The gap between saying and doing in postoperative pain management

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Aim. To understand how nurses contribute to postoperative pain management in a surgical setting and to identify barriers to achieving optimal postoperative pain alleviation.

Background. Postoperative pain is inadequately managed. Nurses play an important role in assessment, treatment and evaluation of postoperative pain in surgical wards, but combined observational and interview studies about how they approach these activities have rarely been undertaken.

Design and methods. The study design is descriptive. Observations and in-depth interviews were conducted with nine nurses on three surgical wards at two hospitals. Each nurse was observed during five shifts, day and night, and interviewed after the final observation. The collection and analysis of data followed principles of qualitative research.

Findings. One main theme emerged about the nurses’ approach to postoperative pain management: a discrepancy between what the nurses said they did and what they actually did.

Conclusion. The study revealed a gap between what nurses said and did in postoperative pain management, and this gap was smaller when the nurses took an active approach. An active approach towards patients about postoperative pain seemed to enhance pain alleviation.

Relevance to clinical practice. Nursing education and practice both need to promote knowledge of pain and pain management, as well as empathy and empathic communication in relation to pain. They need to collaborate in guiding nurses to act in accord with theoretical knowledge and so enhance competence in nursing actions related to postoperative pain management.

Key words: communication, interview, nurses’ approach, observation, pain management, postoperative pain
**Introduction**

Despite increased knowledge of pain and pain treatment in recent years, research over the past 25 years demonstrates a high prevalence of pain in surgical patients (Cohen 1980, Warfield & Kahn 1995, Svensson et al. 2001). Barriers to effective postoperative pain management, such as insufficient knowledge about pain, inadequate assessment and evaluation of pain and various attitudes to pain and its management, may contribute to inadequacy in postoperative pain management (Klopfenstein et al. 2000, Manias et al. 2002). The most common reason for inappropriate pain management is the failure of staff systematically to assess and evaluate pain and its management (APS 1999). Nurses, as important members of the team, have a unique opportunity to assess pain and continuously evaluate its treatment. Because assessment and management of postoperative pain represent an important domain of nursing practice, nurses must be adequately prepared to undertake an active role in postoperative pain management, but few studies have shown how nurses actually fulfil this role.

**Background**

The study was based on two definitions of pain: ‘pain is whatever the experiencing person says it is, existing whenever she (sic) says it does’ (McCaffery 1983, p. 14); and ‘pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage’, as used by the International Association of the Study of Pain (IASP) (Melzack & Wall 1996, p. 45). Both definitions emphasize pain as a subjective experience, with the latter emphasizing it as a complex experience with multiple dimensions. The clinical practice guideline of acute pain management from the Agency for Health Care Policy and Research (AHCPR 1992) also provided a basis for the study. A multidisciplinary expert panel developed the AHCPR guideline to assist practitioners and reflected current knowledge when published. The expert panel provided several recommendations, important for the role and function of nurses in postoperative pain management, to obtain pain control, as patient teaching about pain management, assessment and frequent reassessment of pain, use of both drug and non-drug therapies to prevent and control pain and a formal, institutional approach with clear lines of responsibility. These recommendations clearly fall within the responsibility of nurses.

Numerous studies have been conducted on postoperative pain management. Our literature search focused on nurses’ approach and contribution to postoperative pain management with respect to preoperative information, assessment, treatment, evaluation and factors in the environment, which are some of the issues highlighted by AHCPR (1992).

Previous research indicates a positive effect of preoperative information about pain on postoperative outcomes and recommends such education (Shuldham 1999, Doering et al. 2000, Lewis 2002, Sjöling et al. 2003, Stomberg et al. 2003). However, the conclusion of a recent systematic review is that little evidence supports the use of preoperative education to improve postoperative outcomes in patients undergoing knee and hip replacement (McDonald et al. 2004). This may be due to improved preoperative education about pain in recent years.

