



## Review Article

# A Review on Importance of Pain Assessment in the Management of Pain

J Raja Teja, R Pavithra, V Satyanarayana\*, D R Brahma Reddy

Nalanda Institute of Pharmaceutical Sciences, Kantepudi (V), Sattenapalli (M), Guntur (Dt), Andhra Pradesh, India.

ARTICLE INFO

A B S T R A C T

Received:19 Jul 2018  
Accepted:02 Aug 2018

Pain is subjective in nature. It can express different manners by the patient (or) Individuals. The role of diagnostic pain procedures is considered very important. It can be classified into acute pain (i.e ; short lived pain)and chronic pain (i.e; pain that lasts for months). It shows effect on socio economic status of the patients. Poor pain management is likely to persist until pain management practices became consistent with guidelines developed from the best available scientific evidence. In case of rational pain management needs pain assessment. So pain assessment plays a major role in rationalize pain management.

**Key Words:** Subjective, pain, scientific evidence, Rational, pain assessment

## 1. INTRODUCTION

Pain is subjective in nature. It can express different manners by the patient (or) Individuals. The role of diagnostic pain procedures is considered very important.<sup>1</sup>

It can be classified into acute pain (i.e ; short lived pain)and chronic pain (i.e; pain that lasts for months). It shows effect on socio economic status of the patients.<sup>2</sup>

### Assessment:

Pain assessments and scales are the best way to communicate with doctor how bad your pain is. And they can track the pain day over day. They can be a scale from one to ten, with ten indicates the worst pain imaginable and one indicates no pain or normal. These scales can also

### Corresponding author \*

Mr.V. Satyanarayana Mpharm (Ph D)  
Assoc.Professor  
Department of pharmacy practice  
Nalanda Institute of Pharmaceutical Sciences,  
Kantepudi (V), Sattenapalli (M), Guntur (Dt), A.P. India-  
522438  
E-mail: veeragandamsatya@gmail.com

depend on visual indicators or facial expressions to judge pain. Or, they can be personalized explanation of how pain affects.

But, as always, pain is subjective. Measurement of pain scale works for the assessment of pain. There are different types of pain scales they are

1. Pain scale 1-10
2. Faces pain scale or Wong-Baker FACES pain rating scale
3. Global Pain scale
4. Visual analog pain scale
5. MC Gill pain scale
6. Mankoski pain scale
7. color scale for pain
8. Pediatric pain scale
9. Hyperbole and a Half pain scale
10. Randall pain scale

#### 1. Pain Scale 0-10:

This is the most common scales for pain measurement, the patient identify their pain between one to ten. This scale is simple, effective, and it works for maximum number of patients. The scale can be limiting to other patients. And it's annoyingly subjective, meaning that different people will have different scores within the scale itself. And different doctors will take to mean your answers differently. The Stanford description of the pain scale from one to ten, however, goes a good way towards elective this pain measurement.<sup>3</sup>

#### 2. Face Pain Scale or Wong-Baker Face Rating Pain Scale:

A scale that relies on faces can be very helpful when diagnosing pain in children. But it can also go a long way towards serving your pain doctor understand the level of your pain during visit. The faces pain scale that many people are well-known related to Wong-Baker's FACES pain rating scale. As you can see, it uses a one to ten scale to judge pain and then correlate facial expression.<sup>4</sup>



#### 3. Global pain scale:

Global pain scale is a unique analytical tool because it focuses both on physical pain and how that pain has affected a patient's life. Unlike numeric or visual analog scales, the global pain scale is a more detailed screening tool to assess: Current pain levels.

- A patient's emotional well-being theoretical outcomes.
- A patient's ability to engage in activities of everyday living.

It's used by doctors to judge pain, it's also great tool to use to track your pain every day. It only takes a few moments to answer the questions and can give you a quick complete score to determine your pain is getting better or worse.

