

BASIC PACKAGE FOR ORAL CARE: A STEP TOWARDS PRIMARY ORAL HEALTH CARE

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Abstract

This article reviews the possible role and application of acupuncture in dentistry. Acupuncture could supplement conventional treatment modalities. Its value in the treatment of temporomandibular dysfunction syndrome and facial pain has been well documented and supported by randomised controlled trials. Although it may be useful in the control of post-operative pain, its use as sole analgesia for operative care is to be tested. It is envisioned that acupuncture may play a promising role in complementing conventional treatment in certain dental conditions and more studies with improved methodology should be carried out to verify its application. Acupuncture is not without adverse effect and therefore proper training is essential. The technique can be achieved by any dentist after a short training programme.

Key Words: - Acupuncture, TCM, Health, Oral health

Introduction

The Chinese saw the discovery of Acupuncture, 3000 years ago.¹ Involving the insertion of needles into different parts of the body, Acupuncture aims in curing different diseases. Nowadays, it is being relied as a vital adjunct during various medical therapies and dentistry. Studies have revealed the effect of acupuncture in treatment of several disorders like asthma, sensor-neural deafness, tinnitus, hypertension, psychiatric disorders, smoking addictions and obesity.² Role of acupuncture in treating post-operative and chemotherapy associated-nausea and vomiting, treatment of heroin withdrawal and other addictions have been well demonstrated.³ Acupuncture has proved his role in various conditions like TMD, Pain management and Sjogrens syndrome.^{4,5} However, serious consideration of this issue is beyond the scope of this paper. Acupuncture technique involves ample knowledge of Traditional Chinese Medicine, whose action is based on Placebo effect.⁶ As research works in the field of Acupuncture have begun since last two decades, there lies a sense of dubiousness among the dental professionals regarding the use of Acupuncture in clinics.

Definition and Types

In Seventeenth Century, Willem Ten rhyne, a dutch physician during his visit to Nagasaki, Japan came across the use of needles in treatment procedures. He called it as "Acupuncture" or needle puncture.

Varied techniques in acupuncture⁸⁻¹²

| Sl. No. | Acupuncture Technique |
|---------|------------------------------|
| 1 | Traditional body acupuncture |
| 2 | Microsystems acupuncture |
| 3 | Electro-acupuncture |
| 4 | Trigger point acupuncture |
| 5 | Laser treatment |
| 6 | Moxibustion |
| 7 | Acupressure |
| 8 | Okibari |

The term "acupuncture" is derived from two latin words: "Acus" meaning Needle and "Puncture" meaning Insertion. The Chinese describe Acupuncture by the character 'Chen', which means 'to prick with a needle'. It involves the insertion of needles made of steel, silver or gold at specific acupuncture points.⁷

Acupuncture points and features

Acupuncture points involve area of low electrical resistance and are regarded as energy concentrating points. Needle insertion is made to the skin and muscle tissue. This activates the skin receptors that are located closely. Most of Acupuncture point's i.e. 70-80% is similar to the trigger points and most of the acupuncture points are also similar to muscular motor points.¹³ The local Points are listed in the table below:

Local points –

| | |
|-------|---|
| LI.20 | Located in the nasolabial groove, level with the midpoint of the lateral border of the ala-nasi, it is used in all conditions involving the sinuses. It is Excellent for toothache. |
| St7 | Located in the depression at the lower border of the Zygomatic arch, anterior to the Condylod process of the mandible, it alleviates Pain of Cheek And Facial Pain. |
| St 5 | Located in the Anterior to the angle of the mandible, on the anterior border of Masseter muscle, it is indicated in pain or swelling of the cheek/jaw, neck pain, lockjaw, toothache. |
| St2 | Located below the pupil, in a depression at the infra-orbital-foramen, it is indicated in maxillary sinusitis and is excellent for tooth ache. |
| Gb20 | Located in a depression between the upper portion of the Sterno-Cleidomastoid muscle and the Trapezius it is indicated in headache, migraine, eye problems, tinnitus, vertigo etc. |
| Si19 | Located anterior to the tragus and posterior to the condylod process of the mandible, it is useful in problems involving the Tempero-mandibular joint, tinnitus, vertigo |
| Te21 | Located on the face, anterior to the supratragic |

