

## REVIEW ARTICLE

# Energy Medicine in the Management of Chronic Orofacial Pain - A Review

Arpita Shrivastava<sup>1</sup>, Rahul Shrivastava<sup>2</sup>, Setu Mathur<sup>3</sup>, Prashanthi Reddy Shrivastava<sup>4</sup>, Rajeev Shrivastava<sup>5</sup>, Rohit Kumar Khatri<sup>6</sup>

## ABSTRACT

Dental professionals face challenges in the management of conditions like orofacial pain. There is a growing trend towards use of complementary and alternative medicine (CAM) in the management of orofacial pain. Orofacial pain is the pain within the structures of oral cavity and face, usually of diffuse pattern. Alternative medicine comprises treatment modalities such as traditional Chinese medicine, acupuncture, Reiki, laser therapy and many more. The present article presents an updated review on the efficacy of energy medicine in the management of chronic orofacial pain. Dental surgeons should be aware of energy medicine, safety and its effectiveness in the management of chronic orofacial pain.

**Keywords:** Chronic orofacial pain, Complementary alternative medicine, Energy medicine, National Center for Complementary and Alternative Medicine.

**How to cite this article:** Shrivastava A, Shrivastava R, Mathur S, Shrivastava PR, Shrivastava R, Khatri RK. Energy Medicine in the Management of Chronic Orofacial Pain - A Review. *Int J Oral Care Res* 2018;6(2):101-106.

**Source of support:** Nil

**Conflicts of interest:** None

## INTRODUCTION

Chronic pain is now recognized as a complex disorder. It is influenced by biological factors and by a range of psychosocial factors, including emotion, psychological

distress, family and work environment, and cultural background. The meaning of the pain and appraisals of the controllability of the pain are variable. Chronic pain is defined as pain that persists past the normal time of healing.<sup>[2]</sup> In the IASP publication on classification, Merskey describes the chronic pain as "a persistent pain that is not amenable, as a rule to treatments that is based on specific remedies or to the routine methods of pain control such as nonnarcotic analgesics."<sup>[3]</sup> Chronic pain has relied on an arbitrary interval of a link from the onset; the two main markers being 3 months and 6 months since the initiation of pain,<sup>[4]</sup> though some theorist and researchers have placed transition from acute to chronic pain at 12 months.<sup>[5]</sup> Orofacial pain is defined as "pain within the structures of oral cavity and face, usually of diffuse pattern."<sup>[6]</sup>

As pain persists psychosocial issues (including depression, maladaptive beliefs about pain, medication abuse, strained interpersonal relationships, and ineffective coping strategies) become prominent aspects of the disorder.<sup>[7,8]</sup> The term "chronic pain syndrome" has been used to describe a condition that may have started because of an organic cause but now it is compounded by psychological and social problems. In situations, where no ongoing peripheral injury was present to explain the pain, it was assumed pain was psychological. The patient needs to be educated about the psychological distress and depression that can be the consequence of chronic pain.<sup>[9]</sup>

The treatment goals for managing chronic pain are managing medication misuse or abuse, increasing function, reducing the use of medical resources, decreasing pain intensity, and managing associated pain, depression, and anxiety.

This can be achieved with energy medicine which has shown to be effective at reducing pain and improving function at work and home.

Energy medicine is any branch of alternative therapy or complementary medicine whose methods involve working with our natural energy field, called the life force, to stimulate the body's own healing mechanism.<sup>[10]</sup>

Complementary and alternative medicine (CAM) or unconventional or integrative medicine has been defined as "diagnosis, treatment, and/or prevention

<sup>1,2</sup>Private Practitioner, <sup>3,6</sup>Assistant Professor, <sup>4</sup>Reader, <sup>5</sup>Professor and Head

<sup>1</sup>Consultant Oral medicine and Radiologist, Indore, Madhya Pradesh, India

<sup>2</sup>Consultant Prosthodontist, Indore, Madhya Pradesh, India

<sup>3</sup>Department of Periodontics, RUHS College of Dental Science, Jaipur, Rajasthan, India

<sup>4</sup>Department of Oral Medicine, Govt Dental College, Indore, Madhya Pradesh, India