#### 4. Visual Analog Pain Scale

A visual analogue scale, or VAS, is a tool that dispense with numbers for measuring pain. It recognizes that numerous patients don't experience pain in discrete units like numbers, but in capricious way that exists on a sliding scale. A pain VAS allows patients to mark their pain intensity on range. The majority are straight lines of a fixed length, though some can have middle points or meter-shaped scale.<sup>5</sup>

#### 5. MC Gill Pain Scale:

If you suffer from CRPS, the McGill Pain Index may give a superior way to track and explain your pain. Instead of fixing pain strength only to number, it compares it to other injuries or types of pain to help count it. It incorporate sensory qualities, emotional qualities of pain, and evaluative issues to help locate the intensity of pain. The Index, first created in 1971, continues to be a very valuable, reliable, and useful means to measure pain and it's the leading CRPS pain scale. This is a Mc Gil Pain Index Chart, is what doctors use to measure and compare pain. The elevated the number the greater the pain.<sup>6</sup>

#### 6. Mankoski Pain Scale:

The Mankoski pain scale incorporates a statistical pain scale, along with brief descriptions, to help classify pain. It goes one step additional though and explains that pain in relatives how pain medicines either help or don't help the persons pain.

#### 7. Color Scale for Pain:

Color pain scales are, numerous on this list, another way to help children judge their pain levels. But for several who are visually-inclined, colors may also represent a really powerful way to unite and understand pain. For children, this scale is usually formed like a thermometer, with brighter red color indicating pain.<sup>7</sup>

#### 8. Pediatric Scale for Pain:

The Oucher pain scale is an additional tool that was used to help children communicate their pain.

#### 9. Hyperbole and a Half Pain Scale:

Chronic pain patients are familiar with how life-saving humor can be. Hyperbole and a Half is a famous blog that uses humor to advance tough topics like psychological health and pain. In one post, they took on the complexity of clinical scales for pain and put their own spin on it. Many patients adore their explanation and feels like it better matches their own experience for pain. Like the Hyperbole and a Half pain scale, some pain patients have shaped their own scales to 12. Sensory pain scale. This written scale incorporates descriptions for types of pain ranging from industrial pain to cramping pain to spasms.

#### 10. Randel Pain Scale:

A scale that really works is the best pain scale. To that end, the Randall Chronic Pain Scale is a tool for putting your own

words to modified scale. It uses a numeric, color-coded display to help you to follow and pinpoint pain that day, while asking you to describe accurately what each of those ratings mean .

## 2. MANAGEMENT

### Non pharmacological treatment:

Various Non- pharmacological therapies have been found to be favorable in the management of acute and chronic pain; including physical manipulation, massage and Exercise.

- Trans Cutaneous electrical nerve stimulation (TENS) have been used in supervision of both acute and chronic pain (e.g: surgical, traumatic, neuropathy and muscle pain). Even during the cognitive behavioural and social aspects of pain are well established, psychological interventions for the treatment of acute pain are not used widely.
- Simple interventions (Ex: Education or preliminary information about sensation or except after certain procedure) reduce patient distress and greatly diminish post procedure suffering. Other psychological techniques include:
  - a. Relaxation training,
  - b .Imagery, and hypnosis have established effective in the management of post procedure pain and in cancer-related pain
  - c. Moderate verification demonstrates the cognitive behavioral therapy and biofeedback also may be useful non pharmacologic tool in managing chronic pain.<sup>8</sup>

### Pharmacological treatment:

Effective pain management for the rheumatology patient is not simply the prescription of an analgesic pill. Pain treatment should be taken into account symptoms that co-associate with pain and processed in parallel with the best management of the underlining rheumatological process.

Outcomes for any treatment should not only be measured as pain relief but ensure as an improvement in function. Psychological condition play an increasingly important role with promotion of coping strategies and ventilation for the patient to take responsibility for health status. Activation of descending inhibitory mechanism is believed to be mechanism of action for pain relief for many of the patients. Other interventions that may be useful include local corticosteroid injections into joints and soft tissue and finally surgical investigation with joint replacement for severe damage of hip and knee. As rheumatic pain no longer believed to be entirely dependent upon the inflammatory prostaglandin cascade or effectively treated with opioids only. There is also limited information regarding combination pharmacotherapy in musculoskeletal pain. A good practice should be the use of lowest dose of medication for the shortest time possible in order to reduce drug related side effects.<sup>9</sup>

### Traditional Analgesic Treatment:

Evidence based treatment for pain management was mostly focused on the use of analgesics and NSAID'S. Salicin from the willow lead to the development of salicylic acid and eventually the variety of NSAID'S which constitute the modern day rheumatology pharmacopeia.

