Factors influencing the selection of appropriate pain assessment tools

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Pain is one of the most complex human experiences. Nurses have a moral, ethical, humanitarian and professional responsibility to provide an adequate standard of pain assessment and documentation. In order to obtain an accurate pain assessment from patients, they need to feel that their expression of pain will be listened to, accepted and acted on. It is therefore vital that nurses are educated in the process of pain assessment.

It is recognised that the under-treatment of pain is a major yet avoidable public health problem (Gordon and Dahl, 2004). Studies performed in the past 20 years have shown poor pain control in postoperative, acute, chronic and patients with cancers.

Poor pain relief has an impact on patients’ morbidity and mortality, quality of care and recovery or rehabilitation, and also has subsequent economic implications for the health service. Poor pain management exists despite advances in knowledge of pain management, treatment strategies, service developments and the publication of numerous guidelines (Box 1). Systematic pain assessment has been repeatedly recommended as a fundamental tool for improving the quality of pain management (Rowbotham and Macintyre, 2003). This paper will discuss pain assessment in adults.

**Why assess pain?**

Nurses have a moral, ethical, humanitarian and professional responsibility to provide an adequate standard of pain assessment and documentation (Dimond, 2002; Joint Commission for the Accreditation of Healthcare Organisations, 2000; Royal College of Surgeons and Anaesthetists, 1990).

Studies have demonstrated that an improvement in pain assessment and documentation leads to an improvement in pain management (Erdek and Pronovost, 2004). It is worth noting that claims for negligence regarding inadequate standards of pain management have been successful in a number of countries (Rowbotham and Macintyre, 2003).

Skills for assessing and measuring pain are pivotal to the decision-making process and will ultimately:

- Affect the appropriate selection and implementation of interventions;
- Promote multidisciplinary communication;
- Increase patient comfort;
- Improve pain relief;
- Improve function.

**Measuring and assessing pain**

Pain assessment refers to the clinical process of describing pain and its associated disability, whereas pain measurement is a type of pain assessment that refers to an attempt to quantify pain and its dimensions. A variety of tools are used for pain measurement (Rowbotham and Macintyre, 2003).

**Pain assessment**

Pain is one of the most complex human experiences and tissue damage is not the only determinant of suffering. Pain is a personal, subjective and multidimensional experience, and not just a simple sensation (Turk and Melzack, 1992). Consequently, pain assessment is not a simple process and it is imperative that it takes into account the multitude of factors that affect the experience of pain (Fig 1).

**The patient’s experience of pain**

Assessment of pain and evaluation of interventions rely on an accurate assessment of the patient’s pain experience (Holdgate et al, 2003). In order to obtain an accurate pain assessment, patients need to feel that their expression of pain will be listened to, accepted and acted on. A trusting nurse–patient relationship can promote effective communication, which is essential to help patients to express their pain. Therefore, through the assessment and documentation of pain, the existence...
of the patient’s pain is acknowledged and a baseline is provided to enable pain to be managed effectively (Briggs, 2003).

There are three main aims of pain assessment (Jensen et al, 2003; Rowbotham and Macintyre, 2003):

● To establish the patient’s current pain experience in order to assist in diagnosis and define the extent of the injury or disease;
● To aid decision-making, selection of appropriate intervention(s) and treatment planning;
● To evaluate the effectiveness of the intervention(s) and any change in symptoms.

Assessment of pain may be conducted using a variety of techniques including:

● Unstructured or semi-structured interviews;
● Pain measurement tools;
● Direct observation;
● Observation by significant others such as family members (Jensen et al, 2003).

Rowbotham and Macintyre (2003) recommend a framework for the initial assessment of pain (Box 2, p47), which may encompass a selection of these techniques.

Pain measurement
A pain measurement tool can be invaluable in aiding patients to communicate their own subjective experience of pain. This self-report of pain is regarded as the ‘gold standard’ of pain measurement.

Without the use of accurate pain measurement, patients’ pain can be misinterpreted or underestimated by health professionals, which often leads to the inadequate management of pain (Zwakhalen et al, 2004).

There is no simple tool that can objectively record how much or what type of pain a patient experiences. However, the systematic use of formal pain measurement tools and documentation has been shown to improve the assessment and management of patients’ pain (Lee et al, 2003).

