Developing a Pain Management Program Through Continuous Improvement Strategies

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Pain affects more than one third of cancer patients in the early stages of their disease, dramatically rising above 70% in the advanced stages. Numerous studies have been conducted in the pursuit of cancer pain relief, yet the prevalence of pain persists. This article focuses on a pain management program, developed by a performance improvement team, which addressed the inadequacies of current pain management. Performance improvement activities are described through the process of assessment, planning, implementation, and evaluation of the pain management program. This pain management program is uniquely derived from a unit core value that all staff is responsible and accountable for pain management. **Key words:** cancer pain, continuous performance improvement, pain management

Even in hospitalized patients cared for by educated healthcare professionals, inadequacies in pain management persist. A study conducted on hospitalized cancer patients revealed that 79% experienced pain, with 46% experiencing severe pain. These findings occurred despite the fact that the majority of patients (72%) had adequate analgesics prescribed by their physicians. It is clear, therefore, that other barriers exist that preclude nurses from providing effective pain relief.

The literature reveals that patients and their families have a role in the inadequate management of pain. Many cancer patients do not report their pain for fear of addiction to pain relievers. They tend to believe that pain is unavoidable and have a general lack of knowledge on pain management. It is obvious that the lack of education relative to pain and pain therapies must be addressed before a greater degree of successful pain management can be accomplished.

Unrelieved pain has profound effects, including decreased quality of life, impaired functionality, and reduced productivity. Unrelieved pain can become a significant barrier to the patient’s continuing medical treatment.

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Uncontrolled acute pain can lead to debilitating chronic pain such as phantom limb pain, and other neuropathic pain conditions. Suffering from unremitting pain may even lead to suicide.

The cost of untreated pain is staggering. The estimate for lost workdays alone exceeds $100 billion every year. There are the added effects of decreased productivity as well as higher healthcare utilization due to varying degrees of pain. Essential to the development of an effective and successful pain management program is the recognition and understanding of the barriers to poor pain management and the development of strategies to eliminate or minimize the effects of these impediments.

BACKGROUND

Inpatient oncology unit

The inpatient oncology unit is part of a 320-bed acute care hospital. It has 29 inpatient beds, including 4 beds for patients requiring autologous stem cell transplant. Last year, there were 1502 patient admissions to the oncology unit. The majority of patients admitted have diagnoses of cancer or hematological malignancies. It should be noted that the oncology unit also is used to accommodate an overflow of patients with general medical-surgical problems.

The ethnic origins of the patients admitted reflect the diversity of the community: Caucasians, African Americans, Koreans, Vietnamese, Russians, and Cambodians. Common diagnoses involving pain issues include cancer, chronic renal failure, sickle cell crisis, and unstable diabetes, and patients requiring end-of-life care. Certain patients are admitted solely for advanced pain management, such as insertion of epidural catheters and titration of opioids.

Patient satisfaction results

Quarterly patient satisfaction surveys were randomly conducted on a sample of patients admitted to this hospital. The sampled patients were asked, “How well was their pain managed?” Intervening variables can potentially skew survey results, yet, despite taking them into consideration, the results indicated less satisfaction than expected. The January–March 2003 oncology unit score of 4.10 on a scale of 1.00 to 5.00 (5.00 representing complete satisfaction) was disappointing. The score represented an increase from the previous quarter, but was still lower than what current efforts had anticipated. During the preceding 2 years, the scores fluctuated between 3.84 and 4.29, and there was a notable lack of consistency on how patients perceived their pain management.

Oncology staff members were concerned about these results, asking questions such as, “Shouldn’t we be better at pain management?” “Aren’t we the experts at pain management?” Questions such as these motivated oncology staff members to actively participate in efforts to improve pain management. As a result, a Pain Performance Improvement Team (PIT) was developed. Its members were representative of each oncology staff member’s scope of practice and included members of the oncology multidisciplinary team. The proposed goal was to provide consistent and improved pain management for each and every patient within the oncology unit. It is important to note that this hospital did not have a formal, comprehensive pain management program already in place.