Because pain is highly subjective and may be difficult to communicate and assess, the AHCPR (1992) guideline emphasizes a systematic assessment of pain and patients’ self-report of pain, using a valid assessment tool. A recent observational study (Manias et al. 2004) reported detailed information on how nurses dealt with assessment of postoperative pain, such as poor communication between nurses and patients, no systematic assessment and a limited use of a valid assessment tool. These results confirm previous studies (Francke et al. 1996, Carr 1997, Rawal & Allvin 1998, Dahlman et al. 1999, Schafheutle et al. 2001). Nurses’ report appreciating and having a positive attitude to the use of pain rating scales (Dahlman et al. 1999, de Rond et al. 1999). In addition, several previous studies show discrepancies between patients’ and nurses’ assessment of pain using a pain rating scale (Paice et al. 1995, Field 1996, Sjöström et al. 1997, Thomas et al. 1998).


Correct assessment and treatment of pain is important, but reassessment and goal setting for pain alleviation are also important to achieve optimal pain relief (AHCPR 1992). A study designed to increase insight into nurses’ and physicians’ evaluation of patients’ postoperative pain concluded both groups assess pain and pain relief inadequately (Klopfenstein et al. 2000). The goal for postoperative pain alleviation seems
to differ among nurses; some expect complete pain relief and others claim that patients must accept some pain (Nielsen et al. 1994, Schafheutle et al. 2001).

Most of the studies on postoperative pain management by nurses are surveys and interview studies; however, a major concern of these studies is that self-reported actions may differ from what actually occurs in clinical practice. Recently, some observational studies have been conducted in the area of postoperative management (Willson 2000, Manias et al. 2002, Manias et al. 2004). No studies have been conducted observing nurses continuously during day and night, practising postoperative pain management within the areas of preoperative education, assessment, treatment and evaluation, and in addition interviewed nurses to get their perception about how they performed postoperative pain management. Better understanding of how nurses apply their knowledge of modern postoperative pain management is needed.

The study

Aim

The aim of our study was to increase understanding about how nurses contribute to postoperative pain management in a clinical setting, by observing how they actually perform postoperative pain management and by investigating their perceptions of the topic. In addition, we aimed to identify some barriers to achieving optimal postoperative pain alleviation.

Design and methodology

The study was descriptive and involved observation and qualitative in-depth interviews with nurses in surgical wards. Data collection and analysis followed Kvale’s (1996) guidelines for qualitative research, which implies a hermeneutic mode of understanding.

Setting and sample

The study was carried out in two hospitals (A and B) in Oslo, Norway. The surgical ward in Hospital A had 25 beds and a staff of 23 nurses and five nursing assistants. Hospital B had one surgical ward with 18 beds and another with 30 beds. The first of these had a staff of 17 nurses and three nursing assistants and the second had 22 nurses and six nursing assistants. No national standards are available on effective postoperative pain management in Norway. As postoperative pain relief, both Hospital A and B most commonly administered paracetamol or a weak opioid as suppository or tablet, together with an opioid intravenously and sometimes those were combined with a non-steroid anti-inflammatory drug (NSAID). Only Hospital A used epidural analgesia (EDA) to some major surgery. Patient Controlled Analgesia (PCA) was not used in either of the wards, and pain-rating scale was only used to document pain when a patient received EDA, during our study. No written instructions/routines for pain assessment and reassessment were available on any of the wards.

A strategic sample of nine nurses was drawn (five nurses in Hospital A and two from each of the two wards in Hospital B). To gain as much information as possible, the inclusion criteria were; nurses with experience and interest in the topic, and nurses familiar with the pain routines on the ward (Malterud 2001). The head nurses selected nurses who met the inclusion criteria and written informed consent was gained prior to participation in the study. The final sample included seven women and two men, aged 27–35 years. Their average experience on the ward was 2.78 years (one to six years). One nurse was a clinical specialist; the others had no special education and none had worked in a recovery or intensive care unit.

Data collection

Data were collected through observation and interview. Semi-structured observation and interview guides were developed based on theory of pain and postoperative pain management, earlier research and clinical experience (Appendixes A and B). Pilot observations and interviews were conducted with two nurses to ensure validity of the guides. Observations focused on the nurses’ actions and interviews focused on their reflections about what they do in postoperative pain management.

