

Assessing pain in primary care

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Abstract

Pain is one of the the most common symptoms with which patients present in primary care. Before pain can be managed, its severity and nature need to be understood. The nature of pain is important, as a good clinical history will guide further investigation, leading to diagnosis. Monitoring pain severity is critical, as pain is largely a subjective experience, which cannot be properly managed if worsening or improvement is not monitored from a baseline. Using a standard pain measurement tool will allow for pain management over time, as the response to analgesics can be properly monitored. Different tools, to allow practitioners to assess pain in any setting, are available for patients of all ages.

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Divinum est opus seclare dolorem. (Divine is the work to subdue pain).

Introduction

Acute and chronic pain is the most common, and yet most poorly understood and managed medical complaint. While the pathophysiology of acute pain is well understood, the effect of pain on current and future perception of pain (whether acute or chronic), is influenced by a range of psychological, biological, hormonal, and cognitive factors.

Pain is a perception, rather than just a symptom, and varies widely between individuals, regardless of the cause. Effective management of pain is a health practitioner's primary moral obligation. To achieve this, an ability to understand the causes, severity, type, and progress, of the pain, over time, is required.

Multiple tools can be used to assess pain in everyday practice. Finding a suitable approach improves the overall understanding of pain, and ensures that patients are afforded optimal pain intervention, according to their needs.

Why assess pain?

Pain is very common and can be debilitating. Despite advances in health care, chronic pain remains one of the most common, ongoing symptoms, and is a leading cause of disability worldwide.¹ The World Health Organization (WHO) estimates that one in five people suffer from moderate-to-severe chronic pain, and that one in three people are unable, or less able, to maintain an independent lifestyle, due to their pain.²

Leading pain complaints are back pain (27%), headaches and migraines (15%), neck pain (15%), and facial aches and pains (4%).¹ The American Medical Association (AMA) estimates that 42% of people experience pain daily.³ Despite these staggering statistics, frequently, pain remains unrecognised and undertreated by most physicians.^{4,5}

Pain is all about perception

The International Association for the Study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience, associated with actual, or potential, tissue damage, or described in terms of such damage".³ Pain is a subjective perception, and not a sensation. This means that there is no way to objectively quantify it. Consequently, an assessment of a patient's pain depends on the patient's overt communication.⁶

Just talking to your patient is not enough

Physicians tend to either rely on patients voluntarily vocalising the severity of their pain, or expect to identify obvious non-verbal cues during the consultation. Unfortunately, both of these are highly unreliable measures, as there is wide variability in the expression of pain. Physicians who do not use formal pain assessment tools will miss severe pain in 30% of patients, and moderate pain in half of all patients.⁷

Untreated pain causes long-term consequences

There is increasing recognition that, even acute pain left untreated for relatively short time periods, leads to neuronal

modelling and central sensitisation, as pain imprints itself within the brain.⁸ Repeated peripheral pain stimulation leads to a progressive build-up of an electrical response in the central nervous system, leading to intensified stimulation of the nerve fibres. This is why acute pain may persist to become chronic pain, long after the initiating event has subsided.⁹

Medical professionals have a duty to manage pain

According to the WHO, access to pain management is a fundamental human right, articulated in all the foundation covenants of the United Nations.¹⁰ The Health Professions Council of South Africa’s (HPCSA) general guidelines for health professionals refers to pain alleviation as a “moral obligation” of licensed professionals.¹¹

Pain assessment

Goals¹²

- To capture the individual’s pain experience in a standardised way
- To help determine type of pain, and possible aetiology
- To determine the effect, and impact, the pain experience has on the individual, and his or her ability to function
- To have a basis on which to develop a treatment plan to manage pain
- To aid communication between interdisciplinary team members.

Principles

- Pain, especially chronic pain, is a complex condition. An assessment requires a biopsychosocial approach to fully understand the patient’s condition.⁸

Table I: Pain assessment using the acronym “O, P, Q, R, S, T, U and V”¹³

O	Onset	When did it begin? For how long does it last? How often does it occur?
P	Provoking and palliating	What brings it on? What makes it better? What makes it worse?
Q	Quality	What does it feel like? Can you describe it?
R	Region or radiation	Where is it? Does it spread anywhere?
S	Severity	What is the intensity of this symptom? (Use a grading from 0-10, a visual analogue scale, or facial expression scale). Right now? At best? At worst? On average? How bothered are you by this symptom? Are there any other symptoms that accompany this symptom?
T	Treatment	What medications and treatments are you currently using? How effective are these? Are there any side-effects from the medications and treatments? What medications and treatments have you used in the past?
U	Understand how it impacts on you	What do you believe is causing this symptom? How is this symptom affecting you and your family?
V	Values	What is your goal for this symptom? What is your comfort goal or acceptable level for this symptom? (On a scale of 0-10, with 0 being none, and 10 being the worst possible). Are there any other views or feelings about this symptom that are important to you, or your family?