<sup>5</sup>Department of Prosthodontics, Modern Dental College, Indore, Madhya Pradesh, India

<sup>6</sup>Department of Conservative Dentistry, RUHS College of Dental Science, Jaipur, Rajasthan, India

**Corresponding Author:** Dr. Arpita Shrivastava, 301-Konark Apartment, 16/2 Manoramaganj, Geetabhavan, Indore, Madhya Pradesh, India. e-mail: khushi5s1@gmail.com

which complements mainstream medicine by contributing to a common whole, satisfying a demand not met by orthodoxy, or diversifying the conceptual frameworks of medicine."<sup>[11]</sup> The National Institute of Health Office of Alternative Medicine and the National Center for CAM (NCCAM) have grouped CAM therapies into four domains: Biologically based medicines, manipulative and body-based medicine, and mind-body medicine. In addition, NCCAM also defines the separate domain, "whole or professionalized CAM practices," for example, acupuncture and homeopathy.<sup>[12]</sup>

Energy medicine modalities include Reiki, acupuncture, breath work, therapeutic touch (TT), Chakra balancing, Pranic healing, Chios energy healing, and many others.

### ADVANTAGES OF ENERGY MEDICINE<sup>[13]</sup>

1. It serves as a complement to the usual medical methods and sometimes show better results than the conventional approach.
2. The body has energy storage point at specific regions, and energy medicine consists of activating such points to heal the body by activating and restoring the energy reservoirs which are weak or out of sync due to illness and disease.
3. Treatment by energy medicine involves restoring the flow of energy to the system and is characterized by the self-help and self-care. Usually, it is done by massaging, pinching, poking, and prodding the energy reservoir to initiate flow, maintain balance and institute harmony in the energy system. This method is much better than the conventional ways of drug therapy as the incidence of side effects and other sudden compatibility problems which may arise.
4. Conventional approach to a prevailing illness would be diagnosis and treatment whereas in energy medicine the approach involves doing a thorough check over the individuals' body functioning and arriving at the energy systems in the body where the flow of energy has been blocked or disturbed due to illness.

Energy medicine is one of the five methods of alternative medicine which is practiced around the world thus has the privilege of being one of the best and intriguing fields of medicine.

### USE OF ENERGY MEDICINE IN DENTISTRY

It may be used in the treatment of TMJ arthritis, any inflammatory disease, myofascial pain dysfunction syndrome, trigeminal neuralgia, viral disease, drug overdosage, and fractures.<sup>[14]</sup>

A device name Inergetix-CoRe system is an integrated and highly customizable informational and energy medicine based device that can reproducibly evaluate client's

physical, emotional, mental, and energy situation, and also balance any informational disturbance.<sup>[15]</sup> The system combines the modalities of electrical frequency application well known from electro-acupuncture with magnetic field application, so particularly in clearing dental infections and increasing the speed of tissue healing. It allows selective scans for resonances that are important for dentistry in the areas of dental nerves, oral cavity, and salivary glands of tongue that can give an indication of the origin of problems. Scan for possible hypersensitivities to dental material.<sup>[16]</sup>

### CLASSIFICATION ACCORDING TO GLOSSARY OF ALTERNATIVE MEDICINE<sup>[17]</sup>

- Reiki
- TT
- Acupuncture
- Transcutaneous electrical nerve stimulator (TENS) therapy
- Electromagnetic therapy
- Cymatic therapy
- Light therapy
- Laser therapy
- Medical Qigong
- TT
- The WISE method (holistic integrated spiritual energy).

### Reiki

Reiki (靈氣, English pronunciation:/reiki/) is a spiritual practice<sup>[18]</sup> developed in 1922 by Japanese Buddhist Mikao Usui. It uses a technique commonly called palm healing as a form of complementary and alternative medicine and is sometimes classified as oriental medicine by some professional bodies.<sup>[19]</sup> Through the use of this technique, practitioners believe that they are transferring healing energy in the form of ki through the palms.<sup>[20]</sup>

The main distinction between Reiki and TT is that Reiki therapists have physical contact with the body. The reason that many people are afraid to see a dentist probably arises from the vision they have of dentistry as it was practiced a century ago, when equipment was basic, and anesthetic was scarce. Today, everything about dentistry has changed for the better. However, the best improvement is our use of Reiki to relax patients who are uneasy in the dental chair! Reiki is a technique for stress reduction and relaxation that lets you tap into an unlimited supply of life force energy.<sup>[21]</sup>

### TENS

A number of energy devices that emit energetic frequencies capable of stimulating healing and pain relief can also be very useful for chronic orofacial pain conditions.