Two researchers observed and interviewed four and five nurses respectively. Every nurse was observed during two day-shifts, two evening shifts and one night shift, altogether about 350 hours. Observational notes were written continuously during each shift and rewritten immediately afterwards. The interviews took place in a quiet room on the ward immediately after the last observation of each nurse, and lasted about 45 minutes. The nine interviews were audio-taped and transcribed verbatim. Observations and interviews were conducted until a point of saturation was gained and little new knowledge revealed.

Validity and trustworthiness

To increase the validity and trustworthiness of the study, two researchers with experience and special training in pain management analysed the data independently at each level of
the analysis process. Further, we discussed condensations, interpretations and implications for practice. Both researchers endeavoured to share their knowledge and attitudes about the topic from the beginning of the study so as to be as reflective as possible about preconceptions. This was challenging as everyone usually has established experience, attitudes and values about pain.

Trustworthiness of data and findings were ensured using the guidelines of Kvale (1996). Triangulation of methods, achieved by combining observations and interviews, is an important procedure for improving rigor. To ensure interpretations were reasonable and valid, we reread parts of the material and the third author, not directly involved in the data gathering, read parts of the material and discussed the interpretations. Participants did not comment on (confirm accuracy of) the observation notes or the interviews and this could be considered a weakness of the study. To ascertain whether the study findings can be applied in other settings depends on those reading the findings. In qualitative research, findings can be applied in other settings if the reader is able to ascertain for which situations the findings might provide valid information (Malterud 2001). It should be noted that the small number of participants limits the generalization of the findings, however, each nurse was observed for about 40 hours and in two different hospitals. The nurses in this study may have raised awareness of how they performed postoperative pain management as a consequence of the observations and pain questions; however, the researchers spent some time at the wards prior to the study and were dressed in ordinary nursing clothes.

Ethics

The Regional Committee for Medical Research Ethics in Norway approved the study. The study was carried out from May to November 2001. The rights of the nurses participating were safeguarded through confidentiality and written informed consent. The nurses, in turn, invited the patients to consent prior to observations and were assured confidentiality at all levels of the study.

Data analysis

The principles of Kvale’s (1996) guidelines for qualitative research guided the analysis through a hermeneutic process, which involves a continuous back and forth, process between the parts and the whole. Following Kvale (1996), the analysis was done on three different levels; self-understanding, common sense and theory, which involve increasing levels of abstraction during the analysis.

At the first level, two researchers read all the material to gain a general picture of the content. The observation and interview material of each nurse was read, key words were marked in the text and data condensed. The condensed data were sorted into broad categories in accord with five areas: preoperative information; assessment; treatment; evaluation; and factors in the environment that could influence nurses’ activities in pain management. These condensations were made independently and the two versions were compared and discussed. As a result of this level of analysis, one condensation based on the observations and one on the interviews was made for each nurse.

At the next level, both recurrent and distinctive themes were identified and discussed. Through a continuous dialogue (asking questions of the data), reasonable interpretations were suggested. Further, consistency and differences were identified between what each nurse did when observed and what they said during interview. Finally, different interpretations were discussed in light of modern postoperative pain management. During the interpretation process, patterns within the four areas (preoperative information, assessment, treatment and evaluation of postoperative pain) emerged and are presented as findings here. The findings are presented in a descriptive way and various interpretations of the findings are discussed later in the paper.

Findings

To illuminate the main interpretation of the data, subheadings are used within the four headings: preoperative information about pain, postoperative pain assessment, postoperative pain treatment and evaluation of postoperative pain. The overall finding presented here is a gap between what the nurses say they do and what they actually do in postoperative pain management (Table 1).

Preoperative information about pain – only on special request

According to the nurses they value the importance of preoperative information about pain, however the observations revealed that such information was very rarely given.

