



REVIEW ARTICLE

PAIN RELIEF MANAGEMENT THROUGH ALTERNATIVE MEDICINES IN INDIA

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ABSTRACT

Chronic pain syndrome is a complex, but widespread problem in human beings. It adversely affect the patient and may cause depression, excessive use of drugs, fatigue, poor work quality and even lead to suicidal thoughts. Gastrointestinal, reproductive, muscular, neurological are some of the reasons of the chronic pain syndrome (CPS). Inflammation is involved in the pain through inflammatory mediators, which vary from person to person. Besides the allopathic medications, alternative theories which are mild in nature can be applied for the pain management. These are massages, homeopathy, yoga, Ayurveda, acupuncture, mind body therapies. All these therapies are based on different mode of action to reduce the inflammation. Alternatives therapies generally don't have any side effects on the body like allopathic medications. We hereby, describe the origin of pain, cause of pain and different alternative therapies for the pain relief management in this review.

Keywords: alternative therapies, chronic pain, inflammation, pain relief management

Key messages:

- Pain generally occurs due to inflammation on the site or away from the site of disease.
- Pain is an alarm generated from the body that something wrong has occurred in the body.
- Alternative therapies or medicines reduce the side effects of allopathic medicine which is a conventional method in pain relief management.

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1. INTRODUCTION

Chronic pain syndrome (CPS) is an ordinary disease which has become a major challenge to the health care services due to its complex nature^[1]. Many consider the pain existing for a longer period of time i.e. more than 6 months to be called chronic pain^{[2][3]}.

2. METHODOLOGY

Research papers were collected on the present theme. Further it has been circulated among three research associates to ensure that the paper are relevant. Then it has been reviewed to write the paper. In some of the cases we also met personally with the patients to confirm the doubts. interactions with the patients.

3. Etiology of pain

Etiology in the medical terminology is the study of origination or causation. The pathophysiology in understanding chronic pain syndrome (CPS) is complicated and multifaceted and still is poorly unstated^[1]. Patients prone to developing CPS are subject to various psychological syndromes like huge depressions, somatisation disorders, and hypochondriasis and conversation disorders^{[4][5]}.

In women there is a connection between the numbers of active myofascial trigger points (MTrPs) and the strength of spontaneous pain

along with wide spread mechanical hyper sensitivity^[6]. The inputs of Nociceptives from MTrPS can be linked to central sensitization. Primary sensorimotor structural and functional changes are more prevalent in female chronic pain patients than male chronic pain patients^[7].

4. Common pain ailments

There are many reasons of pain and pain syndrome. A general list of disorders and ailments has been discussed below:

Musculoskeletal disorders

1. Spinal arthritis
2. Polymyalgia rheumatic
3. facet joint arthrosis Fractures
4. Mechanical low back and Chronic coccygeal pain
5. Muscular strains
6. Hernias

Neurologic disorders

1. Neuralgia
2. Cervical radiculopathy
3. Migraine headaches
4. Chronic daily headaches
5. Spinal stenosis
6. Metabolic deficiency myalgias
7. Polymyositis
8. Arachnoiditis
9. Neoplasia of spinal cord

Urologic disorders

1. Chronic urethral syndrome
2. Urethral
3. Bladder neoplasm
4. Prostatitis
5. Chronic urinary tract infection

Gastrointestinal (GI) disorders

1. Colitis
2. Pancreatitis
3. Chronic constipation
4. Chronic visceral pain syndrome
5. Gastroesophageal reflux

Reproductive disorders (extrauterine)

1. Endometriosis
2. Adhesions
3. Adnexal cysts
4. Chronic ectopic pregnancy
5. Chlamydial endometritis
6. Endosalpingiosis
7. Ovarian retention syndrome
8. Ovarian remnant syndrome
9. Ovarian dystrophy or ovulatory pain

Reproductive disorders (uterine)

1. Adenomyosis
2. Cervical stenosis Endometrial
3. Chronic endometritis

Psychological disorders

1. Porphyria
2. Depression
3. Bipolar personality disorders,
4. Sleep disturbances

Fibromyalgia risk

Overweight or obese women have greater risk of about 60-70% in developing fibromyalgia than normal weight women [8]. In this body mass index (BMI) is considered as an independent risk factor for this condition.

