Challenges faced by nurses in managing pain in a critical care setting

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Aim. To explore nurses’ challenges in managing pain among ill patients in critical care.

Background. Pain can lead to many adverse medical consequences and providing pain relief is central to caring for ill patients. Effective pain management is vital since studies show patients admitted to critical care units still suffer from significant levels of acute pain. The effective delivery of care in clinical areas remains a challenge for nurses involved with care which is dynamic and constantly changing in critically ill.

Design. Qualitative prospective exploratory design.

Methods. This study employed semi-structured interviews with nurses, using critical incident technique. Twenty-one nurses were selected from critical care settings from a large acute teaching health care trust in the UK. A critical incident interview guide was constructed from the literature and used to elicit responses.

Results. Framework analysis showed that nurses perceived four main challenges in managing pain namely lack of clinical guidelines, lack of structured pain assessment tool, limited autonomy in decision making and the patient’s condition itself.

Conclusions. Nurses’ decision making and pain management can influence the quality of care given to critically ill patients. It is important to overcome the clinical problems that are faced when dealing with pain experience.

Relevance to clinical practice. There is a need for nursing education on pain management. Providing up to date and practical strategies may help to reduce nurses’ challenges in managing pain among critically ill patients. Broader autonomy and effective decision making can be seen as beneficial for the nurses besides having a clearer and structured pain management guidelines.

Key words: challenges, critical care nurses, critically ill, pain guidelines, pain management

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Introduction

One of the great challenges facing nurses today is the effective and efficient management of pain, since pain is a globally experienced phenomenon in healthcare (Brennan et al. 2007). Two decades ago, the opening statement of the Working Report on Pain After Surgery by the Royal College of Surgeons and the College of Anaesthetists (1990) highlighted that acute postoperative pain had long been under-treated and poorly prioritised in healthcare settings.

Twenty years on, unmanaged pain is still an issue. In a survey of 14,447 inpatients in acute NHS Trusts in England carried out by the National Health Service (NHS) in 2007, 67% of patients experienced pain while in hospital, despite
all the care targeted to reduce their pain (Commission of Health Report 2007). Pain management in critical care is no exception. Several published studies on critical care have confirmed that pain is still a major problem amongst critically ill patients, despite advances in pain management theory (Watt-Watson et al. 2001, Shannon & Bucknall 2003, Geilnas & Johnston 2007). However, the challenge faced today by many critical care nurses is providing effective pain relief, whilst simultaneously coping with life threatening situations among critically ill patients. This article contributes to the currently limited research that focuses on pain management. Although pain issues have been explored and researched extensively, little attention has been focussed on challenges in pain management. In addition, the findings offer insight into factors that influence the challenges in managing pain. Therefore, the aim of this paper is to report on research investigating the challenges faced by critical care nurses in an acute health care organisation in the Midlands (UK) in implementing pain management in an adult critical care unit.

**Methods**

This study adopted a qualitative methodology. Qualitative research data derives from meaning and interpretation of the participants to seeks clarification and understanding of their interpretations of experience. Qualitative prospective exploratory design was used to understand interpretative interaction perspective of nurses’ perceptions of the challenges in pain management in critical care. Interpretative phenomena occur in daily social life revolving around human beings making interpretations and judgements about their own and others’ beliefs, experiences, behaviour and perceptions (Denzin 1989). Qualitative research is valuable in this study due to its ability to uncover the meanings and perceptions on pain management. According to Silverman (2005), the process of data collection and analysis using qualitative methodology is transparent and enhances the validity and relevance of the study. This research elicited nurses’ descriptions of their own experience and challenges in managing acute pain to allow information to be obtained in a systematic and focused way. Critical incident techniques (CITs) is a set of steps used for gathering direct observations of significant human behaviour on the defined criteria. CIT was used to encourage participants to be as specific as possible in describing specific incidents from memory (Kemppainen 2000). CIT method was developed by Flanagan (1954) and is helpful in exploring human experience-related activity. CIT is used to identify behaviours that are considered to contribute to the success or failure of individuals in specific situations (Flanagan 1954). CITs using qualitative methodology are useful when exploring aspects of clinical practice to identify the opinions of practitioners and to judge the value of the nursing care (Kemppainen 2000). This technique is focused on providing solutions to practical problems.

