



Pediatric Pain Letter

Commentaries on pain in infants, children, and adolescents

April 2010

Vol. 12 No. 1

www.childpain.org/ppl

Editor: Carl L von Baeyer, carl.vonbaeyer@usask.ca — Please visit website for information on submission and review

© 2010, Special Interest Group on Pain in Childhood, International Association for the Study of Pain®

Commentary

Do organizational quality improvement strategies improve pain management?

Alison Twycross and Stephanie J. Dowden

The evidence to guide pain management practices is readily available. However, practices continue to fall short of the ideal (Polkki et al., 2003; Vincent & Denyes, 2004; Twycross, 2007) with children experiencing moderate to severe unrelieved pain during hospitalization (Vincent & Denyes, 2004; Johnston et al., 2005; Taylor et al., 2008).

Organizational culture has been defined as:

“The set of beliefs, values, and norms, together with symbols like dramatized events and personalities, that represents the unique character of an organization, and provides the context for action in it and by it” (Morgan 1997, p. 41).

It is perhaps not surprising then that organizational culture has been identified as key to changing pain management practices (Bucknall et al., 2001; Treadwell et al., 2002; Botti et al., 2004; Jordan-Marsh et al., 2004). Indeed, participants in a web-based project to disseminate information about managing pain in children identified organizational culture as a barrier to changing practices (Bruce & Franck, 2005). The impact of organizational culture on pain management practice is supported by the findings of Lauzon Clabo’s (2008) ethnographic study on two adult wards in a hospital in the USA. Participants described a clear pattern of pain assessment on each ward, which were different from each other. The social context appeared to heavily influence nurses’ pain assessment practices. Several studies have examined the impact of

implementing organizational pain management strategies on pediatric pain management practice which will be discussed in this commentary.

Quality improvement strategies were used to improve pain assessment practices in a study by Treadwell et al. (2002). Staff in a pediatric hematology/oncology unit in a US hospital were educated about the use of pain assessment tools and a standardized pain assessment protocol was implemented. Data were collected from children and parents (Time 1: $n = 36$; Time 2: $n = 49$) before and 12 months after the implementation of the protocol; staff (nurses, physicians and psychosocial staff) also completed a questionnaire at similar times (Time 1: $n = 68$; Time 2: $n = 82$). Children, parents and staff all reported increased use of pain assessment tools ($p = 0.05$) and improved staff responsiveness to pain ($p < 0.001$) following the intervention. A chart audit demonstrated compliance with the assessment protocol. A strength of this study is that change was measured over a 12-month period providing some indication that changes in practice had become embedded in the unit.

A study was carried out to improve the management of acute pain in children through the systematic assessment of pain and the administration of appropriate analgesia in one US hospital (Jordan-Marsh et al., 2004). Pain management procedures for postoperative and procedural pain were implemented; a pain assessment tool was implemented; and analgesic drug regimes were standardized. Patient care rounds

focusing on pain management also took place. Chart audits were carried out and demonstrated an increase in documented pain assessments, reassessment of pain following the administration of analgesic drugs, and the amount of analgesia administered. A strength of this study is that an action research approach was used with participants being involved in all aspects of the study thus increasing the likelihood of them owning the changes. The changes took place over a 2-year period and the data presented indicate that these were sustained 2 years later. The interventions described in this study are time-consuming and resource intensive but demonstrate that an organizational focus on pain management can change practices.

Simons and MacDonald (2006) used action research to explore whether implementing the use of pain assessment tools into an English children's hospital alongside an education program and clinical input from a pain control team improved practices. Use of the pain assessment tools was examined after 6 and 12 months. The use of pain assessment tools appeared to increase over the 12 months but no data are provided about the impact on children's pain scores, making it difficult to establish how effective the intervention was.