Other

1. Peripheral vascular disease
2. Cardiovascular disease
3. Chemotherapeutic

5. Neuro endocrinology of Chronic pain syndrome (CPS) pain

Neuro endocrinology is the science of interactions between the nervous and endocrine systems. The nervous system consists of brain, spinal cord, ganglia and the nerves. The endocrine system consists of ductless glands. They release hormones, which act systematically. Neuroendocrinology thus is the study of reciprocal influences by local and widely spread systems of signaling in various animals [9].

In other research, ERB131 alleviated tactile hyperalgesia stimulated by capsaicin and reversed tactile allodynia generated by spinal nerve ligation and many other chemical secretions. Above all ERB131 was unable to persuade pain threshold of a common healthy animal. Therefore ERb agonist is a critical effector in simulating a wider range of anti-nociceptive situations [10].

6. Chronic pain

a. Top Causes of Chronic Pain

Persons suffering from persistent pain always assume that they are suffering from a particular ailment, whether it is arthritis, migraines, back pain or any other pain. Many cases of chronic pain are reported to have pain after the specific injury have been long been treated e.g. a serious infection, surgical incision or a common injury. Other cases have no concrete cause i.e. no injury or no absence of underlying tissue damage. But in many cases chronic pain is associated with the conditions such as Multiple sclerosis, Low back pain, Fibromyalgia, Headache, Arthritis, Nerve damage (neuropathy), especially osteoarthritis, Shingles.

b. Understanding the Psychological Impact of Chronic Pain

Fundamental principle of chronic pain is the subject of biology. Many times delinquent nerves keep brain alerting the damage done to the tissues, which no longer exists. And so the person feels pain after the damaged part has been cured. In addition to this many social and psychological factors also play a key role. Thus it is a specialization area to determine the cause of chronic pain^[11]. Negative emotions also play a key role in assuming pain as chronic pain affects all aspects of one's life. Therefore in the treatment of pain practitioner should deal it both medically and emotionally.

c. Drugs Used to Control Chronic Pain

Many medicines have been prescribed below in the treatment of Chronic pain, which include:-

i. Pain killers

Few pain killers are non-steroidal anti-inflammatory drugs (NSAIDs), acetaminophens and analgesics like ketoprofen, naproxen, ibuprofen and aspirin. These medicines are said to be safe, but not completely safe^[12].

ii. Anti-depressants

Many anti-depressant medicines are approved by FDA in the treatment of Chronic pain (FDA, 2008). They include tricyclic antidepressants like doxepin (sinequan); imipramine (Tofranil); amitriptyline (Elavil); clomipramine (Anafranil); nortriptyline (Pamelor) etc. The effects of tricyclic anti-depressants are different from mood stabilizers. Therefore they are very helpful in chronic pain patients.

7. Alternative Therapies for Pain Management

'Alternative Therapy' means drugs and treatment used in place of conventional medicines. If alternative medicines are in association with conventional drugs, it is called complementary medicine^[13]. Alternative therapies include Yoga, hypnosis, chiropractic treatment, biofeedback, relaxation, message, aromatherapy, herbal remedies and other treatments.

In past few decades, mind body therapies, acupuncture and nutritional supplements for treating chronic pain are again in the forefront. More alternatives are therapeutic touch, herbal therapies, dietary controls, messages etc. for the cure of chronic pain^[14].

a. Mind-Body therapies

A multidisciplinary approach is considered in many cases of chronic pain like combination of cognitive restructuring, relaxation therapy, stress management, training for coping with pain and by education. In low back pain and rheumatoid arthritis and osteoarthritis many times relaxation therapy is advised.

Mind and body therapies are used to improve mind control on the body's functions and symptoms^[15]. Various approaches in this therapy are meditation, hypnosis, relaxation, guided imagery, biofeedback etc. Relaxation therapies help in alleviating discomfort at the time of experiencing chronic pain. These mind and body therapies are also called self-approach.

b. Acupuncture

Acupuncture is recognized by WHO for the treatment of more than 30 diseases relating to pain relief. Acupuncture is based on the control of imbalance of energy in the body. In acupuncture therapy stainless steel needles are used to stimulate the 14 main meridians of the body so called energy carrying paths. When these paths carrying energy are

corrected, the pains go and body functions properly^[16]. Acupuncture also helps in decreasing pain by releasing chemicals called endorphins which block pain. Most of the acupoints exist near nerves. When these nerves are stimulated, they cause a feeble ache or feeling of powerful muscle. The stimulated muscle then gives signal to the central nervous system i.e. the brain and the spinal cord ultimately releasing endorphins (morphine like chemicals). Ultimately endorphins in association with neurotransmitters block pain message being delivered to the brain. Acupuncture is also used in treating fibromyalgia, carpal tunnel syndrome, low back pain, tennis elbow, osteoarthritis and myofascial pain, headache, menstrual cramps. In comprehensive pain management program acupuncture is many times accepted as an alternative in the treatment of chronic pain.