One of the most well known of these devices is the TENS unit also known as TENS unit and was developed by pioneering holistic physician and researcher Shealy. The TENS Unit is a small, portable device that transmits varying electrical frequencies to areas of pain through electrodes that are attached to the body.<sup>[22]</sup> They are also capable of blocking pain signals and may also stimulate endorphin production, enhancing feelings of overall well-being. In addition, TENS Units can be used as a form of self-care by patients once they are taught how to use them, making them especially convenient. Among the pain conditions for which research shows the TENS unit to be effective are neuromuscular pain, myofascial pain, trigeminal neuralgia, pain following surgery, and various injuries, including sports injuries causing derangement of joints. Degenerative joint disorders like osteoarthritis in the jaw joint. TENS therapy improves mouth opening and amplitude of mandibular movement.<sup>[23]</sup>

### **PULSED ELECTROMAGNETIC FIELDS (PEMF)<sup>[24]</sup>**

PEMF generators come in two major types. The relatively low-power devices are usually wearable, battery-powered, and designed for nearly continuous use throughout a patient's treatment. Relatively high-power devices, such as the Diapulse Model 103 (Diapulse Corporation of America, Great Neck, New York) that produces sufficient power to light a 40 W light bulb placed within its field, are designed for use several times a day. Pain syndromes due to muscle tension and neuralgias improve. Magnetic fields affect pain perception in many different ways. These actions are both direct and indirect. Direct effects of magnetic fields are neuron firing, calcium ion movement, membrane potentials, endorphin levels, nitric oxide, dopamine levels, acupuncture actions, and nerve regeneration. Indirect benefits of magnetic fields on physiologic function are on circulation, muscle, edema, tissue oxygen, inflammation, healing, prostaglandins, cellular metabolism, and cell energy levels. Chronic pain is often a result of aberrantly functioning small neural networks involved in self-perpetuated neurogenic inflammation. High-intensity pulsed magnetic stimulation noninvasively depolarizes neurons and can facilitate recovery following injury. In dentistry, PEMFs have also been found only slightly useful in treating dental pain, jaw muscle spasms, and swelling during wisdom tooth extraction with a high-frequency system. As is often seen in pain studies, a placebo response is high, 30–40% of the time. In periodontal disease, bone resorption may be severe enough to require bone grafting. Grafting is followed by moderate pain peaking several hours afterward. Repeated PEMF exposure for 2 weeks eliminates

pain within a week. Even single PEMF exposure to the face for 30 min of a 5 mT field and conservative treatment produces much lower pain scores versus controls.

### **TT/Healing Touch**

TT or "healing touch" is derived from the ancient technique of laying on of hands. The goal is promotion or maintenance of the balance of vital energy fields in the body. It is based on the notion that the therapist's healing force affects the patient's recovery.

Typically, the therapist passes his or her hands over the patient (without direct physical contact) to identify and correct energy imbalances. Published control trials have revealed greater reduction in pain related to the musculoskeletal problem.

One study found that progressive muscle relaxation was more effective than TT for pain related to degenerative arthritis, another found that TT was not superior to education for fibromyalgia pain.<sup>[25]</sup> In general, the quality of positive studies was poor because of numerous methodological limitations. Taking into account null findings just discussed one can conclude that insufficient evidence exists for the use of TT for chronic pain.

