Impact of a Script-based Communication Intervention on Patient Satisfaction with Pain Management

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ABSTRACT:

Pain is a common complaint among hospitalized patients no matter the diagnosis. Pain has a negative effect on many aspects of a patient's life, including quality of life, sleep, and activities of daily living as well as increased health care expenses. The aim of this study was to evaluate the effectiveness of an intervention (script-based communication, use of white boards, and hourly rounding) related to pain management on patient satisfaction with nurses' management of pain. A prospective, quasi-experimental pretest–posttest design was used. Data were collected from two units that provided care for patients with a variety of medical-surgical diagnoses in a hospital located in an academic health sciences center in the southern United States. When nurses used clear and consistent communication with patients in pain, a positive effect was seen in patient satisfaction with pain management over time. This intervention was simple and effective. It could be replicated in a variety of health care organizations. © 2015 by the American Society for Pain Management Nursing

BACKGROUND

Pain is a common complaint among hospitalized patients with a variety of diagnoses. An estimated 100 million Americans (Institute of Medicine Committee on advancing Pain Research, 2011) and 1.5 billion individuals globally (Global Industry Analyst, 2011) suffer from chronic pain. Pain has a negative impact on many aspects of a patient's life, including quality of life (QoL; Muller-Schwefe et al., 2011; Sessle, 2011), sleep (Mazza, Magnin, & Bastuji, 2012), activities of daily living (Karoly & Ruehlman, 2007), and employment status (Langley et al., 2010; Sessle, 2011). Additionally, pain is associated with higher rates of depression (Cai & Oderda, 2012; Sessle, 2011). In the United States, the
estimated cost burden because of pain is around $635 billion each year (Institute of Medicine Committee on Advancing Pain Research, 2011). Acute pain also may affect patients’ outcomes by extending their hospital length of stay (LOS), negatively affecting their surgical outcomes, and placing them at risk for chronic pain (Mac Lellan, 2004).

Despite scientific advancements in managing pain, hospitalized patients still report dissatisfaction with the effectiveness of pain interventions received in the hospital (Muller-Schwefe et al., 2011; Sessle, 2011). Several strategies have been suggested to improve the effectiveness of pain management in hospitalized patients. Smith, DuHamel, Egert, and Watt-Watson (2010) found that providing patients with needed information helped to relieve their pain. Other researchers determined that improvement in patient assessment and enhancement of communication skills may improve and relieve patient pain (Muller-Schwefe et al., 2011; Shaw, Zaia, Pransky, Winters, & Patterson, 2005; Vangronsveld & Linton, 2012). Nurses are in a unique position to play a significant role in pain management because they are in direct contact with patients at all times (Linkewich et al., 2007; Musclow, Sawhney, & Watt-Watson, 2002; Watt-Watson, Stevens, Garfinkel, Streiner, & Gallop, 2001). Baccalaureate-prepared nurses may have better performance in pain management because communication skills are a foundation of their nursing curriculum (American Association of Colleges of Nursing, 2008; Johnson, 1988). Improvement in nurses’ knowledge, attitude, and communication may give them the skills needed to affect patient satisfaction with pain management.

Quality care is considered essential by accrediting and evaluating agencies of health care organizations such as the Centers for Medicare & Medicaid Services (CMS) and the Joint Commission. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey was developed by the Agency for Healthcare Research and Quality (AHRQ) and CMS to evaluate patients’ experience with hospital care (Giordano, Elliott, Goldstein, Lehrman, & Spencer, 2010). The data collected by HCAHPS reflect the quality of hospital care and can be used to compare similar organizations. Three items of the HCAHPS survey are specifically related to patient experience with pain (Giordano et al., 2010); clear nurse–patient communication is a critical part of this process. That is, when HCAHPS scores from a unit related to pain management are low, one explanation may be that the language of the HCAHPS questions is different from the language used by nurses to assess a patient’s pain and response to pain management.

OBJECTIVES

The aim of this study was to evaluate patient satisfaction when nursing staff used a pain management intervention (script-based communication, use of white boards, and hourly rounding). Effectiveness of the intervention was measured by scores on the three HCAHPS items related to patients’ experience with pain. The first HCAHPS item inquired as to whether or not patients felt they needed pain management. (This was a simple yes/no question.) The second item asked whether the pain was perceived as well controlled. Item 3 identified how often patients perceived that hospital staff did everything possible to alleviate their pain. Items 2 and 3 were answered based on Likert scale ranging from 1 (Never) to 4 (Always). The script-based communication intervention reflected the same language used in HCAHPS survey questions and provided a template for consistent communication by all nurses.