**Population and sampling**

A purposive sampling method was used in this study by choosing nurses with diverse nursing backgrounds with a wide range of work experience in nursing, from less than one year to more than 25 years. Purposeful sampling focuses on selecting information-rich cases. Patton (2001) highlighted that this sampling approach allows the researcher to decide the purpose that the informant will serve and provides a means of obtaining relevant information. Twenty-one critical care nurses were invited to participate in the study. Critical care nurses were selected because of their pivotal role. Even though many disciplines are involved in pain management, nurses have the responsibility to assess patients’ overall health status and act as an advocate for them by highlighting the patients’ needs to other healthcare providers. Nurses spend more time with patients than any other healthcare provider and constantly make decisions in relation to the patients’ pain management, including decisions about the intensity of the pain and the need for analgesia. Purposeful participant samples with diverse nursing backgrounds facilitate exposure to a wide range of views and opinions of experiences with pain management. The sampling varied from band 5–band 7 staff. All of the nurses were involved in direct care with critically ill patients. Biographical details were collected prior to the beginning of individual interviews using a self-completed questionnaire. The inclusion criteria were that each nurse should be an employee of the organisation where the study was conducted and, working in a ward which delivered either level 2 or level 3 adult critical care units. A summary of the characteristics of the nurse participants is presented in Table 1.

**Data collection and analysis**

The study was carried out in the Adult Critical Care unit in a large teaching hospital. This hospital was chosen because it has a large intensive care unit in the Midlands region. The unit has a capacity of sixteen beds and is supported by anaesthetists, intensivists, surgical and medical officers, specialised nurses and other staff such as a physiotherapist and pharmacists. Data were collected over 11 months from February–December 2008. Ethical approval and research governance for the study were obtained from the East
Midland Research Ethics Committee and NHS Trust Research and Development Department.

One-to-one, tape-recorded, in-depth interviews using a CIT were conducted. The interviews lasted from 45 minutes–1Æ5 hours. Twenty-one interviews were conducted with all participants, who consented to the recording of their interviews. All interviews were carried out in the hospital setting, in the interview room at the study site. Prior to starting the interview, the participants were given a further opportunity to discuss any questions about the study and their consent was obtained. The interview only started after a signed consent form was obtained. The participants were informed that entry into the study was entirely voluntary and that they could withdraw at any time during the study period. This study focused on nurses' descriptions of their own experience in managing acute pain and provided insights into their strengths and limitations in controlling acute pain. In drawing out the elicited incidents, the suggestions of Garbett and McCormack (2006, p. 112) were taken into consideration when conducting research, using critical incident approach by asking the questions shown in Table 2.

In this study, the interview schedules were revised based on the on Anderson and Wilson (1997). The participants were asked to relate their pain experiences and the outcome of the their pain practice to allow nurses to relate the strengths and limitations of their pain management practice (Table 3).

A total of 21 interviews was transcribed ad verbatim. Each interview was analysed using framework analysis. Framework analysis was developed by the National Centre for Social Research. It is a popular style of analysis among health and social researchers because it is relevant for studies where the objectives are set in advance and within a limited timescale (Ritchie & Spencer 1994, Green & Thorogood 2004, Pope & Mays 2004). Ritchie and Lewis (2003) explained that framework analysis offers a systematic and clear approach in the analysis process and interpretation of the data. Framework analysis is described by the National Centre for Social Research as a method of content analysis that involves summarising and classifying data within a thematic framework (Ritchie & Spencer 1994). Although these steps can be undertaken in a linear fashion with all data collected before analysis begins, framework analysis can equally be used when data collection and analysis occur simultaneously (Ritchie & Lewis 2003). In this study, the data collection and analysis processes were interwoven from the beginning. Framework analysis approach has five key stages, from familiarisation of the data, identifying thematic framework, indexing, charting, mapping and interpretation of the data.

**Results**

All 21 nurses took part in this study. Majority of respondents are band five female nurses with five years of experience. Majority nurses have critical care background and have attended epidural training. All of them had undergone training either epidural training or critical care training except one participant who did not attend any training on pain management.
Four main themes were identified from their reflections, which represent the strengths and limitations of the current pain management practice in this unit and demonstrate whether there is a need for clinical practice guidelines on the pain management. The themes identified are explained further and discussed in the following section. The challenges in the clinical areas, such as issues with nurses’ decision making, lack of clinical guidelines, availability of pain assessment tool and issues with patient’s condition emerged as dominant themes in this study.