### **CRANIAL ELECTROTHERAPY STIMULATION (CES)**

CES involves the delivery of low-level electrical current through external skin-surface electrodes (usually placed on the ear). The low-level current is ordinarily sub-threshold for sensory detection and appears to engage electrical and neurochemical mechanisms that affect network electrophysiological activity of brain systems and mediate arousal, sensory processing, and thus, pain and pain modulation. No systematic reviews of the use of CES with chronic pain were identified. However, several well-designed studies of CES treatment have been conducted with various patient populations. In a double-blind study, CES was compared to dental anesthesia, and while results varied, favorable outcomes were generally reported for CES versus sham CES.<sup>[26]</sup> Another study examined electroencephalogram (EEG) spectra and pain relief with a two-part double-blind approach that compared CES with sham control and other forms of central stimulation (i.e. Liss Stimulator).<sup>[27]</sup> In this study, results also varied, yet the authors concluded that CES produced EEG spectral smoothing and pain relief that was superior to the sham control or comparison treatment.

### **Qigong/Qi Therapy**

The Chinese term *qi* means "vital energy," and the term *gong* means "training." Thus, qigong is a component of traditional Chinese medicine that combines movement,

meditation, and regulation of breathing for enhanced flow of qi in the body.<sup>[28]</sup> The improved flow of qi is thought to lead to health benefits including dental pain reduction. It helps to reduce chronic pain induced by stress, anxiety, and depression.

### Acupuncture

Acupuncture involves penetration of the skin by thin, solid, and metallic needles that are stimulated either manually or electrically. Today, acupuncture therapy is commonly used for pain control throughout the world, although the putative mechanisms are complex and unclear. In dentistry, it is used to treat chronic myofascial pain. The evidence for acupuncture and myofascial pain (in which pain occurs in sensitive areas, known as trigger points, in the muscles) is mixed. Some literature reviews have found the evidence promising, but another review indicated that "needling therapies" for myofascial trigger point pain were not more effective than placebo. Although recent data on acupuncture for postoperative dental pain are scant, literature reviews based on earlier evidence have identified acupuncture as a promising treatment for dental pain - especially pain following tooth extraction. For example, a 1999 study of 39 dental surgery patients found that acupuncture was superior to placebo (simulated acupuncture) in preventing postoperative pain. However, a 2005 study of 200 dental surgery patients found no significant analgesic effect for acupuncture compared to simulated acupuncture, although patients who believed they received acupuncture reported significantly less pain than those who believed they received a placebo.

Electroacupuncture is used in oral surgery as a method for analgesia.<sup>[29]</sup> According to Melzack and Wall. "Flap-theory" the puncture needle blocks the nerve impulse transmission (suppressed the thinner "nociceptive" R fibers) by irritating the thicker nerves fibers of the skin receptors. The second hypothesis concerns the neurohumoral mechanism of endogenous enkephalin and endorphin secretion (substances with powerful analgesic and sedative effects).<sup>[30-32]</sup> Promotes early recovery that make it advisable for patients with chronic illness.<sup>[33,34]</sup>

### LASER THERAPY

All dental lasers exert their desired clinical effect on a patient's target tissue by a process called absorption. This target may consist of hard tissue, including natural tooth structure, carious enamel, and dentin, dental calculus, bone, or even an existing defective composite restoration within the tooth. Many different types of intraoral soft tissue targets commonly are observed on routine examination, such as redundant gingival

tissue, aberrant frenum, operculum, epulis, or benign lesions in the form of a fibroma or a papilloma. Dental lasers function by producing waves of photons (quanta of light) that are specific to each laser wavelength. This photonic absorption within the target tissue results in an intracellular and/or intercellular change to produce the desired result. Dental lasers may be separated into three basic groups: Soft tissue lasers, hard tissue lasers, and nonsurgical devices such as diagnostic/composite and photo disinfection lasers.<sup>[35]</sup>

### CLINICAL LASER APPLICATIONS FOR THE MANAGEMENT OF CHRONIC OROFACIAL PAIN

Intensive cancer therapy normally affects malignant and normal cells which lead to the development of chemotherapy-induced oral mucositis. It is the inflammatory response to the oral mucous membrane to the chemotherapy drugs. Low-level laser therapy (LLLT) has proved to be effective in treating and repairing biologically damaged tissue and to reduce pain. It has also proven to be an effective method in the prevention of oral mucositis.<sup>[36]</sup>

Laser pointer therapy - a technique for applying deep stimulation into joints and muscles by means of laser pointers which are currently available and it is an inexpensive and easy for patients to use.<sup>[37]</sup>