Nurses saying; information given routinely

The nurses claimed they gave some information about postoperative pain during patients’ admission to the hospital the day before operation. The main content of the information was: they would get pain alleviation when needed, it is common to have some pain, pain is individual and patients had to report when in pain. One nurse (No. 2) explained it
was important to give patients information before the operation to relieve their worries about pain: ‘...just to know before the operation, that you will get good pain relief, I really think that is very important’.

Nurses doing: information given on special request
No nurses gave preoperative information about pain unless the patient specifically requested it. Questions from the patients prompted relevant information, but very few patients asked for such information. The nurses primarily used pre-operative visits to get information from the patients (e.g. history of illness, use of medication, food, blood pressure) and information given to the patients mainly concerned routines of the ward such as meals, care on returning to the ward after operation and so on.

Postoperative pain assessment – some approaches more adequate than others
The nurses said they assessed pain by communicating with the patients and observing them. However, during the observations it was obvious that nurses communicated differently with the patients and had varying attentiveness to the patients’ signs of pain. It became clear that some approaches would be more adequate than others.

Nurses saying: assessing by communicating and observing
Pain was assessed mainly by talking with patients, asking them about pain and observing non-verbal signs of pain. Patients’ non-verbal signs of pain were described as sweating, sickness, paleness, body language (e.g. lying still and very tense) and level of activity. All nurses said they emphasized to patients they had to report if they were in pain or needed pain medication. The nurses knew about pain rating scales as a tool for assessing the intensity of pain, but said they seldom used them.

Nurses doing: different ways of communicating about pain
Apparently the nurses approached patients in different ways about pain. Some nurses would ask direct questions, such as ‘Do you have pain?’ or ‘How is your pain?’ A direct question seemed to make it easy for patients to talk about pain and pain medication. For example, a patient replied with worries of addiction, making it possible for the nurse to act on these worries (No. 8):

Patient: But I’ve taken so many tablets. I have been so afraid to take painkillers, but now I’ve turned into a real addict.
Nurse: I absolutely don’t think you have taken too much medication.
Patient: I tried not taking painkillers, but then I didn’t sleep for two nights.
Nurse: Yes, you need medication for your pain in that kind of situation.

Other nurses asked patients indirect and general questions about their condition, such as ‘How are you?’ Such questions would not prompt questions or comments about pain as often from patients. If patients said nothing, it was interpreted as everything all right, including their level of pain. The most frequent response from the nurses would then be: ‘Ring the bell if you need anything.’

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<tr>
<th>Areas of pain management</th>
<th>Nurses saying</th>
<th>Nurses doing</th>
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<tr>
<td>Preoperative information:</td>
<td>Information given routinely</td>
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<td>Pain assessment:</td>
<td>Assessing pain by communicating and observing</td>
<td>Different ways of communicating about pain:</td>
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<td>Varying attentiveness to patients’ non-verbal signs of pain</td>
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<td>Insensitive</td>
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<td>Postoperative pain treatment:</td>
<td>Treating pain ‘by the book’</td>
<td>Insufficient treatment of pain:</td>
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<td>Inadequate treatment of pain</td>
<td>Combining peripheral and central analgesics</td>
<td>Not regularly combining peripheral and central analgesics</td>
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<td>Pain treated regularly</td>
<td>Unsystematic treatment of pain</td>
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<td>Pain alleviation prior to mobilization</td>
<td>Insufficient treatment of pain prior to mobilization</td>
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<td>Emotional support</td>
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<td>Evaluation of postoperative pain:</td>
<td>Routinely evaluating pain by asking</td>
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<td>No routines for evaluation</td>
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Nurses doing: varying attentiveness to patients’ signals
Observations also revealed differences in the nurses’ attentiveness to patients’ signs of pain. Some nurses were sensitive to both non-verbal and verbal signs. For example, one nurse (No. 6) observed a patient sitting in the corridor, gently touching his arm and she immediately approached him and asked if he was in pain, which he confirmed. Another nurse (No. 9) asked a patient if the analgesic given relieved the pain, to which the patient responded it worked when lying quiet, but when moving it was painful. The nurse then offered more analgesic, and when the patient hesitated to take it, the nurse motivated him and gave some more, which resulted in improved pain alleviation. Other nurses seemed less sensitive to signs of discomfort, and would listen to patients’ complaints about pain without acting upon them (Nurse 2):

The patient makes complaining noises and says she has pain down her leg and in her hip and uses the lift mechanism to lift herself up, although she obviously wants help. Through her gestures and verbally the patient clearly shows she is in pain, but the nurse doesn’t respond – she only listens without commenting or doing anything about it.