**Decision making**

In the critical care setting, more than half of nurses explained that they depend on the pain expert’s opinion in managing pain. The anaesthetist, the intensivist and acute pain team are considered to be the pain experts by nurses. The pain experts normally make decisions regarding pain intervention, as explained by this participant:

> We usually ask the doctor in the unit and they will tell us what to do and often when the patient comes into the unit they will already come with the epidural infusion and we just continue as it is and if they needed anything additional we will then consult the doctor or the pain. (CN8)

The nurses explained that they were confident about the doctor’s decision making, since the anaesthetists were pain experts, as explained below:

> A good consultant can manage the patient well, based on their expertise and their experience. Of course being an anaesthetist they are very good with the pain management. Of course we can make suggestions, but the final decision making comes from the doctor. (CN9)

Studies show that nurses tend to communicate pain issues to medical staff for medical treatment orders (Benner et al. 1992). Bucknall (2000) argued that environmental aspects such as the patients’ situation and resources may influence clinical decision making. Optimal medical care requires shared medical decision making by healthcare providers and patients. Nurses can only influence the decision by making suggestions to the doctors. The nurses explained that their role in pain management is limited to pain assessment and the administration of pain medications, as explained by this participant:

> My role is to assess the patient and check the drugs chart. I always make sure they have their regular paracetamol and liaise with doctors and sometimes if the pain still not resolved the doctor will prescribe other medication. I follow what should be carried out and there is not much for us to do besides informing the doctors here. (CN3).

Extensive experience and knowledge is important in providing good pain management practice. Working in critical care areas where pain is the main stressor for patients, nurses must have a good understanding of their role and what is expected of them.

Participants’ also noted that another challenge in pain management was that they had to be more independent outside office hours or when the anaesthetists were busy attending to patients outside the unit.

There are limitations to getting the pain team involved, since they only work Monday to Friday, 9–5 pm. (CN19)

They felt that this could be one of the factors limiting nurses’ role in pain management practice and narrowing their decision-making ability. The critical care nurses depend on teamwork with other staff to provide optimum care for the patients. Also, two respondents voiced their dissatisfaction with the junior doctors’ role in pain management. According to them, the junior doctors struggle to establish effective pain control and patients suffer for longer periods of time because of a lack of knowledge amongst junior doctors. The participants felt that to enable medical staff to prescribe adequate analgesia, there needs to be the presence of effective decision making knowledge and skills using standardised pain guidelines in pain management among the team.

**Availability of clinical guidelines**

The need for guidelines to manage pain was a concern of all the nurses, felt that the lack of clinical guidelines for pain management in clinical areas should be overcome. An ideal clinical guideline is able to guide and assist the care providers in care management (Grol 1997). Nurses felt that it was important to have a prompt to guide and remind them what to do when the patients are in pain:

When the patient is in pain we need to call the doctors. Maybe we should have some sort of prompt in the critical care chart, because we tend to make mistakes when we are busy ... Naturally we know what to do, but if there is a guideline, it will be helpful to manage pain. (CN20)

I don’t think we have any pain guidelines in the unit. The components we use are related to paracetamol and morphine, but further instruction or prescription is needed when a patient is still in pain after they have started on paracetamol and morphine. The pain score we do more often and I think we should have something more specific
like a flow chart. I mean if the first drug is given and not working, there should be second choice of drugs available .... (CN7)

**Patient management**

Overall, the nurses acknowledged they had difficulty in managing pain for patients subject to certain types of surgery. Patients undergoing surgery such as oesophagectomy and thoracotomy and related surgery to the thorax areas were considered difficult to treat. Postoperative Shoulder-tip pain (STP) frequently occurs following laparoscopic surgery. It is well documented that pain from this type of surgery is difficult to control (Sarli et al. 2000). After surgery, patients will be on epidural and patient-controlled anaesthesia for their pain control and this has to be complemented with additional analgesia such as Fentanyl and Alfentanyl, as explained in these quotes:

I always think we are good in managing patients here. Most of the patients are almost pain-free and their pain relief is really good, but sometimes we get the patients with thoracotomy and oesophagectomy, with shoulder tip pain and their pain issues are always difficult to manage, but besides that we are really good. The pain control is good because we have a group of anaesthetists and they are the best people to deal with pain care. (CN11)

Research conducted on pain management in the critical care unit accepts that pain management remains a top priority amongst nurses. However, the challenge faced today by many critical care nurses is providing effective pain relief whilst preventing life-threatening situations among critically ill patients. Recent studies on the issue of pain management suggest that there are limitations in the area of nursing knowledge related to pain management practice and there is a need for standardised pain management to guide nurses in decision making, as explained further in the following section (McCaffery et al. 2000, Jacobi et al. 2002, Puntillo et al. 2002, Aslan et al. 2003, Shannon & Bucknall 2003).