Huntley used available scientific methods with the help of electronic data bases for evaluating the results of complementary and alternative medicines for labor pain^[17]. Very few trial runs were done for the outcome of results for labor pain and were kept as records and conclusions. In this many experiments didn't meet the scientific criteria. With these limited trials, he concluded that for decreasing labor pain or reducing conventional analgesic methods acupuncture and sterile water blocks

can be used. Secondly acupuncture and hydrotherapy are efficient methods as an alternative for pain relief. Thirdly, other complementary or alternative therapies for labor pain control are not effective.

Tsao found that CAM use for pain relief in children is an efficient method to cure pain^[18]. CAM modalities were published including controlled trials and multiple baseline studies, which focused on chronic, acute and procedural pain.

American Psychological Association (APA) Division 12 Task Force on Promotion and Dissemination of Psychological Procedures developed a framework for the efficient use of CAM. After the wider arguments, only one CAM therapy was qualified as an Empirically supported therapy (EST), but others were considered little less efficient or promising treatments for pediatric pains.

c. Hot-cold treatment

In Hot Treatment reflex arcs inhibiting pain are moved with the help of heat receptors, thus reducing pain by vasodilatation effect. This is the low cost treatment and easy to use and also has no side effects. This treatment can be applied deeply with the help of hot compresses, paraffin usage and warm baths. Ultrasound also is used in the treatment of pain increasing the temperature of the tissues of the size of about three to five centimetres depth^[19].

The Cold treatment uses cooling material or devices to be applied on different body parts containing pain. This is a kind of non-drug therapy for pain relief^[20]. In these therapies ice packs and cold gels are widely used. They are placed inside thin towel gauze and applied on skin so that a person can withstand extreme cold temperatures.

Cold treatment is used for 15 to 30 minutes to induce anaesthesia at the place of pain. The patient feels cold for about 1 to 3 minutes and afterwards feels burning pain sensation for about 2 to 7 minutes and after that pain decreases within 5-12 minutes. A breaking occurs for the pain-spasm vicious circle and transmission of nerve fibres decreases inciting increase in metabolism after 12-15 minutes of cold treatment and a reflex vasodilatation occurs on the deep tissue. In this way edema and the pain vanishes and tissue gets nourished with vasodilatation^[21]. End results show that cold treatment cures pain. Therefore cold treatment is successful in reducing edema and in the treatment of pain by taking control of inflammation process. Cold treatment reduces pain and need for morphine during first 24 hours where surgical sutures are found after lumbar disc surgery. Fluor methane spray application is the cheapest way in relieving injection pain during vaccination, while cold packs and ice applications reduce pain during heparin

injections. Demir stated that cold treatment is very useful to treat pain when chest tube is removed and it helps in extending the time to exclude chest tube and taking an analgesic [22]. Cold treatment is also helpful in situations like hypertension, asurticaria/hypersensitivity, sickle cell anemia related to cold and reynaud's phenomenon.

d. Acupressure

As Acupuncture is applied with the help of needles, but Acupressure, a traditional Chinese medicine is applied with the help of pressure on various points of the body surface creating energy circulation and balance in pain patients. Acupressure therapy is non-invasive, safe and effective. Acupressure relieves osteoarthritis, musculoskeletal, neck, back and head pain, pre-operative and post-operative pains, nausea vomiting and sleeping difficulties.

e. Homoeopathy

Classical and complex Homeopathy is one of the useful therapies in treating rheumatic syndrome. The results show that homeopathy is twice as effective as placebo. In homeopathy the medication depends on the complete picture of individual's historical, biological, medical, psychological and emotional analysis instead of diagnosing a particular disease. Future research meets more challenges in finding plausible mechanism of actions for homeopathy.

f. Exercise

Exercises help in improving blood circulation and thus flow of blood in the blocked area of the body, where pain exists, thus relieving pain in muscles and various parts of the body [23].