An organization-wide comprehensive pain management program was implemented in one Canadian hospital (Ellis et al., 2007). The program included: pain management standards; a standard care plan; pain assessment tools; pain documentation paperwork; pain experience history record; education workshops; pain information folders; a pain resource nurse program; and pain information boards. Data were collected before and 6 months after implementation. A significant increase was found in the use of pain assessment tools ($p = 0.005$) and documentation of pain assessment in nursing notes ($p < 0.001$). Pain scores were not recorded on a flowchart before the intervention and so this can also be seen as an improvement in practice. No changes were found in other areas. A weakness of this study is that post-intervention data were collected after 6 months; this may mean that changes in practices had not become fully established. It is also possible that if data had been collected after a longer period greater changes

would have been achieved. A strength of the study is the post-implementation focus groups carried out with nurses ($n = 366$) and medical staff ($n = 8$). This enabled any barriers to change to be identified and addressed.

An institutional quality improvement initiative to improve pain management for pediatric cancer patients in one US hospital is described by Oakes et al. (2008). Retrospective chart audits ($n = 2478$) were carried out over a 6-year period (87 occasions). The chart audit examined whether pain assessments were recorded every 4 hours in accordance with the institutional standard; the proportion of patients with significant pain (≥ 5); and whether this pain was treated effectively within 1 hour of the assessment. Over the period of the study compliance with the pain assessment standard increased from 77% to over 90%. Significant pain was recorded in 21% of patients; in 66% of these patients, the pain was treated effectively. No statistical testing was carried out on the data but the study suggests that ongoing audit can positively influence pain management practices.

Megens et al. (2008) examined whether the implementation of a pain management policy in a pediatric hospital in the Netherlands improved the quality of pain management practices. Two pain assessment tools were introduced to the hospital; the observation chart was amended to include pain scores; nurses and anesthetists received training; and an information package was developed for children and parents. A target was set that 95% of patients would have a pain assessment undertaken (within 3 months) and that these pain scores would indicate *no* or *mild* pain (within 9 months). Over the 30 weeks of the study, 80% of patients in the recovery room (PACU) and 68% of patients on the surgical ward had a pain assessment recorded. Sixty-seven percent of the pain assessments recorded indicated that patients were in *no* or *mild* pain. Neither of the targets set were met and as pre- and post-intervention measures are not included in the paper it is difficult to ascertain the effectiveness of the quality improvement strategy.

Facilitators have been described as having a key role in relation to getting evidence into practice (Harvey et al., 2002; Rycroft-Malone et al., 2002). The use of facilitators was taken a step further in a

clustered randomized trial carried out by Johnston et al. (2007) in Canada. One-on-one coaching with audit feedback was used to improve individual nurses' pain assessment and management practices. The rate of pain assessment, nurses' knowledge and non-drug interventions increased in the coaching group but not all the differences could be attributed to the coaching. The authors concluded that institutional factors need to be considered alongside the role of individual nurses.

Directions for future research

The majority of studies reviewed indicate that making pain management an organizational priority can improve practices. However, many of the strategies used are time and resource intensive, and the studies exploring this are small scale with change not always being evaluated over a prolonged

period. The impact of organizational culture on pain management practices needs further exploration. Indeed, it has recently been suggested that there is a need to investigate how the social (ward) setting impacts on an individual's pain management practices (Craig, 2009; Franck & Bruce, 2009).

Alison Twycross, PhD

Principal Lecturer in Children's Nursing, Kingston University – St George's, University of London, UK

email: a.twycross@sgul.kingston.ac.uk

Stephanie J. Dowden, MEd

Clinical Nurse Consultant, Paediatric Palliative Care, Princess Margaret Hospital for Children, Perth, Western Australia

References

Botti M, Bucknall T, Manias E. The problem of postoperative pain: issues for future research. *Int J Nurs Pract* 2004;10:257-263.

www.pubmed.gov/15544581

Bruce E, Franck L. Using the worldwide web to improve children's pain care. *Int Nurs Rev* 2005;52:204-209.

www.pubmed.gov/16033447

Bucknall T, Manias E, Botti M. Acute pain management: implications of scientific evidence for nursing practice in the postoperative context. *Int J Nurs Pract* 2001;7:266-273.

www.pubmed.gov/11811398

Craig, KD. The Social Communication Model of Pain. *Can Psychol* 2009;20:22-32.