Research Hypotheses

Hypothesis 1: Greater improvement over time in patient HCAHPS scores related to satisfaction with pain management will be seen on the intervention unit compared with the control unit (i.e., usual care).

Hypothesis 2: Patient HCAHPS scores related to satisfaction with pain management will increase over time after implementation of the intervention (script-based communication, use of white boards, and hourly rounding).

Hypothesis 3: Nurses on the intervention unit will have high satisfaction scores related to the intervention (script-based communication, use of white boards, and hourly rounding).

Hypothesis 4: Having a BSN degree will affect patient satisfaction with the intervention (script-based communication, use of white boards, and hourly rounding).

Conceptual Framework

Interpersonal communication (IPC) served as the conceptual framework for this study (de Negri, DiPrete Brown, Hernandez, Rosenbaum, & Roter, 1997). IPC affects the quality of care for patients in the health care setting through either inhibition or enhancement. IPC hinges on process behaviors called communication behaviors and proficiency behaviors that yield immediate outcomes for patients and providers. Communication behaviors include asking and answering questions, considering patient concerns, and facilitating patient input. According to the IPC framework, the immediate outcomes will be increased patient and provider satisfaction, which have the potential to lead to increased compliance and confidence by both patient and provider, improved QoL, and
decreased morbidity. The IPC framework is appropriate for this study because of the specific strategies used by nurses and the expected patient and nursing outcomes those strategies will yield.

The script-based intervention fosters communication between patient and provider that shows caring and builds a positive rapport between the two. The white board serves to facilitate a two-way dialogue between health care providers, patients, and patients’ families. By communicating adequate, up-to-date information about pain levels, pain goals, and pain management options in hourly rounding, HCAHPS scores for pain-related questions were expected to increase along with patient compliance and outcomes. Provider satisfaction would also be expected to improve with IPC implementation and will be gauged by a nurse satisfaction survey at the end of the 3-month trial.

METHOD

Design
A prospective, quasi-experimental pretest–posttest design was used. This study included seven monthly assessments: twice before the intervention and five times during and after the intervention.

Setting
Data were collected in a hospital located in an academic health sciences center in the southern United States. At baseline, only 67% of patients who received care at this hospital felt their pain was “always” well controlled in comparison to 71% and 70% for state and national levels, respectively.

The study was conducted on two units that provided care for patients with a variety of medical-surgical conditions including stroke, trauma, and orthopedic surgeries. The capacity of each unit was 25. On average, the units provided care for 22 patients daily with an average LOS of 4 days. There were 20 to 25 nurses employed on each unit. The ratio of nurses to patients was 1:4. The nursing staff of the intervention and control units was similar and the demographics, diagnoses, and LOS of patients on the two units were similar.

Participants
All patients were admitted to the intervention medical-surgical unit, and nurses who worked during the study period from August to December 2013 were eligible for inclusion. The study protocol was approved by the university’s Institutional Review Board and the hospital’s research committees.

Intervention
The pain management-related intervention included three specific tactics that might positively impact patient satisfaction with pain measurement. These three specific tactics included:

1. Use of a script by nurses when communicating with patients about their pain.
2. Conducting hourly rounding to consistently address patients’ perception of pain.
3. Using white dry erase boards in each patient room to allow nurses to document pain medication schedules and pain scores (Studer, Robinson, & Cook, 2010).

Script-based Communication. When assessing patients’ pain, nurses read a script as opposed to each nurse individualizing his or her communication related to pain assessment. Posters with the script were displayed throughout the unit, including patients’ rooms, as visual reminders for the staff and patients. The following is the script used by nurses on the intervention unit:

We are going to do everything that we can to help keep your pain under control. Your pain management is our number 1 priority. Given your (condition, history, diagnosis, status), we may not be able to keep your pain level at zero. However, we will work very hard with you to keep you as comfortable as possible.

