



Non Pharmacological Treatment of Pain with Physical Therapy Modalities and Alternative Medicine Methods



Ramova EP^{1*} and Ramov L²

^{1,2}Training implementation center Bitola, Macedonia

^{1,2}MIT University Skopje, Macedonia

*Corresponding author: Ramova EP, MIT University Skopje, Macedonia

Submission: 📅 October 28, 2018; Published: 📅 November 26, 2018

Abstract

Pain is an unhealthy feeling and only a person without pain is a happy person. In physical medicine more physical modalities are used for the treatment of subacute and chronic pain. We as doctors also use medical therapy in all forms, in the treatment of acute pain. After setting the diagnosis and the aetiological treatment, in the treatment of acute pain and stress as a reason for its occurrence, we use a number of alternative methods, which are used by top surgical centers such as aromatherapy, music therapy and acupuncture.

Material and method: in our research we list more physical modalities, alternative methods and assistive devices that we use in non-pharmacological treatment of pain.

Results: The effects of interferent currents, diadynamic currents, TENS, cryotherapy, and light therapy in the reduction of pain were analyzed. As well as the effects of some alternative methods.

Discussion: The use of medication for pain can have multiple side effects, due to the risk of bleeding or addiction. Before applying Physical modalities and alternative methods, knowledge of their mechanism of action and evaluation of the effect before and after treatment is necessary.

Conclusion: Physical medicine is the oldest but most modern branch of medicine, which has success in the treatment of painful conditions where drug therapy is limited.

Introduction

Pain is an unhealthy feeling and only a person without pain is a happy person. In physical medicine more physical modalities are used for the treatment of subacute and chronic pain [1]. To learn the benefits and risks of each, physical modalities is the responsibility of physical and medicine specialist. We as doctors also use medical therapy in all forms, in the treatment of acute pain. After setting the diagnosis and the aetiological treatment, in the treatment of acute pain and stress as a reason for its occurrence, we use a number of alternative methods, which are used by top surgical centers such as aromatherapy, music therapy and acupuncture [2]. To treat pain, we must know the complexity and medical history of it. Physical therapy modalities and alternative medicine methods can be used in many pain conditions like patients with cancer, on palliative care, before and after surgery treatment, central and peripheral neurological pain [3] We have our own experience published in few studies [4-6]. The purpose of this research is to represent non pharmacological treatment of pain in physical medical and rehabilitation department by medicine based on science [7-13].

Material and Method

We have used retrospective analyze of studies published for treatment of muscles skeletal pain in physical medicine and alternative

medicine, published in less 15 years. The research was done with keyword alternative methods and physical modalities in the treatment of muscular skeletal pain [14-21]. The systematization of data was in two groups: A (physical modalities with analgesic effect), and B (Alternative medicine methods). The each modality or treatment method was analyzed by indication, contra indication and evaluation of effect. 0 In group A, were analyzed: interferential current, diadynamic currents, TENS, cryotherapy, and light therapy (low level laser). In group B, were analyzed: acupuncture, aromatherapy, music therapy, color therapy, and typing (functional typing). As a measure of pain reduction included mobility of the joint and scales for measuring the pain NAS or VAS [22-24].

Results

In analyze of Group A and B ware included 10 studies published in last 10 years for each group.

Results are showing in (Table 1&2).

Discussion

The use of medication for pain can have multiple side effects, due to the risk of bleeding or addiction [25] Before applying Physical modalities and alternative methods, knowledge of their mechanism

of action and evaluation of the effect before and after treatment is necessary [26]. Physical medicine is the oldest but most modern branch of medicine, which has success in the treatment of painful conditions where drug therapy is limited [27]. Physical therapy modalities and rehabilitation techniques are important options and must be considered when pharmacotherapy alone is sufficient or have interaction of drugs [28]. Patients' beliefs and financial barriers may affect the uptake of different treatments. Many patients may be using complementary and alternative approaches with limited evidence to support their use, highlighting the need

for clinicians to discuss with patients the range of prescribed and non-prescribed treatments they are accessing and to help them understand the benefits and risks of treatments that have not been tested sufficiently, or have inconsistent evidence, as to their efficacy in improving pain outcomes [29]. Chronic pain is the silent epidemic of our times. The economic costs of chronic pain in some countries are estimated to exceed the costs of heart disease, cancer and diabetes [30]. Individuals undergoing medical procedures frequently experience pain and anxiety. Music-based interventions have the potential to help alleviate symptoms [31].