The scores or information obtained from pain measurement should be documented as the fifth vital sign in the nursing records, in pain management care plans and/or documents and/or with routine observations (American Pain Society, 1995).

Pain measurement tools can be unidimensional (measuring the quantity of one dimension of the pain experience, for example intensity) or multidimensional (measuring a combination of dimensions). Different types of pain measurement are required for different types of pain.

The International Association for the Study of Pain has defined different types of pain as follows (1992):

● Pain – an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage;
● Acute pain – a pain of recent onset and limited duration and usually has an identifiable cause;
● Chronic pain – commonly persists beyond the time of healing, and frequently there may not be any clearly identifiable cause.

Acute pain usually requires a unidimensional approach to pain measurement, whereas chronic pain usually requires a multidimensional approach.

REFERENCES


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For related articles on this subject and links to relevant websites see www.nursingtimes.net
Improving assessment and treatment of patients.


References


A verbal rating scale (VRS) consists of a list of words used to describe pain. The number of words used varies, and up to 20 different VRSs have been used. The words are usually listed in order from the least intense pain to the most intense pain. They are sometimes assigned a score to represent the level of pain, for example '0' = no pain, '1' = mild pain, '2' = moderate pain and '3' = severe pain. Patients are asked to choose the word that best describes their experience of pain.

There are many advantages to a VRS:
- They enable patients to express their pain in words rather than in numbers, allowing them to describe their pain;
- They enable patients to express their pain in words rather than in numbers, allowing them to describe their pain;
- They can be used for patients with cognitive impairment, limited numerical skills, physical disabilities, visual impairment (if the scales are adapted for example into Braille) and for older people (Kaasalainen and Crook, 2003). The VRS can also be easily translated into different languages, although care needs to be taken to ensure the meaning is accurate (Davidhizar and Giger, 2004).

A major disadvantage of a VRS is that the different words used to describe pain have different meanings for different people. Therefore a patient may be unable to find a word that accurately reflects their experience of pain (Wallenstein et al, 1980). VRSs can be difficult to use for patients who have language difficulties or for those with low mental capacity.

In addition, a lengthy VRS may be inappropriate in a postoperative or critical care setting, as it takes time to read and remember the list of words and then to choose the most appropriate word for that pain experience. This can be very frustrating for patients.

Numerical rating scales

Numerical rating scales (NRSs) and verbal numerical scales (VNSs) consist of a set of numbers (usually ‘0’ to ‘10’) represented along a horizontal or vertical line and may be represented as a pain thermometer or a box scale. There is sometimes an anchor word at each end of the line, for example ‘0’ = no pain and ‘10’ = worst pain imaginable (Fig 2). Patients are asked to point to or draw around the number that best describes their pain intensity. In the case of a VNS, patients verbally indicate the number that best describes their pain intensity (Rowbotham and Macintyre, 2003).

This type of scale is quick and easy for most patients to understand and use. It also has several practical advantages in that it is extremely easy to teach, score and document and can be either written or verbal. Studies have shown that postoperative and critically ill patients, patients with visual impairment (if adapted), patients with poor motor coordination, patients with reduced abstracting ability and older people are able to use the NRS/VNS (Aubrun et al, 2003).

An adaptation of the numerical rating scale is available in different languages from the Pain Society at its website (www.painsociety.org/pain_scales.html). There are certain groups of patients for whom the NRS/VNS may be inappropriate, including those with a cognitive impairment or postoperative confusion (Miller et al, 1996; Ferrell et al, 1995).

Visual analogue scales

A visual analogue scale (VAS) consists of a 10cm horizontal or vertical line with no words or numbers along its length (Fig 3). There are usually word anchors at each end-point such as ‘no pain’ and ‘worst pain imaginable’. The patient is asked to mark on the line in pen or pencil, between the two end-points, the place that best reflects their current pain intensity.

The advantages of the VAS are that it is relatively easy to score and to document.
to teach, understand, score and document. It is also quick to use, although 20 per cent of patients are unable to complete a VAS or may find it confusing.

The VAS has been extensively used in research studies concerning pain management. There are, however, disadvantages to its use in the clinical setting, not least the need to use a pen or pencil to mark on the line. However, plastic slide tools have been developed, which may ease this problem.