ANALYSIS OF THE PROBLEM

Identified barriers

Key components for effective pain management were identified through interviews with staff members and patients. Relevant literature was reviewed and common themes were isolated.

Key processes involved in effective pain management included assessment, intervention, reevaluation, and the individual patient’s characteristics. To organize these processes, the “fishbone method” was used, identifying barriers for each process (Fig 1). For example, it was identified that all nurses needed
current pain education to assess patients in pain. Without this type of educational process, effective assessments could not occur. An accurate assessment has far-reaching effects; it represents the starting point for effective pain management and creates a domino effect for the entire process. Using the information acquired from the fishbone technique, further methods were used to identify perceived gaps in pain management. These additional methods included chart reviews, patient surveys, and a comprehensive needs assessment.

**Chart reviews**

The overall goal of conducting chart reviews was to assess current nursing practice in assessing and managing pain through chart documentation. Twenty-three patients’ charts were reviewed from June 1, 2003, to July 30, 2003. The key findings from this chart review were as follows:

- The patient’s numerical pain rating was documented 60% of the time. The departmental standard states the patient’s numerical pain rating will be assessed and documented every 4 hours or after any changes.
- The patient’s numerical pain rating was documented 72% of the time on the admission sheet. Hospital policy states that the patient’s numerical pain rating will be assessed and documented on all inpatient admissions.
- The patient’s pain was reevaluated within 2 hours after a pain medication was given 12% of the time. Hospital policy states reevaluation is to be conducted within 2 hours after a pharmacological intervention has been given.

Limitations for a precise analysis of these results included 3 patients, who were transferred from another unit without the pain assessment documented on the admission form. Therefore, including them within the total results would invalidate the results. In addition, lack of documentation in the reevaluation section of the nursing notes does not
necessarily indicate that reevaluation was not accomplished; it may have occurred but without documentation.

Patient surveys

The overall goal of conducting patient surveys was to obtain patients' perspectives on pain management. Twenty-four of these surveys were conducted at the same time as the patients' charts were reviewed.

The major results of this survey were as follows:

- Approximately 95% of the patients reported they were asked by the nursing staff if they were experiencing pain.
- Thirty-five percent of the patients were reevaluated after a pharmacological intervention was administered.
- Approximately 80% of the patients surveyed reported that their pain was controlled so they could rest, walk, or engage in other activities.

The primary limitation of this survey was that it constrained their answers to the choices of yes or no to the questions. Patients' answers to the questions were difficult to determine if they were based on one pain experience or a composite of pain experiences.

Needs assessment

The unit-based educator conducted a comprehensive needs assessment during October-November 2003. The overall goal for this needs assessment was to identify resources available and to determine gaps in services leading to limitations in providing adequate pain management. Examples of identified gaps were as follows:

- Inconsistencies in basic pain education for all staff members within their scope of practice. Unit secretaries, for example, did not receive any formal education relative to pain.
- Inconsistencies in the practice of educating patients about pain and pain management. The teaching was primarily informal, with no scheduled opportunities to provide information on pain.

- Neither nonpharmacological interventions, such as music therapy, nor educational materials relative to nonpharmacological interventions were readily available. The staff lacked the resources and knowledge to implement a wide variety of nonpharmacological pain strategies.

RESULTS

Chart reviews, patient surveys, and needs assessment results were collated and presented to the Pain PIT. Major gaps identified were as follows:

- Lack of formalized accountability and responsibility by all staff members for pain management.
- Lack of standardized pain education for all staff members.
- Lack of culturally sensitive pain education for patients and families.
- Ineffective system for reevaluation of pain.