g. Positioning

The positioning of the body with the help of pillows, weight lifting and special beds also help in relieving pain. The changes in the position of the body reduce acute pain and also help in increasing blood flow and muscular contraction [24]. Positioning has been determined as the most common post-operative non-pharmacological method [25].

h. Restriction of movement /resting

Restrictions like Bed rest also help in relieving of pain. This is useful in fractures and back surgeries. Restriction of movement decreases edema growth.

i. Massage

Message is helpful in creating blood flow in soft tissues and many types of messages are applied like friction, vibration, tapotement and percussion for pain relief. It is believed that massage gives relief to mind and muscles and thus relieves pain. Massage stimulates peripheral receptors on the body and the stimulant signals reach brain through spinal cord. Massage gives pleasant feeling and a common relief is felt [26]. Therapeutic massage is helpful in treating chronic lumbago as a short term effect. Melancon recommended

that use of massage as an alternative treatment in the patients with lumbago with integrated care can help relieve pain^[27]. Nixon points out that massage helps in relieving pain^[28]. Also it helps in reducing labour pain and anxiety. It also helps in improving progression of birth process and reducing the attention to the pain.

j. Hydrotherapy (Balneotherapy)

Hydrotherapy is the treatment for relief of pain which uses potable water resources, thermal springs and few other devices. With the help of hydrotherapy, temperature effect is used which is called 'hydrothermal treatment'. In hydrotherapy mechanical or thermal effect of water is used. Hot water stimulates immune system providing hormone release that are suppressing the stress, stimulating the blood circulation and digestion system, increasing the blood flow and providing muscular relaxation and thus relieving pain. Hydrotherapy is an effective treatment in back and chronic lumbago^[29].

k. Cognitive-behavioural therapies

Cognitive behavioural therapies are multimodal approaches to pain management. This therapy helps in reducing pain level and patients build confidence in him while dealing with pain. There are various methods which can be used by doctors, nurses, social service specialists and psychologists. These methods

should be applied before the person experiences pain.

l. Relaxation - respiration techniques and dreaming

Relaxation methods increases slow brain waves in EEG by the reduction of oxygen consumption, blood pressure, respiration amount and the number of pulses. The sensitivity to pain can be reduced by this method.

The spiritual and physical relaxation methods are described below:

- Respiration: Respiration by taking deep breath slowly in and out diverts one's mind from thoughts. This method should be applied for 5 to 10 minutes per day^[30].
- Advanced muscular relaxation method: By contracting and relaxing muscles together, a person's jammed muscles start working^[30].
- Dreaming: Dreaming helps in diverting person's mind away from pain by stimulants which make person happy like good light, colour, sound and pattern. Lewandowski points out that effective pain control can be achieved by diverting person to dream for more than 4 days^[31].

m. Distraction

Distraction means diverting the attention of a person away from pain like listening to music,

watching television, reading books and dreaming. This method reduces the severity of pain^[19].

n. Praying

Praying gives positive results in reducing pain of the body and relieving physical functional disorders. This method is very helpful in chronic pain.

o. Meditation

In meditation one focuses on present or respiration or a word or a picture. Meditation can be done for few minutes to more than 30 minutes. It diverts one's attention to pain^[32]. Meditation is helpful in relaxation and is effective in pain relief^[32]. Carson points out that 8 weeks of meditation helps in reducing pain in persons with chronic lumbago^[33].

p. Yoga

Yoga provides relaxation with the help of respiration exercises and meditation with reduced movements. It is very useful in musculoskeletal pains as there is muscular stretching movement and increase of strength^[34]. Persons those practice yoga say that it is most beneficial and cost effective method in relieving pain. Yoga for about 16 weeks can cure chronic lumbago^[35].

q. Hypnosis

Hypnosis is a state of conscious change similar to sleep. Hypnosis relaxes body while person focuses on an object, stimulant or memory. Hypnosis is a subconscious state reached,

where a person feels relaxation. In this situation, the ability of people to be dominated increases^[36].

Till now mechanism of treatment through hypnosis over pain is not known exactly, but it is indicated that pain gets reduced by some physiological changes occurring as a result of hypnosis. Hypnosis helps in treating cancer pain, head and neck pains and phantom pain by the help of sensation felt by amputees^[37].