Using a VAS is a complicated process and requires greater cognitive skills, which may reduce its appropriateness in acute medical, postoperative, critically ill, physically and visually impaired or cognitively impaired patients, people with a learning disability, people with impaired consciousness and those with language difficulties (Rowbotham and Macintyre, 2003).

Picture scales and pain drawings

There are a variety of picture scales/pain drawing tools, of which face picture scales are the most commonly used in clinical practice.

Face picture scales are easy to use and have been developed to measure pain intensity and pain behaviour. Depending on the type of face picture scale, they may be used by the patient or an observer (Rowbotham and Macintyre, 2003), as the suffering produced by pain is

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often evident on the face of the patient (Deyo et al, 2004). Studies have shown that these scales are beneficial in patients who have learning difficulties or poor language skills (Turk and Melzack, 1992).

**Multidimensional tools**

Multidimensional pain assessment tools (also sometimes referred to as pain assessment questionnaires) are usually used to assess chronic pain. They are more complex and lengthy to complete than unidimensional tools and therefore require the patient to have good language and verbal skills.

Some multidimensional assessment tools have been developed to specifically assess certain dimensions of pain, for example behavioural, psychological and neuropathic. Pain diaries are also used for patients to record their own multidimensional experience of pain.

One of the tools commonly adapted for clinical practice is the McGill pain questionnaire (MPQ). There are two forms of the MPQ, long and short. The long questionnaire (Fig 4) is a self-report measurement tool that provides a lot of information about the patient’s multidimensional pain experience. It is designed to assess the quality and intensity of pain associated with specific pain problems and to aid diagnosis and treatment planning. It has also been used to evaluate the effectiveness of interventions.

The long questionnaire is divided into three sections:

- A pain rating index (PRI);
- A present pain intensity scale (PPIS);
- A body chart.

The pain rating index consists of 78 words describing pain. These words are divided into 20 lists, and within each list the words are ranked in order of the least to the most painful in terms of intensity. These 20 lists represent four major dimensions of pain quality – sensory, affective, evaluative, miscellaneous. The patient is asked to select the word that best describes their pain and feelings at that time. This word is allocated a score depending on its position in the list, and the overall sum of the scores is calculated to produce the total pain rating index, or the estimated intensity of the patients’ pain experience.

The present pain intensity scale consists of a verbal rating scale of 0–5. The body chart is intended for patients to mark the location of their pain(s).

The long MPQ is not simple to complete and therefore its use with patients who have rapidly changing or acute pain is limited. It requires time to educate the patient and will take the patient a minimum of five minutes to complete. Its completion requires the patient to have sophisticated language and communication skills and good motor coordination, although a nurse may help the patient to fill in the chart. The MPQ has also been translated into a variety of languages. There is currently some debate about the usefulness of separating the words into lists and groups and this still remains unclear.

The short MPQ may be used for evaluating the effectiveness of interventions for patients who have acute, intermittent or chronic pain. It is shorter than the long questionnaire and quicker to complete.

The short questionnaire is divided into three sections:

- 15 words that describe the sensory and affective dimensions of pain;
- A visual analogue scale;
- A present pain intensity scale.

The patient is asked to rank the intensity of each of the 15 words describing pain on a verbal rating scale of 0–5. The visual analogue scale and the present pain intensity scale are used to gain additional information regarding the intensity of pain.

**Other pain measurement tools**

Additional pain management tools have been developed to measure dimensions of pain in specific groups of patients. For example the Abbey pain scale in patients with cognitive impairment (Abbey et al, 2004) and

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**REFERENCES**


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**Box 1. Selection of pain management guidelines**