The Pain PIT reviewed each of these “gaps” in detail. They concluded that the unit and the organization have the resources to support a pain program to fill the identified gaps. At this point, it was determined that a pain program was a worthwhile endeavor and that the investment of oncology and the organization’s resources was justified.

PLANNING

Goals

As previously indicated, the overall goal of this program was to provide consistent, improved pain management for all inpatients on the oncology unit. A secondary goal was to improve staff satisfaction. Staff satisfaction can occur if the staff believes they have made consistent, positive differences in managing pain for their patients.

The unit-based educator developed subgoals in support of the primary goal, which were shared with the Pain PIT and management personnel of the oncology unit. Exam-
Examples of these subgoals include the following:

- Formalize the nursing staff responsibility and related accountability for pain management.
- Standardize both basic and ongoing pain education for all members of the nursing care team (including contracted staff) relevant to their scope of practice.
- Enhance staff availability and accessibility to assessment tools and current pain therapies.

The Pain PIT developed numerous strategies to support these goals, with the unit-based educator overseeing all activities to ensure that the implementation of activities was consistent with the goals of the program.

**Strategies**

A “brainstorming” meeting was held by the Pain PIT to determine strategies needed to accomplish the identified subgoals. The entire oncology staff was encouraged to brainstorm their individual ideas, which were subsequently funneled to the unit-based educator who presented them at the meeting. The subgoals were ranked according to resource intensity and efficacy. For example, both responsibility and accountability of staff members for pain management was ranked as an important subgoal for improving pain management. Strategies for accomplishing this goal were therefore given first priority.

Strategies to reach the goal of formally establishing nursing staff’s responsibility and accountability for pain management included the following:

- All nursing (and contracted) staff members wrote and signed a personalized snapshot (a description of behaviors that supports a statement or belief) of the behaviors they would display to demonstrate their responsibility and accountability for pain management. As an example, a unit secretary wrote, “I would demonstrate my belief that I am responsible and accountable for patients in pain by being persistent in finding a nurse to assess and manage a patient in pain when the patient’s primary nurse is not immediately available.” These snapshots were placed in each employee’s record. The staff were held accountable for those behaviors by their coworkers and at their performance evaluation. The staff agreed that any patient experiencing pain was a priority, and it was the responsibility of all staff members to ensure that patients received the most effective pain management possible.

- We established a standard that all admitted patients would receive a pain management brochure. This brochure details the importance of effective pain management, types of pain, and the various ways pain can be assessed. When the pain brochure is issued, the staff member gives the patient a brief description on the brochure’s contents, clarifying the patient/family responsibilities and the responsibilities of the staff in managing the patient’s pain.

**Strategies timeline**

In November 2003, the Pain PIT met to determine the 2004 timeline for implementation of the strategies. The individual timeline was based on the complexity of each strategy, resources available, and the consideration of other major projects being implemented both at the unit and organizational level. As an example, developing patients’ pain brochures in the 5 most prevalent languages would require multiple activities and resources. Planning for these documents included (1) determining the most frequently admitted pain-causing diagnoses, (2) evaluating available resources, (3) evaluating brochures dealing with these diagnoses and the resultant pain, (4) determining the costs of the brochures, and (5) ensuring the feasibility of using the chosen brochures throughout the hospital. This strategy was planned for implementation within 8 months.

**EVALUATION**

The results of this program are measured through the quarterly patient satisfaction
surveys, chart reviews, and patients and staff surveys beginning 6 months after implementation of the pain program. The following key questions were devised to assess whether the goals were being met as a result of the implemented strategies:

- Did the patient satisfaction score on pain management from January through March 2004 reflect improvement?
- By April 2004, did 90% of patients’ charts reviewed have documentation of their numerical pain ratings using the appropriate chart forms (ie, vital signs and admission sheets)?
- By April 2004, did 90% of the patients’ surveyed report that their pain was controlled?
- By April 2004, were 80% of the staff surveyed, and did the survey results indicate staff member satisfaction with the pain program?