Training of Nurses on Intervention Unit. Before implementation of the study, all nurses who were employed on the intervention unit attended an in-service provided by the acute pain service charge nurse. This included nurses who worked each shift as well as nurses in the float pool who may have been assigned to work on the unit. The educational training for nurses was conducted using small-group discussion. Each session lasted for 1 hour during regular working hours. Nursing staff was thus paid to attend the in-service. The acute pain service charge nurse explained the three specific tactics of the study intervention in detail and showed the importance of adherence to these strategies. The charge nurse encouraged group interaction to promote nurses’ participation in the implementation process. To determine whether training achieved its goals, a knowledge test was conducted at the end of each session. Any knowledge deficits were discussed with individual nurses. After the completion of the nurses’ training, the research team contacted the unit manager to start the implementation of the script-based intervention.

Use of White Boards, Hourly Rounding, and Fidelity of Intervention. The white boards included up-to-date information about pain levels, pain goals, and pain management options. This information also was shared during around-the-clock hourly rounding.
With the assistance of the clinical manager, charge nurses, and using a checklist, the acute pain service charge nurse conducted white board audits and assessed the fidelity of script verbiage on a daily basis. **Control Unit.** Patients admitted to the control unit received usual care from the nurses. This care did not include script-based communication, as only the intervention group nurses received education on implementing script-based communication. Before the study, all nurses in the academic health sciences center received general education on the need to communicate with patients and families by using white boards and hourly rounding. However, use of these strategies varied greatly. Only the intervention unit nurses received specific education and focused their communication on pain with use of white boards and hourly rounding.

**Instruments**

The HCAHPS Survey. Patient satisfaction with pain management was measured using the HCAHPS survey (Giordano et al., 2010). HCAHPS is a 27-item national, standardized, publicly reported survey of patients’ opinions used to measure the quality of care in hospitals. This instrument was designed to be administered to patients who were recently discharged from the hospital and contains questions about their experience of care received. Hospitals participating in HCAHPS are asked to survey a random sample of discharged adult patients on a monthly basis. Three items of this survey are specifically related to the patient experience with pain. The first HCAHPS item inquired as to whether or not patients felt they needed pain management. (This was a simple yes/no question.) The second item asked whether the pain was perceived as well controlled. Item 3 identified how often patients perceived that hospital staff did everything possible to alleviate their pain. Items 2 and 3 were answered based on Likert scale ranging from 1 (Never) to 4 (Always). The survey has been translated into five languages.

Upon hospital discharge, the current standard practice at this academic hospital is to ask patients to evaluate their hospital experience (including control of pain) using an HCAHPS survey that is mailed to their homes. No patients’ identification information is ever included in these summary reports.

Nurses’ Satisfaction. An investigator developed a survey to assess nurses’ satisfaction with script-based communication related to pain management, ranging from 1 (Unsatisfied) to 10 (Very satisfied) and their compliance with implementing the script-based communication tactics, ranging from 1 (Noncompliant) to 10 (Very compliant).

**Statistical Analysis**

Initially, we tested for trends in scores over time for control of pain by staff and whether staff did everything possible to help patient’s pain within each group by using ordinary least squares (OLS) regression techniques. Subsequently, OLS regression techniques were used to assess if the group (intervention vs. control) affected scores over time. Because this was not a randomized trial, significant differences in scores existed at baseline. As such, baseline scores were incorporated in the model as a covariate. Additionally, a descriptive analysis of nurse satisfaction with the implementation of the script-based communication was performed and correlation coefficient between the number of nurses with a BSN degree and HCAHPS scores was calculated.

**RESULTS**

White board audits and assessment of the fidelity of script verbiage on a daily basis revealed that nurses implemented the intervention at an acceptable adherence level of 90%. Study results are described in terms of each hypothesis.

Hypothesis 1: Greater improvement, over time, in patient HCAHPS scores related to satisfaction with pain management will be seen on the intervention unit, when compared with the comparison unit (i.e., usual care).

For the intervention group, scores for “staff is doing everything to help with my pain” ($\beta = 0.057, p = .022$) significantly increased over time, although scores for “pain is well controlled by staff” ($\beta = 0.015, p = .318$) remained consistent (Figs. 1 and 2). For the control group, both scores for “pain is well controlled by staff” ($\beta = -0.071, p = .004$) and “staff is doing everything to help with my pain” ($\beta = -0.084, p = .001$) significantly decreased over time (Figs. 1 and 2).

Hypothesis 2: Patient HCAHPS scores related to satisfaction with pain management will increase over time after implementation of the intervention (script-based communication, use of white boards, and hourly rounding).