Dentinal hypersensitivity has been studied for several years. It is reported as a strikingly, painful condition that originates from the exposure of dentinal tubuli when the thickness of the enamel or cement is significantly reduced. Usually, the exposed area is subjected to several kinds of stimuli, resulting in sharp acute pain. The aim of this study was to evaluate the efficacy of LLLT in the treatment of patients with dentinal hypersensitivity. LLLT has been shown to have anti-inflammatory, analgesic, and cellular effects in both hyperemic and inflammation of the dental pulp.<sup>[38]</sup>

### THERAPEUTIC EFFECTS OF FAR INFRARED HEAT

Far infrared therapy increases blood circulation and oxygen supply to damaged tissues (aiding reduction of chronic joint and muscle pain or sport injuries), promotes relaxation and comfort, induces sleep, and relieves stress.<sup>[39]</sup> It helps in decreasing chronic dental pain associated with inflammation as it assists in resolution of inflammatory infiltrated edema.

### CYMATIC THERAPY OR VIBROACOUSTIC THERAPY

Cymatic therapy - this is a form of sound therapy, it uses audible sounds that work on an energetic and physical

level. It supports the body's natural ability to heal itself by providing precise combinations of frequencies associated with healthy organ systems and tissues. It helps the body to provide itself with effective and gentle relief for stress, chronic pain, and injury - among other conditions. It is also highly effective when combined with other alternative therapies offered by Natural Holistics such as massage, chiropractic, and nutritional medicine.<sup>[40]</sup>

### SOUND THERAPY AND CHRONIC PAIN

Chronic pain syndrome exists when the injury has healed, but the pain continues. This is due to a lack of appropriate signals reaching the brain from the affected part.

Sound therapy induces another stimulus to activate the relevant brain centers and can have the effect of resetting the pain message to nil. The neurons of the cortex are charged up by the auditory stimulus, releasing latent energy in the brain.<sup>[41]</sup>

### ULTRASOUND

The most widely recognized and accepted use of frequency application is the field of ultrasonics. In medical applications, the basic principle is using high frequencies to generate heat, which can penetrate the deep tissues of the body. Ultrasonics is currently used in physical therapy, surgery, and dentistry.<sup>[42]</sup>

### VIBROACOUSTIC THERAPY

It is a technology that uses acoustic (sound) energy in the form of micro-vibrations to reduce pain. VS (VibroAcoustic stimulation or application of micro-vibration in sound frequency) is one such CAM modality that has been shown to be effective as a pain reduction therapy for acute and chronic musculoskeletal pain. VS will reduce joint pain there are three major mechanisms which can produce such effect: (1) Direct vibratory analgesic action, (2) higher temperature in application area creates increased blood flow, an anti-inflammatory effect, and improved joint flexibility; and (3) enhance synovial fluid production and cartilage regeneration. Roy *et al.*<sup>[43]</sup> showed VS relieved pain in chronic temporomandibular joint disorder pain conditions. This finding cannot be attributed to a mechanism involving pacinian corpuscles since these receptors are lacking in the skin of the orofacial region. VS action is similar to the TENS except for the type of energy used. TENS uses electrical energy while VS uses acoustic energy. When compared to high or low frequency TENS, VS at 20 Hz, 100 Hz, and 200 Hz, investigators found VS to be just as effective or, in some patients, to be more effective than

TENS in reducing chronic musculoskeletal or orofacial pain in 731 patients 135 suffering from acute musculoskeletal or orofacial pain and 596 patients suffering from chronic musculoskeletal or orofacial pain.<sup>[20]</sup> Dual stimulation (TENS and VS combined) alleviated pain in more cases than TENS or VS alone and had a more long-lasting effect.<sup>[43]</sup>