Patient satisfaction results

The score on the quarterly patient satisfaction survey (January-March 2004) to the question, “How well was your pain managed?” was 4.13. Although that score was a slight increase from the baseline score of 4.10 (January-March 2003), it was a sharp decrease when compared with the score (4.36) from the previous quarter (October-December 2003). These findings suggest that patient satisfaction with pain management is still inconsistent.

Chart review results

Twenty-six patients’ charts were reviewed from March 15 to April 15, 2004, using the same indicators as the baseline chart review. The key findings from this chart review were compared to the baseline chart review conducted from June 1 to July 30, 2003.

- Ninety-five percent of the patients’ numerical pain ratings were documented in the chart every 4 hours, representing a 35% improvement.
- Ninety-six percent of the patients’ numerical pain ratings were documented on the admission sheet, again a 35% improvement.
- Reevaluation of the patients’ pain within 2 hours after a pain medication was administered was documented 40% of the time, which represented an improvement of almost 30%.

Patient surveys results

Thirty patient surveys were conducted at the same time as the charts were reviewed. The same questions from the baseline patient survey were used, except a scale “always, most of the time, half of the time, rarely” was provided instead of yes or no choices, which were on the baseline patient survey. To compare the postsurvey results to the baseline survey results, answers marked “always” and “most of the time” were combined together and considered as a yes to the question. Answers marked “half of the time” or “rarely” were combined together and considered as a no to the question. The following are the results from the patient 6 months postsurveys as compared to the results of the baseline patient surveys:

- Approximately 92% of the patients reported they were asked by the nursing staff if they were experiencing pain. The baseline survey was 95%, showing a 3% decrease.
- Eighty percent of the patients were reevaluated after a pharmacological intervention was administered. This was a 10% increase from the baseline survey.
- Approximately 94% of the patients surveyed reported that their pain was controlled so they could rest, walk, or engage in other activities. This was an improvement of 12%.

DISCUSSION

The Pain PIT and management met to review the results with the following conclusions and recommendations:

- The scores from the quarterly patient satisfaction surveys have relatively remained consistent, except for a high score of
4.36 during the October-December 2003 quarter. An explanation for this score may be attributed to the staffs' initial response to the pain strategies implemented and/or other events occurring on the unit (eg, increased staff education). The patient satisfaction surveys will be reviewed every quarter assessing for trends and identifying variables that may affect results.

- There has been a noticeable improvement from the patients' perspectives and charts reviewed on reevaluation of pain after medications are given. Despite this improvement, reevaluation still remains a problem. Assessment of the factors involved is needed to improve reevaluation and to sustain any positive results.

- Overall, the post–6 months chart review and patient survey results have significantly improved. This indicates an improvement in patients' satisfaction with pain management and improvement in pain documentation.

- A staff survey needs to be scheduled to examine staff members' perspectives of the pain management program.

- Key indicators are needed to determine the outcomes of the pain management program, for example, indicators that link improvements in pain management to decreased length of stay and cost. It is important to go beyond improving patient satisfaction and meeting chart documentation requirements to determine the "true" value of the pain management program.

The Pain PIT recommends continuous monitoring of the effects of the pain program using the same evaluation tools, reviewing them every 6 months. These conclusions and recommendation are the results of using Plan-Do-Study-Act as a method for accomplishing changes and sustaining positive outcomes. The next steps involve the Pain PIT meeting to develop strategies for these recommendations.

**CONCLUSION**

The pain management program described in the article represents a comprehensive, systematic, and evidence-based program. It requires the commitment of the oncology staff, management personnel, and the unit-based educator. In the initial phases of this program, we are beginning to observe oncology staff members managing patients' pain more effectively and in a consistent manner. Our next steps are to sustain these efforts and develop tools to improve patient outcomes not only in patient satisfaction but also in affecting the duration of hospital stay, cost, and quality of life.

**REFERENCES**