The intervention group had significantly improved scores for “pain is well controlled by staff” ($\beta = 0.045, p = .009$) and “staff is doing everything to help with my pain” ($\beta = 0.075, p < .001$) when compared with the baseline.

Hypothesis 3: Nurses on the intervention unit will have high satisfaction scores related to the intervention (script-based communication, use of white boards, and hourly rounding).

A majority of the nurses ($n = 17; 94.4\%$) felt the script-based communication approach was easy to
comply with. The nurses were satisfied with the script-based communication approach (mean score = 7.84; 1 = Unsatisfied and 10 = Very satisfied) and were very compliant with implementing the script-based communication tactics (mean score = 8.16; 1 = Non-compliant and 10 = Very compliant).

Hypothesis 4: Having a BSN degree will impact patient satisfaction with the script-based communication intervention.

Education of the nurses (e.g., BSN, MSN, etc.) did not influence HCAHPS scores ($p = .991$).

**DISCUSSION**

Pain is a common problem among patients and it impacts many aspects of their lives. Pain may negatively affect QoL, sleep, and activities of daily living as well as increase health care expenses. Low HCAHPS scores, which reflect the quality of care, influence Medicare hospital reimbursement. Hospitals are required to report and improve HCAHPS scores to increase Medicare revenue reimbursement for their quality of care (Wolosin, Ayala, & Fulton, 2012).

Patient satisfaction with pain control is an issue of importance to all nurses. Despite the use of different strategies to improve patients’ satisfaction with pain interventions, patients and health care providers are still disappointed with outcomes. Previous studies (Idvall, Hamrin, Sjostrom, & Unosson, 2002; Klopfenstein, Herrmann, Mamie, Van Gessel, & Forster, 2000) showed that ineffective communication between health care providers and patients about pain can negatively affect patients’ satisfaction with pain management. Several studies found that providing patients with needed information and improving communication skills may help to improve and relieve patient pain (Muller-Schwefe et al., 2011; Vangronsveld & Linton, 2012). Despite the use of these strategies, HCAHPS scores are still not satisfactory. In this study, we demonstrated that clear and consistent pain-related communication between patients and nurses can improve patient satisfaction. IPC was an effective framework for this study.
Data related to fidelity of the intervention and nurse satisfaction demonstrate that nurses found the intervention (script-based communication, use of white boards, and hourly rounding) to be acceptable. White board audits and assessment of the fidelity of script verbiage on a daily basis revealed that nurses implemented the intervention at an acceptable level of adherence.

Clear and consistent communication about pain between patients and nurses led to a significant improvement in patient satisfaction with pain management over time. This intervention not only improved patients’ satisfaction with their pain control but also increased their satisfaction with health care providers’ performance in relieving their pain. The uniqueness of this intervention originates from using the script-based communication in addition to individualized patient care, conducting hourly rounding, and using white dry erase boards. Individualized patient care helps nurses focus on the most important things to patients; hourly rounding helps identify needs before the patient asks for them; and using white boards keeps health care providers and patients aware of care progress (Long, 2012). Using the script-based communication helped nurses deliver a clear, consistent message that health care providers are aware of patients’ needs, caring for their suffering, and working hard to keep them as comfortable as possible. Consistent with this finding, Long (2012) found that the nurse communication section of the HCAHPS survey is the best predictor of patient satisfaction with overall hospital performance.

The effect of the script-based communication intervention might require time in order to be attained. In our study, it took 2 months after the intervention to capture its effect. Therefore, it is important to keep nurses motivated and committed to adhering to the intervention.

It is interesting that Hypothesis 4 was not supported. Nurses’ level of education did not affect patient satisfaction with pain management; however, in this academic health sciences center the majority of registered nurses are BSNs or higher. The finding could be a result of restricted range.

Our intervention was simple and effective and could be replicated in a variety of health care organizations; however, the study was limited by use of only medical-surgical units in one academic medical center. This intervention should be replicated in other units and institutions to determine the generalizability of its effectiveness.

CONCLUSION AND CLINICAL IMPLICATIONS

Pain is a common problem among hospitalized patients and affects different aspects of their lives. Relieving patients’ pain is essential. Nurses are in a unique position to play this role. Clear and consistent communication related to pain can improve patient perception of nurses’ performance in pain management. This simple and effective intervention may improve patients’ lives and reduce health care expenses.

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REFERENCES


