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A REVIEW ON: “PAIN MANAGEMENT”

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ABSTRACT

This article focuses on pain management, pain is a sensation felt which is very unpleasant to a human. The main objectives while managing pain is to decrease the intensity of pain and improve the quality of life. Since pain is unavoidable in human life many methods have been introduced in order to prevent or decrease the intensity of pain. Treating pain has become easy with the introduction of various methods such as Pain Scale. Based on the scale marked by the patients, the particular drug and dose will be administered to the patients. Pharmacological and non – pharmacological treatment has been introduced in pain management. Treating pain mainly involve pain – killer medications which mainly has certain side effects and at times chronic pain are often prescribed with Opioid Analgesics which can cause drug dependence and overdose on the patients. Non – pharmacological treatment mainly focuses on treatment that does not require medication such as relaxation therapy. However, for pharmacological treatment it focuses on the various medications that are prescribed to patients based upon the type of pain they are suffering. For better patient care checking WHO guidelines such as WHO Analgesic ladder is of prime importance.

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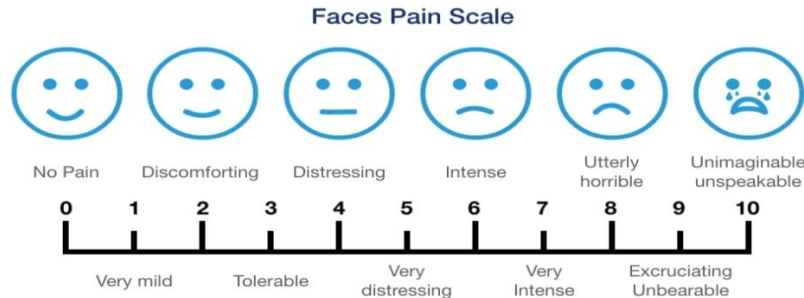
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INTRODUCTION

The word PAIN is defined as something that is sharp, uncomfortable and unpleasant that a human being or any animals can feel in his body. Many times, people experience pain but cannot actually identify where exactly they are experiencing pain. People suffering from pain are often frustrated and their quality of life are affected such as relationships with family, friends, sleep and work. Everyone will undergo some pain in their life and it is very much common, however its duration varies. Some pain is of short duration, while some last for more than weeks to at least a year.



Types of Pain:

Acute Pain.

Chronic pain.

Acute pain is of short duration (6 months). It is sharp and comes very suddenly and the pain disappear when its cause has been healed/treated.

Example – pain of cuts or burns, Labour pain and Childbirth.

Chronic Pain is of longer duration (more than 6 months). It is classified as chronic pain, mainly because of the signals that still leave its impressions on the nervous system.

Example – Cancer pain.

SYMPTOMS

- Sharp
- Dull
- Burning
- Shock-like
- Tingling
- Shooting
- Radiating
- Fluctuating in intensity and varying in location

Non-Specific symptoms include

- Anxiety
- Depression
- Fatigue
- Insomnia
- Anger
- Fear

TREATMENT

1. GOAL OF TREATMENT

- To Minimize the duration of pain
- To reduce adverse drug reaction or intolerance to pain management therapy.
- To avert complications
- To improve quality of life of the patient

2. NON – PHARMACOLOGICAL TREATMENT

- Hypnosis
- Imagery
- Distraction
- Relaxation/Guided imagery
- Neurotransmitter
- Transcutaneous electric nerve stimulation (TENS)
- Acupuncture
- Acupressure
- Biofeedback
- Physical Therapy
- Radiotherapy
- Physiological intervention

3. PHARMACOLOGICAL TREATMENT

Analgesics are the most commonly used medications in the management of pain. The classification for pain is categorised into non opioid analgesic, non-opioid analgesic as well as adjuvant drugs.

- **NON-OPIOID ANALGESIC** – The non-opioids are mostly preferred over the opioids for mild to moderate pain.

Mechanism of Action – NSAIDS inhibit cyclooxygenases (COX-1 and COX-2) thereby disrupting the production of prostaglandins an important mediator of pain and inflammation, thereby decreasing the number of pain impulses received by CNS.

Adverse Effects – GI ulcers

Bleeding

Increased risk of heart attacks

Renal function impairment

Examples Include

➤ ACETAMINOPHEN

1. Paracetamol

Dose - 650 mg orally

Duration – Every 4 to 6 hr

➤ ANTI-CONVULSANTS

1. Gabapentin

Dose - 900 to 3600 mg/day orally in three divided doses.