Postoperative pain treatment – inadequate treatment of pain
In treatment of postoperative pain the nurses claimed to follow ‘the book’ meaning they would treat pain according to recent knowledge. However, the observations revealed that this was not always the case.

Nurses saying: treating pain ‘by the book’
According to the interviewees, the usual way to alleviate postoperative pain was to combine peripheral and central nervous system drugs. Most nurses emphasized the benefits of the rapid and good effect of opioid given intravenously, and in addition stated they usually gave paracetamol at regular intervals as a basic analgesic. Regarding side effects, the nurses reported few worries, except about respiratory depression from opioid, but they also emphasized such problems seldom occurred. Other side effects they mentioned were sedation, constipation and addiction, but these were not seen as a problem. Addiction was considered a problem only if the patient was addicted before hospitalization. The nurses all talked about treatments other than analgesics and mentioned non-invasive methods such as massage, music, distraction, therapeutic touch, warm and cold treatments, but few reported using any of them.

The nurses emphasized the importance of good pain alleviation before activities such as mobilization. They said they tried to motivate patients to take analgesics by explaining and informing them why it was important and stated patients then usually accepted taking analgesics. One nurse claimed (No. 3) that if the patients rejected taking analgesics, ‘…then I haven’t prepared the patient well enough’.

Most nurses emphasized the importance of some kind of emotional support to reduce the experience of pain. Different words were used: to care for the patient’s psychological needs, to communicate with, to inform or to explain, to comfort, to respect and to believe in the patient and to give the patient attention.

Nurses doing: insufficient treatment of pain
The nurses seldom gave peripheral analgesics, such as paracetamol, regularly. For example, one nurse (No. 3) offered paracetamol to a patient as prescribed; however, the patient did not want that kind of medication, because it was considered too weak. The nurse just accepted this without arguing or trying to explain why it was necessary, she left the decision to the patient saying, ‘You decide.’

Several nurses gave some analgesic before exercise, but few were observed reassessing patients’ pain just before or during mobilization. Mobilization often resulted in situations in which the patient would show signs of discomfort and pain, like grimacing and moaning. Most nurses would then continue the mobilization without giving any further analgesic. However, there were nurses who encouraged patients to say if mobilization or training was painful, and to raise their voices before the pain got too bad or was still nagging. They would often unasked offer pain medication and with an explicit communication encourage the patient to take medication before activity, as nurse No. 8 explained to a patient:

Concerning pain, you should mention it at once even before it becomes nagging. Don’t think it will get better because it won’t, it will get worse. And if you are in intense pain, it will be more difficult to relieve the pain. So, let me know at once.

Even though the nurses said they rarely used non-invasive methods, we observed some of them using methods such as cold treatment and massage. For example, one nurse (No. 6) offered to massage the feet of a patient with pain and sleep disturbance, and cold treatment was sometimes used after knee surgery to relieve swelling and pain.

Evaluation of postoperative pain – no routines for evaluation
The nurses reported they evaluated pain by asking the patients, however, the observations revealed unsystematic and inadequate pain evaluation.
Nurses saying: routinely evaluating pain by asking
All nurses reported that pain treatment was evaluated by talking with patients; for example, 'Is it still painful?' and 'Do you need more analgesics?' They had no routine follow up of pain treatment, but some nurses said they returned to patients to evaluate the effect 5–10 minutes after intravenous medication and 45 minutes after tablets. Further, two nurses said if they were short of time, they would tell the patients to 'ring the bell if still in pain'. No nurses reported any written or common goals for postoperative pain alleviation, and individual goals differed in three categories: pain free, optimal and have to accept some pain.