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Date</th>
<th>Author</th>
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<tr>
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<td>2003</td>
<td>Chandler and Wood</td>
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<td>Accreditation manual</td>
<td>2002</td>
<td>Joint Commission for the Accreditation of Healthcare Organisations</td>
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<tr>
<td>Acute and cancer pain</td>
<td>1999</td>
<td>American Pain Society</td>
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<tr>
<td>Services for patients with pain</td>
<td>1999</td>
<td>Clinical Standards Advisory Group</td>
</tr>
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<td>Acute low back problems</td>
<td>1996</td>
<td>Agency for Health Care Policy Research</td>
</tr>
<tr>
<td>Practical guidelines for acute pain management in the perioperative setting</td>
<td>1995</td>
<td>American Society of Anaesthesiologists</td>
</tr>
<tr>
<td>Report on back pain</td>
<td>1994</td>
<td>Clinical Standards Advisory Group</td>
</tr>
<tr>
<td>Cancer pain</td>
<td>1994</td>
<td>Agency for Health Care Policy Research</td>
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<tr>
<td>Acute pain management</td>
<td>1992</td>
<td>Agency for Health Care Policy Research</td>
</tr>
<tr>
<td>Working party on pain after surgery</td>
<td>1990</td>
<td>Royal College of Surgeons of England and College of Anaesthetists</td>
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</table>
and educational providers and should incorporate the part of professional development and lifelong learning. This will promote communication between the patient, nurse and multidisciplinary team and will facilitate the process of pain assessment. Ideally, this should come during preregistration training and continue as the process of pain assessment. It enhances the nurse’s ability to accurately evaluate pain measurement tools and documentation procedures or long version of the McGill Pain Questionnaire.

BOX 2. FRAMEWORK FOR THE INITIAL ASSESSMENT OF PAIN (ROWbothAM AND MACINtYRE, 2003)

Primary or secondary complaint
- Is pain or its associated symptom(s) – nausea, fear, anxiety – the primary concern of the patient?

Location and radiation
- Document the pain in words and ideally on a body map such as that in Fig 4, p45
- Include radiating or referred pain, additional pain and any associated symptoms

Mode of onset/situational factors
- Include timing of the pain, precipitating events or associated factors

Intensity/severity
- Assess pain at rest and on movement, and on other relevant activities such as coughing
- Determine variation in intensity over time
- Use a simple pain measurement tool such as a verbal or numerical rating scales (Figs 2 and 3, p44), to establish a pain baseline
- Document the worst, best and average pain

Character (qualities/descriptors)
- Document the qualities or verbal descriptors of the pain, for example acute pain (sharp, squeezing); neuropathic pain (burning, hot, shooting)
- Use a multidimensional tool if a more detailed assessment is needed, for example either the short or long version of the McGill Pain Questionnaire

Temporal pattern
- Time the course of pain, including its duration and the frequency of painful episodes

Exacerbating and relieving factors
- What makes the pain worse? And what makes the pain better?
- Document previous therapies and the patient’s response to those therapies

Associated symptoms
- Note any other symptoms, such as nausea

Functional and medical aspects
- Find out the effect of pain on activities, sleep, mobility, diet, and so on
- Medications/treatments and their effect on the pain
- Medical and drug history
- Psychosocial/psychological assessment (where appropriate)

Factors relevant to treatment
- Patients beliefs and expectations
- Coping style
- Knowledge of pain management techniques, preferences and ability to use devices
- Ability to use appropriate measurement tools

Note any other symptoms, such as nausea

Zwakhalen et al’s scale of non-verbal indicators for those with learning disability (Zwakhalen et al, 2004). These tools may be used by an observer to assess one or more dimensions of the pain experience. They may include some of following:
- Behaviour;
- Physiological changes;
- Vocalisation;
- Body language;
- Physical changes;
- Changes in activities of daily living;
- Various changes during manipulation.

Conclusion
A systematic pain assessment process with appropriate pain measurement tools and documentation procedures enhances the nurse’s ability to accurately evaluate pain through the collection of subjective and objective data. This will promote communication between the patient, nurse and multidisciplinary team and will facilitate the selection and evaluation of appropriate interventions.

It is, therefore, imperative that nurses are educated in the process of pain assessment. Ideally, this should commence during preregistration training and continue as part of professional development and lifelong learning.

This process requires support from both health care and educational providers and should incorporate the implementation and audit of national and local pain management guidelines (Ger et al, 2004). Effective pain assessment will ultimately improve patients’ pain management, consequent recovery and/or rehabilitation and quality of life.

GUIDED REFLECTION
Each week NT publishes a guided reflection article to help you with your CPD (see p41). After reading the article use the following points to help you write your reflection:
- Outline what made you read this article;
- Detail the last time you came across a patient experiencing pain;
- List the important points made by the article;
- Write about how you could use this information next time you encounter a patient in pain;
- Summarise what you have learnt and how this article could have a positive effect on your practice.

REFERENCES