Table 1: Effect of some physical therapy modalities on pain relieve.

| Modality | Indication | Contra Indication | Proved Effect |
|-------------------------|---|---|---|
| Interferential current | Muscles skeletal pain, Peripheral nerve lesion, local pain | Central increase muscles tonus, Cancer patient, Local tissue infection | Decrease size of local edema, swelling, Increase joint mobility, VAS and NAS scale [7,8] |
| Diadynamic currents | Muscles skeletal pain, Peripheral nerve lesion, local pain | Central increase muscles tonus, Cancer patient, Local tissue infection, Bone fracture | Decrease size of local edema, swelling, Increase joint mobility, VAS and NAS scale [9,10] |
| TENS | Muscles skeletal pain, Peripheral nerve lesion, local pain, cancer pain | Local tissue infection, | Increase joint mobility,[11,12] VAS and NAS scale |
| Cryotherapy | Acute local joint trauma, acute stage of surgery treatment, Muscles skeletal pain, Radix nerve acute pain, Central pain by patient with MS*, PD* and Stroke | Cold intolerance | Decrease size of local edema, swelling, Increase joint mobility,[13,14] VAS and NAS scale |
| Low level laser therapy | Acute local joint trauma, acute stage of surgery treatment, Muscles skeletal pain, Radix nerve acute pain, Central pain by patient with MS*, PD* and Stroke | Local tissue infection, | Decrease size of local edema, swelling, Increase joint mobility,[15] VAS and NAS scale. Decrease tumor necrosis factor [16] |

MS*: Multiple Sclerosis; PD*: Parkinson Disease

Table 2: Effect of some alternative medicine methods on pain relieve.

| Method | Indication | Contra Indication | Proved Effect |
|-------------------|---|--------------------------|---|
| Acupuncture | Muscles skeletal pain, Peripheral nerve lesion, local pain, Radix nerve acute pain, Central pain by patient with MS*, PD* and Stroke, cancer pain | Bleeding, local hematoma | Decrease size of local edema, swelling, Increase joint mobility, [17,18] VAS and NAS scale |
| Aromatherapy | Aroma massage and aroma inhalation for central and peripheral nerve pain, Muscles skeletal pain, Radix nerve acute pain, cancer pain, pre and post surgery pain | Allergy on oil | VAS and NAS scale [19,20] |
| Music therapy | Listening music by patients for surgery treatment before and after treatment, muscles relaxation, decrease anxiety by pain, decrease depression | Music with contra effect | Increase joint mobility, [21,22] VAS and NAS scale, |
| Functional Typing | Muscles skeletal pain, Peripheral nerve lesion, local pain, Radix nerve acute pain, Central pain by patient with MS*, PD* and Stroke, cancer pain | Allergy on tape glue | Decrease size of local edema, swelling, Increase joint mobility, [23,24] VAS and NAS scale. |

Patients with Chronic Musculoskeletal Pain rare use alternative medicine methods. Low back pain is one of the most frequent pain conditions. Patient use complementary interventions to reduce pain also. CAM prescriptions and most notably the extensive current integration in conventional medicine is problematic in several respects. There is not in health system regulation and standards for it application, and no follow up involved instruments. In case of pain it is safe if we know exactly mechanism of it positive effects by physiological way, and evaluate it effect [32]. The pain assessment must address multiple domains of pain, including the sensory and affective qualities of pain, temporal dimensions of pain, and the location and bodily distribution of pain. We can use the same standards, like assessment of drugs effects. Nominal and visual pain assessment scales are gold standard but are not unique. We in physical medicine use some parameters like size of edema or swelling and range of motion, before and after treatment to access the effect of applied therapy [4-6]. Pain like a complex syndrome, without clear guidelines, clinicians are left wondering how a bio psychosocial assessment to administer it. It is need a practical guide, based on scientific research and clinical experience, for the bio psychosocial assessment of patients with chronic pain in physiotherapy practice. The purpose of this guide must be to look on pain from all factors: somatic, cognitive, emotional, behavioral, social and motivation for treatment [33]. Alternative methods are not in any time effective, for example the use of acupuncture has little or no impact in rheumatoid arthritis [34]. Acupuncture has been a popular alternative medicine in the United States for several decades. Its therapeutic effects on pain have been validated by both basic and clinical researches, and it is currently emerging as a unique non-pharmaceutical choice for pain against opioid crisis.

Conclusion

Physical medicine and alternative medicine have more options for treating pain without the use of drugs. Treatment and dosing should be proven and the effect evaluated on the basis of measurable parameters.