Nurses doing: unsystematic and insufficient evaluation of pain
We observed that, in many situations, the medication given was only evaluated if it was given intravenously. Very seldom was any reassessment done after giving tablets or suppositories, even if the nurses said they usually did so in interview. There were no obvious routines for evaluation of pain on any of the wards.

Discussion
This study is the first to observe nurses continuously, day and night, conducting postoperative pain management within the areas of preoperative education, assessment, treatment and evaluation, together with interviews of nurses to get their perception about how they performed postoperative pain management.

A discrepancy appeared between the nurses’ own perceptions about how they dealt with postoperative pain management and how they actually performed it in the clinical setting. Accordingly, our main finding was a gap between what the nurses said they did during the interviews and what they were observed doing (Table 1). The consequence of a big gap between saying and doing constitutes a barrier to obtain good postoperative pain alleviation.

We found the nurses had theoretical knowledge about central issues in postoperative pain management; that is, giving preoperative information, assessing and reassessing pain and treating pain with medication as prescribed. However, they did not always use this knowledge in the clinical setting, as other studies have reported (Helseth 1998, Nash et al. 1999, Swain et al. 2003). The inadequate transfer of knowledge into action can be seen as a barrier to good postoperative pain management and might be explained as:

- The nurses had superficial and inadequate knowledge about pain and pain management, as previous studies report (Clarke et al. 1996);
- Knowledge was not well integrated by the nurses and had not become personal knowledge. This might reflect as suggested by Benner (1984), that clinical competence in nursing develops through experience over time and at different levels of competence;
- The nurses might have followed the usual traditions or habits about pain management on their wards, and were not used to reflecting upon their own experience, as described by Schön (1983) as 'the reflective conversation with the situation'.

None of the nurses taught patients preoperatively about postoperative pain management or how to communicate their pain after surgery, as recommended in the literature (AHCPR 1992, McDonald et al. 2000). Carr and Thomas (1997) found few patients recalled any information about pain relief given preoperatively by the acute pain nurse, and indicated this could be due to high anxiety; it might also be, as in this study, that the information was never given.

The nurses used different approaches in assessing pain. Some nurses approached the topic of pain directly while others had a more general or indirect approach. Direct questions about pain and communicating with a purpose or goal seemed to enhance communication of pain compared with open-ended and general questions. Sjöström et al. (1997) found listening to what the patient said was a more successful strategy in assessing pain than relying on how the patient looked. This emphasizes the importance of asking patients directly and listening to what they say. This is significant because pain is a subjective feeling, as stated in the definitions of pain by McCaffery (1983) and IASP (Melzack & Wall 1996), thus cannot be objectively quantified. Most of the nurses told patients to get in touch and ring the bell if something occurred. They did not take into account that patients may hesitate to communicate their pain or often do not want to ‘bother’ the nurses as found by (Carr & Thomas 1997, McDonald et al. 2000). Similar to the findings of Schafheutle et al. (2001), the nurses in this study relied heavily on their own judgement of patients’ pain conditions, because they did not use any pain rating scales for self-report of pain, and few approached patients directly with questions about pain. In addition, most nurses reported assessing non-verbal signs of pain, but non-verbal communication, like facial pain expression, is not an effective alternative to patients’ self-reports (Sjöström et al. 1997, Chung et al. 2001).

Nurses’ attentiveness to patients’ signs of pain also differed. Such attentiveness might be viewed in relation to theory on empathy. Empathy may be characterized as a process by which a person is able to perceive and understand another person’s feelings and thoughts (Rogers 1975). As this seems to be a vital part of nurses’ successful approach to

postoperative pain management, one way to enhance good alleviation of postoperative pain is to teach nurses to be more empathic through training programs (Nerdrum 1997). Further, the nurses might not have been aware of how their verbal communication and non-verbal body language influenced their communication with patients, which may be considered a subconscious type of barrier to effective pain management, as identified by Schafheutle et al. (2001).