### CONCLUSION

We reviewed commonly used energy medicine treatments for chronic pain. Energy medicine therapies, as a group, have a mixed track record for efficacy. Not only do the different energy medicine modalities show different levels of efficacy but also one modality may work for one pain condition but not others. The modalities with the best track records for pain management are Reiki, acupuncture, breath work, TT, chakra balancing, Pranic healing, and Chios energy healing. In selecting an energy medicine modality either as an alternative or complement to traditional pain interventions, such as medication, practitioners must weigh the pros and cons of the modality, and tailor the interventions to the needs of the chronic pain patient. In addition to efficacy, other issues that practitioners must consider when making decisions about energy medicine use include additional time and energy investments, the need for specialized trained personnel to administer the modalities in question, known side effects or potential toxic effects, safety in combining energy medicine and other modalities, likely acceptance by clients and the public (and hence issues of long-term compliance), and ease of incorporation into traditional pain management. More studies are required regarding the use of alternative medicine and its efficacy in the management of chronic orofacial pain.

### REFERENCES

1. National Center for Complementary and Alternative Medicine. "Energy Medicine: An Overview". U.S: National Center for Complementary and Alternative Medicine; 2005.
2. Bonica J. The Management of Pain. Philadelphia: Lea and Febiger; 1953.
3. Merskey H, Bogduk N, editors. Classification of Chronic Pain, Task Force on Taxonomy, International Association for the Study of Pain: 2<sup>nd</sup> ed. Seattle: IASP Press; 1994. p. 210-3.
4. Turk DC, Okifuji A. Pain Terms and Taxonomies in Loeser. In: Loeser JD, Bonica JJ, Turk DC, Butler SH, Chapman CR, editors. Bonica's management of pain 3<sup>rd</sup> ed. Philadelphia, PA: Lippincott Williams and Wilkins; 2001. p. 18-25.
5. Main CJ, Spanwick CC. Pain Management: An Interdisciplinary Approach. Philadelphia: Elsevier; 2001. p. 93.
6. Mosby's Dental Dictionary. 2<sup>nd</sup> ed. Elsevier Inc., All Rights Reserved; 2008. Available from: <http://www.medical-dictionary.thefreedictionary.com/orofacial+pain>. [Last accessed on 2018 Mar 14].