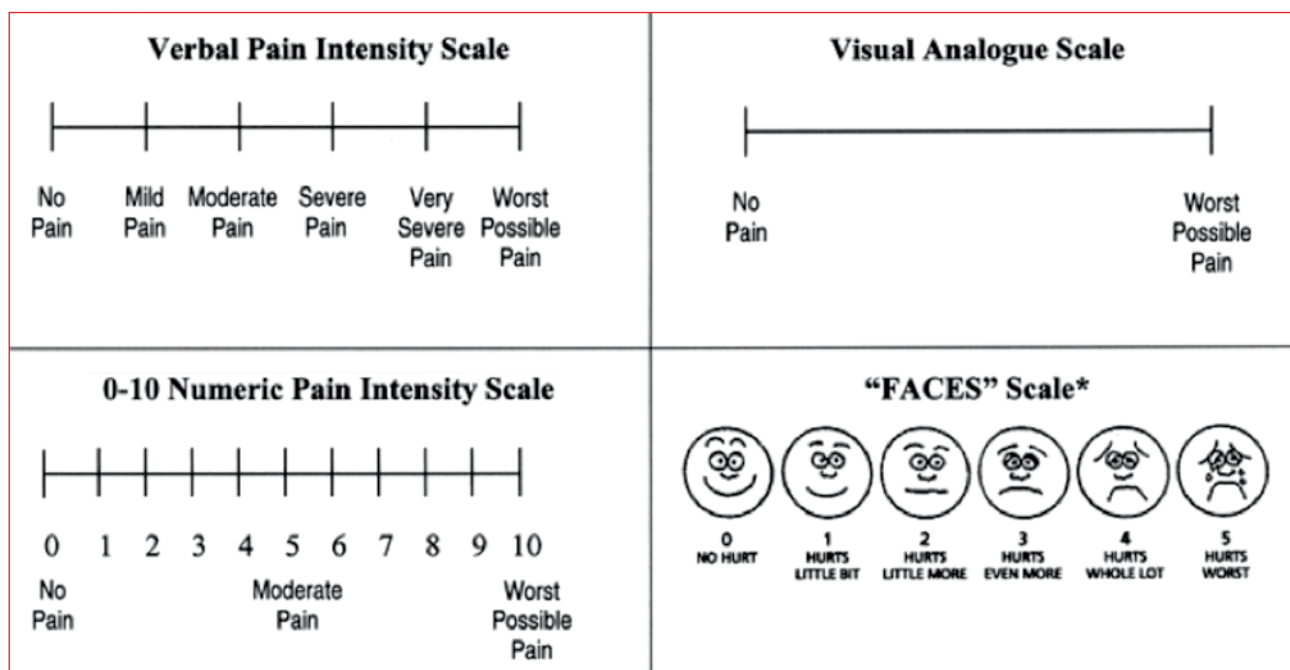


Figure 1: Unidimensional rating scales

- Pain may not always correlate with an identifiable source of injury.³
- Believe what the patient is reporting to be true. Believing that they are in pain does not necessarily equate having to identify the source, or to prescribe certain treatments. Acknowledgement is often all that patients seek.³

Taking a detailed history

The letters “O, P, Q, R, S, T, U and V” provides a useful memory aid, when taking your patient’s pain history (Table I).¹³

Understanding pain intensity

Quantifying pain intensity is an essential part of both the initial, and follow-up, process, in pain treatment. There are several methods of doing so. The choice of method often depends on the age, cognitive capacity, and communication restrictions, of the patient. To optimise management, it is important to consistently apply the same assessment model to an individual over time.³

Unidimensional pain scales

The most commonly used unidimensional rating scales are shown in Figure 1.³

Verbal rating scale

The verbal rating scale (VRS) is the most simple pain measurement scale. It literally translates to asking the patient if the pain is “mild,” “moderate,” or “severe.”³

Numeric rating scale

The numeric rating scale (NRS) is slightly more complex. Ask the patient to rate his or her pain between 0 (no pain) and 10 (worst pain imaginable). This is a useful, ongoing tool that can be used when asking a patient to monitor his or her pain throughout the day, or at different follow-up sessions. It is also a useful tool for understanding pain patterns and modifiers.¹⁴

Visual analogue scale

The visual analogue scale (VAS) is similar to the numeric rating scale, except that patients simply point on the line as to how severe their pain is (between “no pain” and “worst pain imaginable”). The point, or mark, made by the patient is recorded in millimetres. The advantage is that this does not limit the patient to 10 distinct numbers.³

FACES pain scale

The FACES scale is a visual facial expression representation of both the numerical and visual analogue scale. The faces range from “happy” to “severe pain” in six to eight different faces. This scale is particularly useful for small children, or for patients with whom the language barrier may be an issue.¹⁵

Multidimensional pain scales

More complex pain scales take into account the location of the pain, the mood of the patient, and functionality.