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|--|
| notch, in the depression behind the posterior border of the condyloid process of the mandible it is indicated for Tinnitus, deafness, otitis media suppurativa, toothache. |
|--|

MECHANISM OF ACTION

Acupuncture deals with the stimulation of small myelinated nerve fibers of muscles, which activates the midbrain and pituitary–hypothalamus. Enkephalin, Dynorphin, Serotonin, and Noradrenalin are the neurotransmitters which play role in the mechanism.¹⁴ An inflammatory process is generally created by the insertion of needles to the acupuncture points with the release of neurotransmitters. This leads to the stimulation of A-Delta fibres located in skin and muscles. Enkephalin released by the A-Delta fibres which terminate in the second layer of Black Horn inhibits the incoming painful stimulus. This is regarded as the factor responsible for relieving pain in Acupuncture Mechanism.¹⁵

When can Acupuncture be introduced into Dental Practice?

Its introduction into dental practice can follow three paths:

1. Acupuncture can be tried as a last resort when all the therapeutic avenues have been exhausted.
2. As an adjunct to orthodox treatment where treatment modalities may be limited or ineffective. For example: In case of suppressing Gagging reflex, Acupuncture would be of prime help.
3. As an adjunct to, or replacement of normal treatment modalities, for more complex conditions such as TMD or facial pain.

Application of acupuncture in dentistry

- a) **Management of dental pain:** - Local acupuncture points located on facial regions such as ST6, ST7 can be used to treat dental pain(According to Traditional Chinese Philosophy).It is also proposed that acupuncture can help in producing analgesic effect at a distant site by diffusing noxious inhibitory control¹³.
- b) **Providing analgesic effect and post-operative pain relief:** - Acupuncture also plays role in achieving anaesthesia during dental procedures as well as aids in postoperative pain relief. Studies reveal that acupuncture when used before nerve block, induces anesthesia faster than when nerve block is singly administered in the absence of acupuncture.¹⁶ Findings from this study suggest that regional acupuncture have potential to *accelerate* the induction time after an inferior alveolar nerve block.

Still, more randomized controlled clinical trials are required to determine the role of acupuncture therapy in dental pain management, particularly in postoperative pain.

c) **Management Of Temporomandibular Disorders:-** Even though, the role of acupuncture in treating TMD involving structural anomalies have not been documented, it has showed positive effects in alleviating pain and discomfort related to TMD. Acupuncture helps in reducing muscle spasm and thereby relaxing the muscles.^{17,18}

d) **Management of Trigeminal Neuralgia:** - Studies have showed that by using local and distal points, Trigeminal neuralgia can be treated.¹⁹ Better results are obtained by the combined use of three needling and point injections.²⁰ some reports also state of improved results when used with Chinese Herbs.

Management of xerostomia

The role of acupuncture in increasing salivary flow in healthy volunteers, Sjogren's syndrome patients ,patients with radiotherapy treatment have been well demonstrated.^{21,22}

Management of Bell's palsy

Acupuncture for the treatment of Bell's palsy involves the manipulation of needles at both the local and distal points which regulates the flow of qi in the meridians, harmonize qi-blood balance and strengthen body's resistance to wind pathogens. There are reports of many randomized clinical trials done, showing the efficacy of Acupuncture in treatment of Bell's palsy. However, more of Higher quality randomized control trials are required verify its effective use in treating this disorder.