7. Fordyce WE. Pain and suffering. A reappraisal. *Am Psychol* 1988;43:276-83.
8. Sternbach R. Psychological factors in pain. In: Bonica J, Albe-Fessard D, editors. *Advances in Pain Research and Therapy*. New York: Raven Press; 1976. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1295164>. [Last accessed on 2018 Feb 24].
9. Ikezono E. Acupuncture analgesia in conservative dental treatment. *Anesth Prog* 1983;30:14-5.
10. Available from: [http://www.holisticawareness-carmarthenshire.co.uk/energy\\_medicine\\_definition.html](http://www.holisticawareness-carmarthenshire.co.uk/energy_medicine_definition.html). [Last accessed on 2018 Jan 12].
11. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med* 1993;328:246-52.
12. Bonica J. The management of pain. *South Med J* 1954;47:709-806.
13. Available from: [http://www.energymedicine.info.net/advantages\\_of\\_energy-medicine.php](http://www.energymedicine.info.net/advantages_of_energy-medicine.php). [Last accessed on 2017 Dec 10].
14. Available from: <http://www.ezinearticles.com/Energy-Medicine-and-Its-Uses&id=1026170>. [Last accessed on 2017 Dec 12].
15. Available from: [http://www.medica/intuition.net.au/inergetix\\_core\\_system.html](http://www.medica/intuition.net.au/inergetix_core_system.html). [Last accessed on 2017 Dec 20].
16. Available from: <http://www.energy-medicine.info/dentistry.html>. [Last accessed on 2017 Dec 12].
17. Available from: [http://www.en.wikipedia.org/wiki/glossary\\_of\\_alternative\\_medicine](http://www.en.wikipedia.org/wiki/glossary_of_alternative_medicine). [Last accessed on 2017 Nov 26].
18. Al-sharify AA. The biological effects of low level laser therapy with static magnetic field on acute and chronic pain. *Eng Tech* 2007;25:1154-61.
19. Institute for Complementary and Natural Medicine. "BRCP Divisions and Practises". Available from: <http://www.ic-m.org.uk/practitioners/divisions>. [Last retrieved on 2010 Apr 10].
20. Desai V, Sharma S, Patil N. Alternative medicines and their applications in dentistry a brief review. *Int J Pharm Chem Sci* 2013;2:542-55.
21. Available from: <http://www.enchantedspirit.org/Health/3762.php>. [Last accessed on 2017 Apr 27].
22. Ernst E. Prevalence of use of complementary/alternative medicine: A systematic review. *Bull World Health Organ* 2000;78:252-7.
23. Snyder-Mackler L. *Electrical Stimulation for Pain Modulation*. 2<sup>nd</sup> ed. Baltimore, M.D: William and Wikens; 1995. p. 333-58.
24. Núñez SC, Garcez AS, Suzuki SS, Ribeiro MS. Management of mouth opening in patients with temporomandibular disorders through low-level laser therapy and transcutaneous electrical neural stimulation. *Photomed Laser Surg* 2006;24:45-9.
25. Pain Management with Pulsed Electromagnetic Field (PEMF) Treatment William Pawluk. MD, Msc. Assistant Professor, Johns Hopkins University, School of Medicine March 2003.
26. Clark MS, Silverstone LM, Lindenmuth J, Hicks MJ, Averbach RE, Kleier DJ, et al. An evaluation of the clinical analgesia/anesthesia efficacy on acute pain using the high frequency neural modulator in various dental settings. *Oral Surg Oral Med Oral Pathol* 1987;63:501-5.
27. Heffernan M. The effect of variable microcurrents on EEG spectrum and pain control. *Can J Clin Med* 1997;4:4-11.
28. Denison B. Touch the pain away: New research on therapeutic touch and persons with fibromyalgia syndrome. *Holist Nurs Pract* 2004;18:142-51.
29. Dobrena DH, Kirova D, Lalabonova H Department of Oral Surgery Faculty of Dentistry Medical University Journal of IMAB-Annual Proceeding (Scientific Papers) 2005.
30. Hansson P, Ekblom A, Thomsson M, Fjellner B. Influence of naloxone on relief of acute oro-facial pain by transcutaneous electrical nerve stimulation (TENS) or vibration. *Pain* 1986;24:323-9.
31. Bradley P. Acupuncture for resistant temporomandibular joint pain dysfunction syndrome. *Acupunct Med* 1992;10:53-5.
32. Ikezono E. Acupuncture analgesia in conservative dental treatment. *Anesth Prog* 1983;30:14-5.
33. Foreman PA. Temporomandibular joint and myofascial pain dysfunction – some current concepts. Part 2: Treatment. *N Z Dent J* 1985;81:52-7.
34. Gerschman JA, Giebartowski J. Effect of electronic dental anesthesia on pain threshold and pain tolerance levels of human teeth subjected to stimulation with an electric pulp tester. *Anesth Prog* 1991;38:45-9.
35. Miserendino LJ, Pick RM. *Lasers in Dentistry*. Chicago: Quintessence Publishing Co.; 1995.
36. Nes AG, Posso MB. Patients with moderate chemotherapy-induced mucositis: Pain therapy using low intensity lasers. *Int Nurs Rev* 2005;52:68-72.
37. Chow RT, Johnson MI, Lopes-Martins RA, Bjordal JM. Efficacy of low-level laser therapy in the management of neck pain: A systematic review and meta-analysis of randomised placebo or active-treatment controlled trials. *Lancet* 2009;374:1897-908.
38. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL, et al. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med* 1993;328:246-52.
39. Zautra AJ, Marbach JJ, Raphael KG, Dohrenwend BP, Lennon MC, Kenny DA, et al. The examination of myofascial face pain and its relationship to psychological distress among women. *Health Psychol* 1995;14:223-31.
40. Available from: <http://www.chicagohealers.com/energy-healing-intuitive-spiritual-reiki>. [Last accessed on 2017 Mar 10].
41. Available from: <http://www.soundtherapyperth.com/benefits/neuro.php>. [Last accessed on 2018 Feb 18].
42. Available from: <http://soundsforhealth.blogspot.com/2006/02/menu-of-sound-therapies.html>. [Last accessed on 2017 Jun 18].
43. Available from: <http://wikibin.org/articles/vibroacoustic-therapy.html>. [Last accessed on 2017 Jul 19].