Jensen points out that hypnotherapy hypnosis are useful in analgesia and in various types of chronic pain and are very effective in neck pain^[38]. Also Lioffi points out that hypnosis application decreases pain and anxiety level in persons while treating paediatric cancer patients^[39].

r. Bio-feedback

Biological feedback is the method informing the patient to help relaxation and controlling a physiological function. E.g. in headache arriving from tension, the electrical signal received by means of head muscles and facial muscles are said to be perceived as colours or sounds by the patients. By observing changes in colour or variations in sound, the patient understands that relaxation has occurred or not^[40].

Biofeedback treatment is used in various types of pain, migraine pain, spinal cord injuries and movement disorders. It controls physiological reactions like heart rate, brain activities,

muscle tension, body temperature and other important parameters. In this method important part is the learning of patient in controlling of body functions and participation of the patient in the process.

Biofeedback practitioners train patients in visualization, mental and physical exercises and deep breath^[41]. Biofeedback is helpful in various types of chronic pain.

s. Behavioural therapy

Behavioural therapy increases the functional level of patient decreasing in maladaptive behaviour and afterwards reducing and completely stopping painkiller use. In this treatment family must be trained by the treatment team. In this treatment moaning, grimacing and remaining still is said to be avoided and physical activities are encouraged^[42].

8. Other non-pharmacological therapies

a. Reflexology

Reflexology method believes that there are reflex points on every ones feet corresponding to all the parts of the body and body systems, which are mirrors of body anatomy. When pressure is applied on these reflex points by special hand and finger methods, the stress on body is relieved causing physiological changes and thus reducing perception of pain^[43]. Totally five pressure methods to massage reflex areas are used. Thumb move, finger move, rubbing move, patting move and

compressing move. These moves are applied to ears, hands and feet likely.

The most evident part of this method is to understand how and to whom this method will be applied like considering physical structure of an individual; age and current health status are taken into account. In this method pressure is applied with the help of thumbs and fingers turning the clockwise and anticlockwise. This pressure is applied deeper, but doesn't contain pain.

An expert reflexologist uses repetitions of short and painless ritual in place of painful ritual at once. In the starting the pressure intensity is low and increases during the process of treatment. Each ritual is of about 10 to 30 minutes and is decided according to the requirement of the person^[44]. Reflexology is helpful in reducing muscle pain, cancer pain, back pain, migraine pain and in eliminating the side effects of chemotherapy^[45].

It is not advisable to use this method in acute infections and in fever, deep venous thrombosis, and surgical situations and in cases of open scars, malign melanoma and during first trimester of the pregnancy or with the patients that has miscarriage or premature birth risks^[45].

b. Herbal treatments

Herbal treatment and nutraceutical treatment also helps in relieving pain. Herbal medicines contain chemicals derived from roots, leaves,

seeds and the parts of flowers. Herbal treatment today is widely used by consulting professionals [26]. Herbal medicines are commonly used in the treatment of lumbago and back pain [46].

Avocado, devil's claw and soybean unsaponifiables are effectively used in treating pain arising from osteoarthritis. Herbal preparation like Phytodolor and topical capsaicin are also helpful. In treating rheumatoid arthritis blackcurrant seed oil, evening primrose oil and linolenic acid found in borage seed oil are used. In osteoarthritis S-adenosylmethionine (SAME), glucosamine and chondroitin sulphate are also used.

c. Aromatherapy

Aromatherapy uses essential oils derived from herbs, trees and flowers for the improvement of health and well-being. These oils are applied under nostrils or as massage are done on skins. Aroma oil reaches lymph system through blood and a person is recovered by means of intercellular fluids [26].

d. Chiropractic's

In Chiropractic's neck pulling movement is used for treatment of pain disorders in connective tissues and musculoskeletal system.

9. CONCLUSION

Though Allopath has instant Pain Relief solutions, they give immediate relief, but not permanent chronic pain relief. There are

alternative Chronic pain relief therapies most widely practiced in this world and are more effective means of Chronic pain relief management system like Mind-Body therapies, Acupuncture, Hot-cold treatment, Acupuncture and acupressure, Homoeopathy, Exercise, Positioning, Restriction of movement /resting Massage, Hydrotherapy, Cognitive-behavioural therapies, Relaxation - respiration techniques and dreaming, Distraction, Praying. Meditation, Yoga, Hypnosis, Bio-feedback Behavioural therapy, Reflexology, Herbal treatments, Aromatherapy, Chiropractic's etc. These alternative therapies have proved to have lesser side effects and can give relief in chronic pain much better than Allopathy.

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