9980@bjc.org, with copy to editor at CIONEditor@ons.org.

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