**Pain assessment**

Vital signs for critically ill patients should be assessed and monitored continuously using either invasive or non-invasive methods. These groups of patients have unstable conditions with rapidly changing status and require constant monitoring and intervention from nurses. However, there is no standardised tool for pain assessment to assess pain, as explained by this respondent:

I don’t think this [pain assessment tool] is available here and not many of us are aware, although we do give paracetamol and opiates regularly and pain scoring every hour, but I don’t think there is anything more on these guidelines. (CN9)

Pain management must begins with pain assessment. People suffering from pain deserve prompt recognition and treatment. Gordon et al. (2005) recommended that pain should be assessed and treated accordingly as needed by patients. Nurses working in this critical care unit use a numeric rating scale to explore non-verbal pain reports from critically ill patients:

We use a pain scoring tool which is numerical and we assess pain and we score the patient pain from nought to three, nought being ‘no pain’ and three being ‘severe pain’ and we assess the movement or coughing .... For unconscious patients we look for non-verbal signs, for example if you the patient and they start to grimace, then maybe they need the sedation. (CN5)

Pain assessment scales vary from nought to three and nought to ten, to name only two. Assessment of pain should be consistent and user friendly for the nurses to use when assessing pain. Variation in pain assessment tool will confuse the patients and the nurses and this may lead to inaccuracy in pain scoring. Without proper pain assessment tool, nurses will face difficulty in assessing pain. Pain is subjective and difficult to measure. Nurses working in this critical care unit use a numeric rating scale to explore non-verbal pain reports from critically ill patients.

**Strategies for effective pain management**

**Standardised guidelines**

Nurses felt that the lack of clinical guidelines for pain management in clinical areas should be overcome. Pain issues according to nurses can be reduced if there are clinical guidelines available on pain management to guide their practice. Nurses feel it is important to have a prompt to guide them, especially junior nurses in pain management. One nurse explained:

When the patient is in pain we need to call the doctors, maybe we should have some sort of prompt in the critical care chart, because we tend to make mistakes when we are busy ... naturally we know what to do, but if there is a guideline, it will be helpful to manage pain. (CN3)

**Pain management training**

The participants felt that when training was provided, nurses’ knowledge was retained and they will feel more confident in caring for their patients. They feel the nurses should be given some training in pain management including epidural training to create awareness and to encourage nurses to be involved more with clinical decision making.
The nurse leaders also suggested a similar strategy to improve pain practice, by providing more training for nurses, since there are many advances in pain management. One explained:

We need more training for nurses and currently we are just about to change over the epidural pump and hopefully there will be some training and we don’t have to use it unless we have the training, because it is very different from what we use now. (CN5)

Discussion

Research conducted on pain management in critical care accepts that pain management remains a top priority amongst nurses, since pain persistently remains a major problem among patients in the critical care unit (Glynn & Ahern 2000, Watt-Watson et al. 2001). However, the challenges for critical care nurses remain the provision of effective pain relief, whilst monitoring and preventing life-threatening situations among critically ill patients. Clinical practice guidelines relating to pain assessment and management are a particular necessity for nurses and other health professionals to assist them in clinical decision-making (Puntillo et al. 1997, Bucknall et al. 2001, Shannon & Bucknall 2003).

In relation to decision-making, the nurses in this study recognised the limitations to their authority. Although nurses had an obligation and an ethical responsibility to provide pain relief effectively, they often struggled to fulfil this responsibility due to institutional regulations or limited coordination with other health providers (Innis et al. 2004). Nurses’ scope of practice in this study included the administration of drugs using intravenous routes, which is standard nursing practice. Although critical care nurses are not responsible for the prescription of pain medicine, the decision to administer or withhold is well within nurses’ scope of practice.

A study carried out with 81 critical care nurses showed that 38% of nurses frequently called physicians to modify medications and tended to depend on the doctors to decide on pain management (Cook et al. 2006). Pain intervention involves more clinical judgement, since pain is difficult to measure. Nurses need to be equipped with adequate knowledge of pain management in making accurate and relevant clinical judgements. From the participants’ reflections on their practice, it seems that nurses’ knowledge is vital in their decision making in pain management. In critical care in general, a culture exists whereby everyone in a team has their own role to play and functionality in the hierarchy of roles.