2. Pregabalin

Dose - 300 to 600 mg/day orally in two divided doses

➤ ANTI DEPRESSANTS

1. Amitriptyline

Dose - 25 to 150 mg orally once daily or in two divided doses

2. Duloxetine

Dose - 60 to 120 mg orally once daily or in two divided doses

➤ ACETYLSALICYLIC ACID

1. Aspirin

Dose - 350 to 650 mg

Duration – Every 4 to 6 hours

➤ NSAIDS

1. Ibuprofen

Dose - 200 to 400 mg

Duration -every 4 to 6 hr

2. Naproxen

Dose - 250 to 500 mg

Duration - every 12 hrs

3. Diclofenac

Dose -100 mg orally

➤ COX-2-SELECTIVE**1. Celecoxib**

Dose - Initial 400mg 12hrs later followed by another 200mg on first day

Duration - 200mg twice daily

➤ TOPICAL AGENTS**1. Lidocaine 1.8% or 5% patch**

Dose - 1 to 3 patches applied to intact skin for up to 12hr

2. Capsaicin 8% patch

Dose - 1 to 4 Patches applied to intact skin for 30 or 60 min

- **OPIOID ANALGESIC** - Opioids are a class of medication, used to provide relief from moderate to severe acute or chronic pain.

Mechanism of Action -

Opioids produce their actions by interacting with various opioid receptors, that are located in spinal, supra spinal and peripheral nerves. The opioid analgesics binds to the opioid receptors which then activates the opioid receptors. Opioids blocks calcium channels on nociceptive afferent nerves and stimulate K^+ efflux which then decreases transmission of nociceptive impulses.

Adverse Effect - Dysphoria

Respiratory Depression

Constipation

Bradycardia

Convulsion

Nausea

Vomiting

Examples include**➤ MORPHINE and CONGENES (PHENANTHRENES)****1. Morphine**

Dose - 5mg to 30mg orally

Duration - Every 4 hrs

➤ MEPERIDINE and CONGENES (PHENYLPIPERIDES)**1. Meperidine**

Dose - 50mg to 100mg IM

Duration - every 3 to 4 hrs

2. Fentanyl

Dose - 50mg to 100mg

Duration - Every 1 to 2 hrs

➤ METHADONE AND CONGENES (DIPHENYLHEPTANES)**1. Methadone**

Dose - 2.5 to 10mg PO

Dose - 2.5mg to 10 mg IM

Duration - every 8 to 12 hrs

➤ OPIOID AGONIST-ANTAGONIST DERIVATIVE**1. Pentazocine**

Dose - 30mg IM, IV and PO 50mg to 100mg

Duration - Every 3 to 4 hrs

➤ OPIOID ANTAGONIST

1. Naloxone

Dose – 0.4mg to 2mg IV

Duration – 30 to minutes after initial dose

➤ CENTRAL ANALGESIC

1. Tramadol

Dose – 50mg to 100mg PO

Duration – every 4 to 6 hrs

2. Tapentadol

Dose – 50mg to 100mg PO

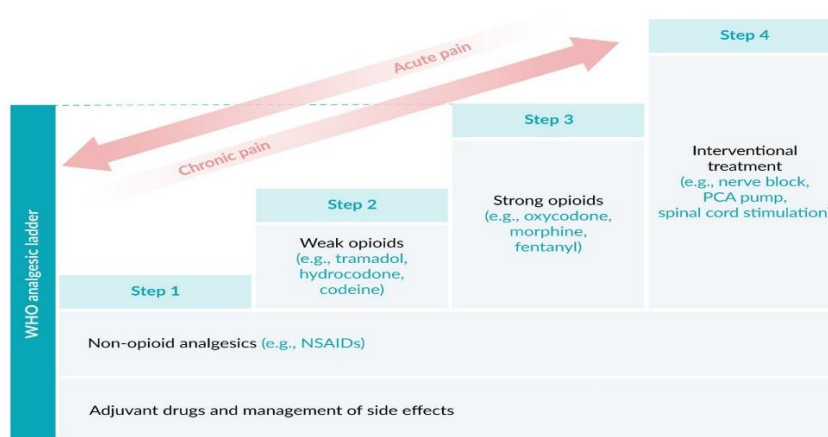
Duration – every 4 to 6 years

• ADJUVANT DRUGS

➤ Anxiolytics: Diazepam, Lorazepam

➤ Muscle Relaxants: Baclofen

➤ Corticosteroids: Prednisolone, Dexamethasone



CONCLUSION

Pain is a complex protective mechanism. It can last for a short time or it can last for months to years. Pain can interfere with our daily activities, making it hard for people to work. It has a significant impact on sleep and mood. It may be caused by cuts, burns, injury, medical conditions, labour and child birth. The goal of treatment of pain is to reduce the pain and improve the patient's quality of life. Pain can be treated depending upon the factors that causes pain and the type of pain. The most commonly used medications for pain management are opioid, non-opioid and adjuvant analgesics. Apart from analgesics, non-pharmacological treatment is also available for management of pain. These include physical therapies and complementary therapies. A better understanding of the cause of pain can help healthcare providers/clinicians manage all kinds of pain and improve the quality of life thereby minimizing complications.

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CONFLICT OF INTEREST

The authors declared no conflicts of interest associated with this publication.

ABBREVIATIONS

WHO - WORLD HEALTH ORGANISATION

NSAIDs - NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

CNS - CENTRAL NERVOUS SYSTEM

GI - GASTRO INTESTINAL

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