Few nurses assessed pain using a pain rating scale, which might constitute a barrier to good, postoperative pain alleviation as self-report is the most reliable indicator of the existence and intensity of pain (AHCPR 1992). The inadequate use of pain rating scales to assess postoperative pain is in accordance with previous findings (Francke et al. 1996, Manias et al. 2004). That nurses in our study seldom used any assessment tool might reflect that they found pain from surgery as normal and easy to identify and assess, but most likely it is an organizational problem and reflects that they found pain from surgery as normal and easy to identify and assess, but most likely it is an organizational problem and reflects that such scales are not in regular use on the surgical wards. Use of a scale may enhance more direct communication with patients, increase patients’ self-report of pain, and contribute to reducing underestimation of postoperative pain (Paice et al. 1995, Field 1996, Thomas et al. 1998).

We also found that some nurses did not give the combination of drugs they claimed they did; for example, paracetamol at fixed hours was not given regularly in combination with opioids as recommended (AHCPR 1992, APS 1999). This indicates a knowledge deficit in analgesic treatment. Further, nurses rarely gave pain relief during mobilization. However, some nurses would offer pain medication without being asked and explicitly encouraged patients to take medication before activity. Nevertheless, even these nurses seldom gave pain medication during an activity or stopped the activity if the patient was in pain. Inadequate pain alleviation during mobilization may partly explain the under-treatment of pain and may partly account for the high incidence of pain among surgical patients, as patients report more pain when coughing and moving (Klopfenstein et al. 2000, Watt-Watson et al. 2001). The fact that many nurses continued with an activity even if the patient expressed pain may be interpreted as:

- The nurses did not believe the patient was in pain, which means they did not acknowledge that ‘pain is whatever the patient says it is’ (McCaffery 1983);
- The nurses were insensitive to the patient’s signs or they lacked personal involvement in the situation;
- The nurses believed it is not possible to be completely free of pain;
- The nurses believed patients have to tolerate some pain postoperatively, which is in line with the findings of Manias et al. (2002).

Our findings suggest the nurses evaluated pain relief inadequately. This might also serve as a barrier to good pain alleviation. The importance of using a pain rating scale for systematic reassessment and documentation of pain relief is recommended by AHCPR (1992). Moreover, the nurses’ goal for pain alleviation was subjective and differed among them, which may cause unpredictable pain alleviation for patients. Several nurses indicated patients had to tolerate some pain postoperatively, which is in accord with findings in other studies (Nielsen et al. 1994, Schafheutle et al. 2001).

The study revealed that nurses approached patients in pain in different ways. Some nurses used an active approach. This was characterized by an open and direct communication about pain, high sensitivity to patients’ signs, combinations of drugs given as prescribed and an aim to prevent pain (e.g. before mobilization); these nurses also apparently used their knowledge about pain management. This active approach seemed to enhance good pain alleviation. On the other hand, some nurses used a more passive approach and this was characterized by an indirect communication, overlooking patients’ signs and leaving it to patients to take responsibility for their own pain treatment. A passive approach seemed to be less successful in the management of pain. No nurses in this study had a purely active or a purely passive approach, but their approaches could be placed on a continuum between active and passive. An active approach to pain and pain management apparently enhanced successful postoperative pain management, and therefore it could be claimed the key to good alleviation of postoperative pain lies in the ability of nurses to communicate with patients about pain, nurses’ attentiveness to patients’ signs and nurses’ active use of their knowledge about pain.