These are useful tools in patients with highly resistant chronic pain, where subtle management changes are likely to change pain outcomes.³

Pain classification

Functionally, pain is divided into “acute” and “chronic” pain. Both are due to different physiological mechanisms, and therefore require different modalities of treatment.

Acute pain

Acute pain is generally defined as “normal biological pain” which occurs in response to painful (noxious) stimuli. It usually indicates underlying tissue damage, or trauma. It is a useful symptom which alerts the patient, and the practitioner, to the presence of an underlying pathology.^{16,17}

Acute pain stimulates the sympathetic nervous system, resulting in “fight” or “flight” response symptoms, including increased heart and respiratory rates, sweating, dilated pupils, restlessness and apprehension.

Acute pain is usually classified as “visceral” or “somatic”, depending on the origin,¹⁸ e.g. pancreatitis is a visceral source of pain, while a skin wound would be somatic.

Mechanism of action

Activation via the normal pain pathway occurs through the nociceptors, or pain receptors. These are free nerve endings that respond to painful stimuli found throughout the body. They are stimulated by biological, electrical, thermal, mechanical and chemical stimuli.

Pain perception occurs when these stimuli are transmitted to the spinal cord, and then to the central areas of the brain. Pain impulses travel to the dorsal horn of the spine, where they synapse with dorsal horn neurons in the substantia gelatinosa, and then ascend to the brain. The basic sensation of pain occurs at the thalamus. It continues to the limbic system (emotional centre) and the cerebral cortex, where pain is perceived and interpreted.⁸

Pain modification occurs at various points in this transduction process. The actual sensation of pain is a result of numerous integrated inputs, processed by the brain’s “pain matrix”.⁸

Modulators of acute pain

At the site of the injury or stimulus, pain continues to be activated by chemical mediators such as histamine, substance P, bradykinin, acetylcholine, leukotrienes and prostaglandins, which also potentiate inflammation.¹⁹

The body also has a built-in chemical mechanism to manage pain. Fibres in the dorsal horn, brain stem, and peripheral tissues release neuromodulators, known as endogenous opioids, which inhibit the action of neurons that transmit pain impulses, causing natural pain relief.²⁰

Chronic pain

The IASP has defined chronic pain as “pain that persists for longer than the time expected for healing (usually taken to be three months), or pain associated with progressive, non-malignant disease”.²¹

The term “chronic” is still widely used, although many pain experts now think of it as different subtypes, such as “neuropathic”, “intermittent”, or “continuous.”

Mechanism of action

Chronic pain is poorly understood, and is more complex and difficult to manage than acute pain. Persistent pain can be caused by ongoing nociceptor stimulation, such as that which occurs in chronic inflammatory conditions, e.g. rheumatoid arthritis.³

Usually, however, by the time chronic pain occurs, the original pathology which gave rise to the pain is no longer present. Instead, sensitisation of the central nervous system and neural pathways has occurred through repeated pain exposure, as well as the influence of psychosocial factors.⁶ Some evidence indicates that chronic pain and depression share the same physiological pathway.^{22,23}

Neuropathic pain is a particular form of chronic pain, in which abnormal changes in the peripheral nerves, e.g. diabetes-related damage, or central nervous system dysfunction, leads to the experience of ongoing burning, shock-like or tingling pain.²⁴

Conclusion

Pain, both acute and persistent, is frequently encountered in general practice. Unfortunately, without proper assessment, pain remains undiagnosed and untreated. Pain is a perception, rather than a symptom, and requires patient-interaction to understand it.

While treating the underlying cause of pain is imperative in the acute treatment strategy, if left untreated, pain itself can become a condition. Mechanisms which alter pain sensitivity are affected by the presence of frequent, or untreated, pain episodes, but also by a range of psychosocial factors, in a manner that is poorly understood.

The overall processing of the perception of pain within the central nervous system results in complex, intractable pain syndromes, which can cause significant ongoing morbidity and disability.

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