Do one-dimensional pain scales tell the whole story?

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PAIN RATING SCALES are utilized by nurses and other healthcare professionals to assess and monitor changes in pain intensity. Some of the more common and frequently used pain rating scales use simple measures to quantify intensity; however, this is only one dimension of pain. Despite the various tools used to assess and monitor pain, many patients continue to report inadequate pain management because multiple variables affect the perception of pain, such as culture, gender, etiology, and the nurse’s attitude toward it. Can a one-dimensional pain rating scale adequately measure the multidimensionality of the pain experience?

This article will explore some of the variables that influence pain ratings, evaluate the commonly used pain rating scales, and identify strategies you can use to elicit the most accurate self-report of pain from your patient.

Remember the “I” in pain

Referred to as the fifth vital sign, pain is a universal experience, yet subjective for each person. The uniqueness of the pain experience makes pain assessment a huge challenge for nurses. Unlike the one-dimensional characteristics of the other four vital signs—BP, pulse, respiration, and temperature—pain includes the components of emotions and mental operations. Pain assessment that encompasses a holistic approach is a complex yet crucial element in your physical assessment of your patient. It involves the integration of multiple factors, including your knowledge and attitude about pain.

It’s equally challenging to evaluate the effectiveness of pain management without an understanding of your patient’s pain experience. Many patients verbalize concern about their pain and its management by asking questions such as, “How much pain will I have?” “How long will it last?” “When will I receive pain medication?” and “When will I get relief?” Pain that’s inadequately treated can adversely impact the length of stay, cost of services, and patient satisfaction; therefore, in an attempt to provide adequate pain management, nurses and other healthcare professionals must take special care in eliciting information from patients regarding their personal perception of pain.

A world of variables

The experience of pain is multidimensional and influenced by multiple factors that may affect the patient’s perception of pain and, consequently, his rating of the pain experience. These variables include, but aren’t limited to:

• culture. A patient’s cultural values and beliefs may influence the way he perceives and expresses pain, which may affect the way he rates his pain.
• gender. Generally, women tend to be more expressive and report their pain more readily than men.
• multiple pain. Patients often experience more than one pain at the time of assessment and sometimes rate the pain that hurts the worst at the time and ignore the more manageable pains. This may lead to less than adequate pain management.
• cognitive functioning. Some cognitively impaired patients may have difficulty utilizing the pain rating scales appropriately and may not report pain at all.
• advancing age. Older patients tend to under-report pain, fearing the healthcare provider will prescribe pain medications that could potentiate falls, or they may fail to report pain due to their inability to express it (for example, in patients with dementia).

A look at pain rating scales
In the clinical setting, pain rating scales are typically used to measure and quantify the intensity of pain experienced by the patient. The most commonly used pain rating scales are the visual analogue scale, the numeric pain intensity scale, and the verbal, or descriptive, pain intensity scale (see Common pain rating scales). Let’s take a closer look.

The visual analog scale is a 10-cm horizontal or vertical line with one verbal descriptor anchored on each end. The anchor on the left of the horizontal line reads “no pain” and the anchor on the right reads “pain as bad as it could possibly be.” The patient makes a mark on the horizontal line that indicates the pain intensity. The pain score is the measurement from the “no pain” anchor to the mark the patient made. Many patients prefer this scale to other pain rating scales because of the sensitivity of the rating. Another positive characteristic of the visual analog scale is that it’s one of the more flexible and easy to use pain rating scales for patients whose normal reading tradition is vertical, such as Chinese patients. This scale has been shown to be valid and reliable; however, it may be more difficult to use for patients who are cognitively impaired because they must be able to think abstractly and have the sensory-motor and perceptual skills to place a pencil mark on the line that accurately reflects their pain intensity.

The numeric pain intensity scale is typically an 11-point horizontal scale, ranging from 0 to 10, with a verbal anchor at 0 (no pain), one at 5 (moderate pain), and one at 10 (worst possible pain). This scale has the advantage of being offered to the patient on paper, electronically, or verbally, and is relatively simple to use. It has greater sensitivity than other pain rating scales because of the opportunity for patients to utilize smaller increments of numerical values to report pain intensity. It has also been translated into several languages for increased ease of use in clinical and home settings.

The verbal pain intensity scale uses descriptors to identify increasing levels of perceived pain; for example, no pain, moderate pain, severe pain, and worst possible pain. The advantage of this scale is its simplicity. One of the disadvantages is its lack of sensitivity; only a significant change in the pain level can be identified with the verbal descriptors, which decreases reliability.

Time to strategize!
Let’s now look at some strategies you can use to increase the accuracy of your patient’s reports of pain.

When assessing your patient’s pain:
• use a pain assessment tool that’s appropriate for him
• educate yourself and your patient on the correct way to use the pain rating scale you’ve chosen
• if possible, allow him time to practice using the tool to promote confidence in use
• appreciate variations in verbal and affective responses to pain
• be sensitive to the differences in cultural attitudes toward the experience of pain
• be mindful that multiple variables may impact your patient’s pain rating
• incorporate the use of WILDA (words, intensity, location, duration, aggravating and alleviating factors) or COLDSPA (character, onset, location, duration, severity, pattern, associated factors) pain assessment approaches along with pain rating scales for a more comprehensive evaluation.

Examples of additional tools you can use to measure the multidimensional compo-
nents of pain include the McGill Pain Questionnaire, which uses three types of descriptors—sensory, affective, and evaluative—to measure the patient’s subjective pain experience; the West Haven-Yale Multidimensional Pain Inventory, a threepart inventory with 12 scales that measure the impact of pain on the patient’s life, the responses of others to his communications of pain, and the extent to which he participates in activities of daily living; and the Pain Beliefs Questionnaire, with 20 items used to describe the patient’s beliefs about the causes and treatments of pain.

Multidimensional matters

One-dimensional pain rating scales, although widely used in many clinical settings, assist patients with communicating only the intensity of their pain. More complex, multidimensional pain assessment tools address such factors as the quality and temporal sequence of pain, the affective contributions, and the patient’s belief system. Adequate pain management can be achieved for your patient by understanding the limitations of the one-dimensional pain rating scales and incorporating assessment of his multidimensional pain experience.

Learn more about it