Table 2 Recommendations to enhance postoperative pain management

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<th>Recommendations to enhance postoperative pain management</th>
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<td>Nursing education and clinical settings both need to promote knowledge of pain and pain management, as well as empathy and empathic communication in relation to pain.</td>
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<td>Greater collaboration between education and practice is needed in guiding nurses to act in accord with theoretical knowledge and so enhance competence in nursing actions related to postoperative pain management.</td>
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<td>During preoperative visits, nurses need to effectively teach patients their role and responsibility in their own pain management.</td>
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<td>Incorporate a patient pain self-reporting rating tool for systematic pain assessment and reassessment and document pain as a vital sign in the patient’s chart.</td>
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<td>Introduce a common goal for pain relief on wards. Nurses need to be especially aware when mobilizing patients throughout hospitalization and stop activity until effective pain relief is achieved.</td>
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Conclusion

Our study revealed a gap between what the nurses said they did and what they actually did in postoperative pain management. When this gap was big it seemed to be a barrier to adequate pain alleviation. Furthermore, this gap seemed smaller when nurses took an active approach, and an active approach towards patients about pain seemed to enhance better postoperative pain management. These findings underline the significant role of the nurses in postoperative pain management and we propose some recommendations to enhance postoperative pain management (Table 2). These recommendations are in accord with the AHCPR (1992) and APS (1995) guidelines for managing acute pain and may be used to develop national guidelines for postoperative pain management in Norway. Further research is needed to test interventions designed to address complex pain problems in order to obtain more effective pain relief for patients in postoperative pain.

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Contributions

Study design: AD, SH; data collection and analysis: AD, GB, SH; manuscript preparation: AD, SH.

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**Appendix A: Interview guide**

The theme of this project is postoperative pain management. Could you please tell me about an ordinary postoperative period with regard to pain and pain treatment, describing a patient you have been responsible for, before and after operation?

Area 0. Preoperative information to the patient about postoperative pain and pain treatment

In which situations do you inform patients preoperatively about postoperative pain?

What do you emphasize in this information?

Area 1. Assessing postoperative pain

How do you assess the patient’s postoperative pain?

In which situations do you find out if the patient is in pain?

What do you think influences the assessment of pain?

Area 2. Treatment of postoperative pain

What actions do you perform to alleviate pain?

Are there any circumstances that make optimal pain alleviation difficult?

Do you know of any treatment that you do not use?

Area 3. Evaluation of treatment

How do you evaluate the effect of pain treatment?

How do you act if your treatment does not work effectively?
Is your goal that pain should be totally relieved?
Is there any goal for postoperative pain on the ward?

Finally
Do you think you usually succeed or fail in your pain alleviation?
Could you please give more detailed reasons?

Appendix B: Observation guide

The main focus of the observations is the nurse’s actions in relation to postoperative pain.

Area 0. Preoperative information about pain

Situations for observation of the nurse
Preoperative visit at admission
Content of information
Preparation of patients immediately before operation
Responses to patients’ questions

Key words: How is pain and the importance of pain alleviation described?

Area 1. Assessment of pain

Situations for observation of the nurse
Nursing or caring situations
When mobilizing postoperative patients
Giving medication
Responding to patients’ call for pain relief after a report of possible pain problems

Question: What does the nurse take as a starting point to assess pain?
How the patient looks?
What the patient says?
The patient’s way of talking
The expected pain for the situation (diagnosis, operation method, etc; experience is central)

Question: Is there any correlation between the nurse’s starting point to assess pain and successful pain alleviation?

Area 2. Treatment to alleviate pain

Situations for observation of the nurse
Administration of medication after routine orders
Administration of medication after the patient’s request
Administration of medication after own assessment

Key words: individual prescribed medication, as needed, standard prescription, maximum dose given

Question: What medication is given and how often?
Incidence of non-invasive methods: distraction, relaxation, visualization, cutaneous stimulation

Situations to observe: daily patient care, mobilizing patients

Area 3. Evaluation of pain treatment

Situations to observe
Reassessment of patient after giving medication
When and in which situations treatment is evaluated
Documentation performed
What is done when pain is not alleviated

Area 4. Circumstances that increase or decrease pain alleviation

Observation of circumstances that influence pain alleviation

Key words: Spoken or written reports, routines for medication, support/no support from the doctor or other nurses for nurse’s clinical decisions; daily routines on the ward, co-operation with the physician, norms in relation to pain alleviation on the ward