### Acetaminophen:

It is most commonly used analgesic for the management of musculoskeletal pain .until the evident of selective cyclooxygenase inhibitors, acetaminophen was the gold standard for pain management in the arthritic disease. The safety profile of acetaminophen in dosage below 2000mg a day remains acceptable but there are risk for liver toxicity when higher dosages are used for prolonged periods or insetting of liver or renal dysfunction. The mechanism of action of acetaminophen is an effective on COX-1 and COX-2 enzymes in the brain impact upon neurogenic inflammation, action on the endocannabinoid system. A metabolite of acetaminophen, when compounded with arachidonic acid, blocks uptake of endogenous cannabinoids in brain and spinal cord of animals. Brain and nervous system potential targets for acetaminophen include the third isoform COX-3, effect on serotonergic mechanisms, and impact on neurogenic inflammation. The peripherale inhibition of COX-1 and COX-2 enzymes is unlikely to result in unlikely to result in appreciable clinical anti-inflammatory effect, reduced synovial effusion in osteoarthritis.<sup>10</sup>

### NSAID'S:

Traditional NSAIDS and COX-2 selective inhibitor have played an important role in pain management and inflammation. These are associated with serious adverse effects on the gastrointestinal tract, kidney, liver and cardiovascular system. Lowest dose is required for the shortest period of time. They provide an attractive alternative to oral treatments for patients with musculoskeletal conditions. Topical diclofenac is ingested for the stud of osteoarthritis of the knee.<sup>11</sup>

### Opioid analgesics:

Human opioid system comprises a number of endogenous molecules. Most available opioids are  $\mu$ -opioid receptor agonists, individual patients may respond differently to specific opioids preparations. Traditionally it is recommended that treatment be initiated with the weaker opioids agonists such as codeine or tramadol, before moving to the stronger opioids, but without any convincing evidence. Analgesic properties of codeine are dependent upon its conversion to morphine via the cytochrome P<sub>450</sub> isoenzyme 2D6. Individuals who lack the ability to metabolize codeine to an active analgesic form. Rheumatologists most commonly use opioids in the management of osteoarthritis pain of weight-bearing joints, and for treatment of low back pain, although a recent review recommends that adverse effects outweigh the benefits. The American pain society published guidelines for the safe and effective use of opioids

in chronic pain. Both agents have demonstrated efficacy in the management of musculoskeletal pain, with generally improved tolerability compared to the traditional opioids.<sup>12</sup>

#### **Non-traditional analgesic effect:**

It is defined as agents whose primary function is not pain relief, but has pain modulatory effects. Although initially used in the management of neuropathic pain, they have been shown to have effect in fibromyalgia, with increasing interest in their use in other painful musculoskeletal conditions. Two classes of drugs that have been mostly used for analgesic effects are antidepressants and anticonvulsants.

### **3. PAIN MODULATORY**

Drugs affecting sensitization were initially used as anti-convulsants. These agents act as neuromodulators by their propensity to reduce neuronal excitability. Mechanism of analgesia is not totally clear; they may diminish pain through site. Specific effects on voltage-gated ion channels, ligand-gated ion channels, receptors of glutamate and N-methyl-D-aspartate (NMDA) as well as receptors for GABA and glycine. The second generation anti-convulsants of which gabapentin and pregabalin are the best, generally better tolerated due to fewer adverse events compared with the first generation molecules (eg: carbamazepine). Gabapentin and pregabalin have more potency. They are well absorbed after oral administration, have good bioavailability and are excreted unchanged by the kidney. Gabapentin in chronic pain but doses in the range 2400-3600mg/day have been routinely used in patients with neuropathic pain.

#### **Pain modulators affecting descending inhibitor pathways:**

Antidepressant medication affects pain independent of their impact on mood, with pain relief occurring as early as 2 weeks following initiation of treatment. Fibromyalgia there is evidence for effect in other rheumatic conditions where analgesics and NSAIDs are not sufficiently effective. The major mechanism of action is to affect descending pain inhibitory pathways in the brain stem and spinal cord mediated by norepinephrine and serotonin. Other effects may include impact on opioid mechanisms, in channels, NMDA channels.