According to Mcmillan et al. (2000), nurses hold a key role in pain management, which (it was suggested) should include the administration of opiates, adjusting pain control analgesia and epidural management, as well as top-up epiduals, instead of requiring the anaesthetist and acute pain team to review patients each time the patient is in pain and the catheters or the infusions are not working. Several studies found that nurses were able to manage pain effectively when they had sound nursing knowledge on pain management (Manias et al. 2002, 2005). Maclellan (2004) also found positive correlations between education and pain management. Manias et al. (2002) reported that nurses who attended pain training managed patients’ pain well and provided effective pain management practice. Critical care nurses were equipped with comprehensive knowledge in pain management in clinical areas (Benner et al. 1992). Nurses need comprehensive knowledge to make effective decisions in pain management. Studies carried out in the UK, USA, Europe and Australia (Simpson 1997) indicate that nurses can have more control in clinical decision making through knowledge updates.

The data showed that some nurses feel that the lack of clinical guidelines for pain management in clinical areas should be overcome. Pain issues according to nurses can be reduced if there is a clinical guideline on pain management available to guide their practice. An ideal clinical guideline is able to guide and assist the care providers in care management (Grol 1997). Nurses feel it is important to have a prompt to guide them, especially junior nurses in pain management. There is a need for pain guidelines to help avoid any clinical errors such as medication errors and to guide their decision making, while the senior nurses felt that having experience is sufficient to guide their practice. Flawed guidelines have the potential to compromise health and safety, lead to wasted resources and compromise efficiency, besides potentially harming the public image of specific organisations.

Variations in pain assessment can lead to inadequate pain relief, with different scoring scales which may confuse the nurses’ evaluations. The patients also tend to give inaccurate pain score scales due to differences in the scoring from one nurse to another in the same unit. Critically ill patients who are unable to communicate are at a higher risk of suffering pain. Nursing pain assessments are influenced by the length of available tools, patient characteristics, patient pathology and the characteristics of the nurses (Dalton 1989). Puntillo (1994) reported that accurate pain assessment can be obtained for critically ill patients when proper assessment tools are used. According to Gordon et al. (2005), four
crucial components for pain management (prompt recognition, patient involvement, prompt treatment and continuous evaluation of pain management process and outcome) determined effective pain management. The findings of this study indicate that the problems in pain management among nurses in critical care are fundamentally related to prompt recognition and prompt treatment.

Conclusion

Clinical practice guidelines in pain management are also needed for generating a consensus on the best available research evidence to assist the health professionals in providing effective pain control. Based on the contextual issues in pain management practice, a concordance model could be developed to achieve a better pain management outcome. A concordance model would involve shared decision making and agreement between nurses and the healthcare professionals such as doctors. The clinical leaders, such as nursing leaders and medical consultants, including policy makers at the study site, should be prepared to work in partnership with healthcare professionals to facilitate a concordant management of pain. What the nurses need is pain management intervention based on their opinions and tailored to their own setting. A relevant and workable clinical guideline should be developed and implemented. The guideline should be audited regularly to evaluate the effectiveness. There should be shared decision-making and partnership before reaching consensus between doctors and nursing team. This will enhance the facilitation for uptake and compliance of the guideline besides. The context of the guideline needs to be embedded in local policy, while the evidence must use robust research evidence.

Nursing personnel also need training with input from local contexts regarding pain management. The medical team and pharmacist should be involved in training nurses, especially junior nurses. The doctors should be aware of nurses’ requirement regarding the complex pain management. Pain management must be undertaken by the teamwork of professionals and nurses must be actively engaged in this, rather than simply deferring to doctors.

Strengths and limitations

Exploration of nurses’ perceptions of the challenges in managing pain has provided several new dimensions to the knowledge on nurses perception on what their difficulties in pain management are, what their requirements and needs are, what their role is decision-making, use of guidelines and what the strategies are to improve pain management in critical care. The challengers identified are the valid practical and clinical barriers identified by the participants and should be considered as the core components when exploring the issues in pain management in clinical areas. However, the generalisation of the findings for other settings is limited since other settings may have different pain management policy and nursing roles in pain management.

Relevance to clinical practice

The findings of this study have contributed to understanding nurses’ challenges in pain management of critically ill patients. Providing nurses with clinical updates on pain management may contribute to effective pain management, since updates will increase their knowledge on current pain management practices. Nurses perceived that they are capable of taking the lead in pain management and clinical decision-making, with adequate and relevant pain management training. Development of pain guidelines could also provide guidance and direction for the nurses to manage pain effectively, especially in complex pain management, such as STP. The development of pain management guidelines in a local context will help nurses in taking up this role as a way forward in pain management.

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Contributions

Study design: PS, NA, VJ; data collection and analysis: PS, NA, VJ and manuscript preparation: PS, JL.

Ethical approval

Leicestershire, Northamptonshire and Rutland Research Ethics Committees 1 (REC: 08/H0406/21).

Conflict of interest

None declared.
References