Management of Dental Anxiety

Reports on the application of acupuncture in treating Acute and Chronic anxiety have shown positive results.²³ Randomised controlled trials which compared auricular acupuncture with intranasal Midazolam for dental anxiety management suggested that both the treatment methods were equally effective.²⁴

Management of Gag Reflex

Acupuncture points like PC6 Neiguan and CV24 Chengjiang have proved significant in reducing gag reflex.²⁵ Auricular acupuncture is basically used to helpful in treating severe gag reflex.²⁶ In order to verify the efficacy of Acupuncture in controlling gag reflex, more clinical trials should be carried out.

Is Acupuncture safe?

Yes, Acupuncture is safe, but not always. The safety in using acupuncture technique depends on the Operator skills and patient compliance. It's always thought that alternative medicine comes with rare adverse effects, which is untrue. There can be many adverse effects after the use of Acupuncture: for example, endocarditis, Pneumothorax, hepatitis etc. which might become fatal sometimes.²⁷ This basically occurs due to ignorance of basic anatomy or because of aseptic instrumentation by operators and assistants. Elimination of these factors would make Acupuncture practice in Dental clinic safe and free of adverse effects.

How effective is Acupuncture Technique?

The cure of Acupuncture is not miraculous. It doesn't work in all patients. The efficacy varies from person to person.

There are two reasons for this:

- i. some patients fail to respond to acupuncture
- ii. Some associated Pathological condition
- iii. In case, the original diagnosis could be wrong. A lack of response should always result in re-examination and refinement of diagnosis.

For Example: in acute headache, patient may get relieved of problem soon after treatment with acupuncture. This would last for 1 day, the period of relief extending with each successive treatment until control is achieved.

Conclusion

The Technique of Acupuncture has a long history and proves to be a relied and useful treatment method in Traditional Chinese Medicine. Both in control of post-operative pain, in TMD and Facial Pain management, it may be an indispensable emerging adjunct to conventional treatment modalities. Although clinical trials on acupuncture lag much behind its use, physicians and dental assistants needs to become familiar with its potential applications for their patients for effective practice in conventional and four-handed Dentistry.²⁸⁻³¹ Additional training can enhance the scope of practice in routine clinics. The skills or techniques can be learnt by short postgraduate or diploma training programs, which would provide an extra edge to the patient – oriented holistic treatment approach in dental clinics.

REFERENCES

- 1 Ulett GA, Han S, Han JS. Electro acupuncture: Mechanisms and Clinical application. *Biol Psychiatry* 1998;44(2):129-38.
- 2 Richardson PH, Vincent CA. Acupuncture for the treatment of pain: A review of evaluative research. *Pain* 1986;24(1):15-40.
- 3 Newmeyer JA, Johnson G, Klot S. Acupuncture as a detoxification modality. *J Psychoactive Drugs* 1984;16(3):241-261.
- 4 Ernst E, Pittler MH. The effectiveness of acupuncture in treating acute dental pain: a systematic review. *Br Dent J* 1998;184(9):443-472.
- 5 Rosted P. The use of acupuncture in dentistry: A review of the scientific validity of published papers. *Oral Dis* 1998;4(2):100-104.
- 6 Blom M, Dawidson I, Angmar-Månsson B. The effect of Acupuncture on Salivary flow rates in patients with Xerostomia. *Oral Surg Oral Med Oral Pathol* 1992;73(3):293-298.
- 7 Rosted P. Anvendelse af akupunktur i daglig klinik: en multicenterundersøgelse. *Lægerne I Ribe Amt* 1996; 16: 9-12. (In Danish).
- 8 Chng HS, Pitt Ford TR, McDonald F. Effects of Prilocaine local anaesthetic solutions on pulpal blood