**CANNABINOIDS:** Cannabinoids used for medical purposes evoke strong emotional responses from the medical community and patients. There are a number of factors relevant to the rheumatic disease that pertain to the cannabinoid system. Cannabinoid receptors are present throughout the nervous system, skin, joint, tissue and cartilage. Inflammatory pain has been attenuated by activation of CB1 and CB2 receptors and activation of cannabinoid receptors results in inhibition of pain. With effects on inflammation, pain and even joint damage, the cannabinoids may have potential for management of rheumatic disease.<sup>13</sup>

### **4. CONCLUSIONS**

Pain assessment plays a major role in the management of chronic and acute pain. So, early assessment of the pain will be more beneficial to the patient.

### **5. REFERENCES**

1. Muralidharan J. Text book on pain management, 3<sup>rd</sup> ed. Hyderabad: Prasad medical publishers; 2014, p.70
2. Chanson M. Scope of pain clinics in India. J Recent Adv Pain 2017; 3:57-60
3. Hawker GA, Mian S, Kendzerska T, French M. Measures of adult pain: Visual Analog Scale (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short-Form-36 Bodily Pain Scale (SF-36BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care Res (Hoboken) 2011; 63 Suppl 11: S240-52.
4. Jyothi B, Kirthiha Govindaraj, Pratishruthi, Safiya I Shaikh. Comparison of Analgesic Efficacy Of Levobupivacaine, Levobupivacaine and clonidine, and Levobupivacaine and Dexmedetomidine in wound infiltration technique for abdominal surgeries: A prospective randomized controlled study. Indian journal of pain 2017; ;p:127-132.
5. Rodriguez CS. Pain Measurement in the elderly: a review. Pain Manag Nurs 2001; 2:38-46.
6. Melzack R, Terrence C, Fromm G, Amsel R. Trigeminal neuralgia and atypical facial pain: Use of the McGill pain questionnaire for discrimination and diagnosis. Indian journal of pain 1986; 27:297-302.
7. Philip J, Van der Wees, Joost J, G. Wammes, Reinier P, Akkermans, Jan Koetsenruijter, Gert P, Westert, Albert van Kampen, Gerjon Hannink, Maarten de Waal-Maefijdt and B. Willem Schreurs; Patient-reported health outcomes after total hip and knee surgery in a Dutch University Hospital Setting: results of twenty years clinical registry; journal of BMC Musculoskeletal Disorders, (2017) p.18:97.
8. L. Michael Posey Text book Pharmacotherapy A Pathophysiologic Approach; 8<sup>th</sup> Edition; pg.no:1045; 1048.
9. E. Y. Chan, F. M. Blyth, L. Narin, M. Fransen. Acute postoperative pain following hospital discharge after total knee arthroplasty. Acute postoperative pain following hospital discharge after total knee arthroplasty. Osteoarthritis and Cartilage 2013; 21 : 1257-1263.
10. Mary-Ann Fitzcharles and Yoram Shir. Management of chronic pain in the rheumatic diseases with insights for the clinician. Ther Adv Musculoskel Dis 2011; 3(4): 179-190.

11. Tian j.zhou, MD,Jun Tang MD,and paul F.White,phD,MD,FANZCA .Propacetamol versus ketorolac for treatment of acute postoperative pain after total hip or knee replacement. *Anesth Analg* 2001;92:1569-75.
12. V.Wylde, J.Rooker, L.Halliday, A.Blom. Acute postoperative pain at rest after hip and knee arthroplasty:Severity,sensory qualities and impact on sleep. *Surgery & Research* 2011; 97: 139-144.
13. Nuesh, E., Rutjes, A.W., Husni, E., Welch, V. and Juni, P. Oral or transdermal opioids for osteoarthritis of the knee or hip. *Cochrane Database Systematic Rev* 2009; 4: CD003115.

**Conflict of Interest: None**

**Source of Funding: Nil**