Ellis JA, McCleary L, Blouin R, Dube K, Rowley B, McNeill M, et al. Implementing best practice pain management in a pediatric hospital. *J Spec Pediatr Nurs* 2007;12:264-277.

www.pubmed.gov/17956374

Franck LS, Bruce E. Putting pain assessment into practice: why is it so painful? *Pain Res Manag* 2009; 14:13-20.

www.pubmed.gov/19262911

Harvey G, Loftus-Hills A, Rycroft-Malone J, Titchen A, Kitson A, McCormack B, et al. Getting evidence into practice: the role and function of facilitation. *J Adv Nurs* 2002;37:577-588.

www.pubmed.gov/11879422

Johnston CC, Gagnon AJ, Pepler CJ, Bourgault P. Pain in the emergency department with one-week follow-up of pain resolution. *Pain Res Manag* 2005;10:67-70.

www.pubmed.gov/15915247

Johnston CC, Gagnon A, Rennick J, Rosmus C, Patenaude H, Ellis J, et al. One-on-one coaching to improve pain assessment and management practices of pediatric nurses. *J Pediatr Nurs* 2007;22:467-478.

www.pubmed.gov/18036467

Jordan-Marsh M, Hubbard J, Watson R, Deon Hall R, Miller P, Mohan O. The social ecology of changing pain management: do I have to cry? *J Pediatr Nurs* 2004;19:193-203.

www.pubmed.gov/15185248

Lauzon Clabo LM. An ethnography of pain assessment and the role of social context on two postoperative units. *J Adv Nurs* 2008;61:531-539.

www.pubmed.gov/18261062

Megens JH, van der Werff DB, Knape JT. Quality improvement: implementation of a pain management policy in a university pediatric hospital. *Paediatr Anaesth* 2008;18:620-627.

www.pubmed.gov/18482235

Morgan G. Images of organization (2nd ed.). Thousand Oaks, CA: Sage, 1997.

www.worldcat.org/oclc/245656652

Oakes LL, Anghelescu DL, Windsor KB, Barnhill PD. An institutional quality improvement initiative for pain management for pediatric cancer inpatients. *J Pain Symptom Manage* 2008;35:656-669.

www.pubmed.gov/18329841

Pölkki T, Pietilä A, Vehviläinen-Julkunen K. Hospitalized children's descriptions of their experiences with postsurgical pain relieving methods. *Int J Nurs Stud* 2003;40:33-44.

www.pubmed.gov/12550148

Rycroft-Malone J, Kitson A, Harvey G, McCormack B, Seers K, Titchen A, et al. Ingredients for change: revisiting a conceptual framework. *Qual Saf Health Care* 2002;11:174-180.

www.pubmed.gov/12448812

Simons J, MacDonald LM. Changing practice: implementing validated paediatric pain assessment tools. *J Child Health Care* 2006;10:160-176.

www.pubmed.gov/16707544

Taylor EM, Boyer K, Campbell FA. Pain in hospitalized children: a prospective cross-sectional survey of pain prevalence, intensity, assessment and management in a Canadian pediatric teaching hospital. *Pain Res Manag* 2008;13:25-32.

www.pubmed.gov/18301813

Treadwell MJ, Franck LS, Vichinsky E. Using quality improvement strategies to enhance pediatric pain assessment. *Int J Qual Health Care* 2002;14:39-47.

www.pubmed.gov/11871628

Twycross A. Children's nurses' post-operative pain management practices: an observational study. *Int J Nurs Stud* 2007;44:869-881.

www.pubmed.gov/16716327

Vincent CVH, Denyes MJ. Relieving children's pain: nurses' abilities and analgesic administration practices. *J Pediatr Nurs* 2004;19:40-50.

www.pubmed.gov/14963869