- flow in maxillary canines. *Endod Dent Traumatol* 1996;12(2):89-95
- 9 Rubik B. Can Western science provide a foundation for Acupuncture? *Altern Ther Health Med* 1995;1(4):41-7.
- 10 Helms JM. An overview of medical acupuncture. *Altern Ther Health Med* 1998;4(3):35-45.
- 11 Lewith GT, Machin D. On the evaluation of the clinical effects of Acupuncture. *Pain* 1983;16(2):111-27.
- 12 Pomeranz B, Stux G. Acupuncture analgesia for chronic pain: Brief survey of clinical trials. *Scientific Bases of Acupuncture*. Berlin/Heidelberg: Springer-Verlag; 1989. p. 197-9.
- 13 Liao SJ. Acupuncture points: Coincidence with motor points of skeletal muscles. *Arch Phys Med Rehabil* 1975;56:550.
- 14 Bowsher D. Physiology and pathophysiology of Pain. *Acupunct Med* 1990; VII: 17-20.
- 15 Macdonald A. Acupuncture analgesia and Therapy – Part 2. *Acupunct Med* 1990; VIII: 44-49.
- 16 Rosted P, Bundgaard M. Can Acupuncture reduce the induction time of a local anaesthetic?-A pilot study. *Acupunct Med* 2003;21(3):92-9.
- 17 Cho SH, Whang WW. Acupuncture for Temporomandibular Disorders: a systematic review. *J Orofac Pain*. 2010 Spring;24(2):152-62.
- 18 Raustia AM, Pohjola RT, Virtanen KK. Acupuncture compared with stomatognathic Treatment for TMJ dysfunction. Part II: Components of the Dysfunction index. *J Prosthet Dent* 1986; 55:372-376.
- 19 Lu L. Clinical observation on 20 cases of Trigeminal Neuralgia treated by Acupuncture. *Bengbu Medicine* 1995; 12: 21.
- 20 Xie JM, Lu YX. Crossing three-needling plus point injection for treating 35 cases of Trigeminal Neuralgia. *Clinical J of Acupuncture* 2005; 21: 37-38.
- 21 Blom M, Lundeberg T. Long term follow-up of patients Treated with Acupuncture for xerostomia and the Influence of additional treatment. *Oral Dis* 2000;6(1):15-24.
- 22 Johnstone PA, Peng YP, May BC, Inouye WS, Niemtzow RC. Acupuncture for Pilocarpine-resistant Xerostomia Following radiotherapy for head and neck malignancies. *Int J Radiat Oncol Biol Phys* 2001;50(2):353-7.
- 23 Wang SM, Kain ZN. Auricular acupuncture: A Potential treatment for anxiety. *Anesth Analg* 2001;92(2):548-53.
- 24 Karst M, Winterhalter M, Munte S, Francki B, Hondronikos A, Eckardt A, et al. Auricular Acupuncture for dental anxiety: A Randomised Controlled trial. *Anesth Analg* 2007;104(2):295-300.
- 25 Rosted P, Bundgaard M, Fiske J, Pedersen AML. The use of Acupuncture in controlling the gag reflex in patients requiring an upper alginate impression: an audit. *Brit Dent J* 2006;9;201(11):7215.
- 26 Fiske J, Dickinson C. The role of acupuncture in controlling the gagging reflex using a review of ten cases. *Brit Dent J* 2001;9;190(11):611-3.

- 27 Rosted P. Adverse reaction after Acupuncture: A review. *Critical Rev Phys Rehabil Med* 1997; 9: 245-264.
- 28 Kadtane SS, Bhaskar DJ, Agali CR, Shah S, Malu A, Jadhav S. Perception About The Role of Dentists in Smoking Cessation: A Cross-sectional Study. *Int J Dent Med Res* 2014;1(1):2-7.
- 29 Singh N, Jain A, Sinha N, Chauhan A, Rehman R. Application of Four-Handed Dentistry in Clinical Practice: A Review. *Int J Dent Med Res* 2014;1(1):8-13.
- 30 Sahoo S, Sahoo SK. Herbal Therapy: Emerging Adjunct in Medical Practice. *Int J Dent Med Res* 2014;1(1):38-41.
- 31 Dalai DR, Bhaskar DJ, Agali CR, Gupta V, Singh N, Bumb SS. Four Handed Dentistry: An Indispensable Part for Efficient Clinical Practice. *Int J Adv Health Sci*. 2014; 1(1): 16-20.

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