Reference

- Nielsen S, Campbell G, Peacock A, Smith K, Bruno R, et al. (2016) Health service utilisation by people living with chronic non-cancer pain: findings from the Pain and Opioids IN Treatment (POINT) study. *Aust Health Rev* 40(5): 490-499.
- Taylor SL, Herman PM, Marshall NJ, Zeng Q, Yuan A, et al. (2018) Use of complementary and integrated health: a retrospective analysis of U.S. veterans with chronic musculoskeletal pain nationally. *J Altern Complement Med*.
- Fillingim RB, Loeser JD, Baron R, Edwards RR (2016) Assessment of chronic pain: Domains, methods, and mechanisms. *J Pain* 17(9 Suppl): T10-T20.
- Popova Ramova E, GrkovaB (200) Rehabilitation of post traumatic condition with pain by cryo therapy. *Physical and therapeutical medicine XL(2): 27-29.*
- Popova Ramova E, Poposka A, Lazovic M (2010) Evaluation of effects of two different physical therapy assesments guidelines by patients with acute ankle sprains. 6th International congress of EFOST, Brussels, Belgium.
- Popova Ramova E, Poposka A, Lazovic M (2011) The ultrasonography evaluation of knee osteoarthritis during physical therapy with low level laser and sonophoresis. *Journal of US-China Medical Science* 8(4): 237-241.
- Fuentes JP, Armijo Olivo S, Magee DJ, Gross DP (2010) Effectiveness of interferential current therapy in the management of musculoskeletal pain: A systematic review and meta-analysis. *Phys Ther* 90(9): 1219-1238.
- Albornoz Cabello M, Maya Martín J, Domínguez Maldonado G, Espejo Antúnez L, Heredia Rizo AM (2017) Effect of interferential current therapy on pain perception and disability level in subjects with chronic low back pain: a randomized controlled trial. *Clin Rehabil* 31(2): 242-249.
- Gomes CAFD, Dibai Filho AV, Politti F, Gonzalez TO, Biasotto Gonzalez D (2018) Combined use of diadynamic currents and manual therapy on myofascial trigger points in patients with shoulder impingement syndrome: A randomized controlled trial. *J Manipulative Physiol Ther* 41(6): 475-482.
- Dibai Filho AV, de Oliveira AK, Girasol CE, Dias FR, Guirro RR (2017) Additional effect of static ultrasound and diadynamic currents on myofascial trigger points in a manual therapy program for patients with chronic neck pain: A randomized clinical trial. *Am J Phys Med Rehabil* 96(4): 243-252.
- Vance CG, Dailey DL, Rakel BA, Sluka KA (2014) Using TENS for pain control: The state of the evidence. *Pain Manag* 4(3): 197-209.
- Coutaux A (2017) Non-pharmacological treatments for pain relief: TENS and acupuncture. *Joint Bone Spine* 84(6): 657-661.
- Rivera J, Tercero MJ, Salas JS, Gimeno JH, Alejo JS (2018) The effect of cryotherapy on fibromyalgia: A randomised clinical trial carried out in a cryosauna cabin. *Rheumatol Int* 38(12): 2243-2250.
- Fang L, Hung CH, Wu SL, Fang SH, Stocker J (2012) The effects of cryotherapy in relieving postarthrosopy pain. *J Clin Nurs* 21(5-6): 636-43.
- Clijnsen R, Brunner A, Barbero M, Clarys P, Taeymans J (2017) Effects of low-level laser therapy on pain in patients with musculoskeletal disorders: A systematic review and meta-analysis. *Eur J Phys Rehabil Med* 53(4): 603-610.
- Jang H, Lee H (2012) Meta-analysis of pain relief effects by laser irradiation on joint areas. *Photomed Laser Surg* 30(8): 405-417.
- Wang H, Yang G, Wang S, Zheng X, Zhang W, et al. (2018) The most commonly treated acupuncture indications in the united states: A cross-sectional study. *Am J Chin Med* 46(7): 1387-1419.
- Tsai SL, Reynoso E, Shin DW, Tsung JW (2018) Acupuncture as a nonpharmacologic treatment for pain in a pediatric emergency department. *Pediatr Emerg Care*.
- Efe Arslan D, Kutlutürkan S, Korkmaz M (2018) The effect of aromatherapy massage on knee pain and functional status in participants with osteoarthritis. *Pain Manag Nurs*. pii: S1524-9042(16)30228-4.
- Hekmatpou D, Pourandish Y, Farahani PV, Parvizrad R (2017) The effect of aromatherapy with the essential oil of orange on pain and vital signs of patients with fractured limbs admitted to the emergency ward: A randomized clinical trial. *Indian J Palliat Care* 23(4): 431-436.
- Parlar Kilic S, Karadag G, Oyucu S, Kale O, Zengin S, et al. (2015) Effect of music on pain, anxiety, and patient satisfaction in patients who present to the emergency department in Turkey. *Jpn J Nurs Sci* 12(1): 44-53.
- Yinger OS, Gooding LF (2015) A systematic review of music-based interventions for procedural support. *J Music Ther* 52(1): 1-77.

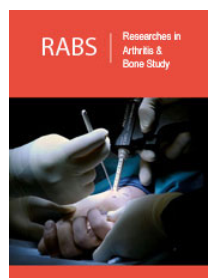
23. Intelangelo L, Bordachar D, Barbosa AW (2016) Effects of scapular taping in young adults with shoulder pain and scapular dyskinesis. *J Bodyw Mov Ther* 20(3): 525-532.
24. Macedo LB, Richards J, Borges DT, Melo SA, Brasileiro JS (2018) Kinesio Taping reduces pain and improves disability in low back pain patients: A randomised controlled trial. *Physiotherapy* pii: S0031-9406(18)30154-8.
25. Chi TY, Zhu HM, Zhang M (2018) Risk factors associated with nonsteroidal anti-inflammatory drugs (NSAIDs)-induced gastrointestinal bleeding resulting on people over 60 years old in Beijing. *Medicine (Baltimore)* 97(18): e0665.
26. Tick H, Nielsen A, Pelletier KR, Bonakdar R, Simmons S, et al. (2018) Evidence-based nonpharmacologic strategies for comprehensive pain care: The consortium pain task force white paper. *Explore (NY)* 14(3): 177-211.
27. Kinney M, Seider J, Beaty AF, Coughlin K, Dyal M, et al. (2018) The impact of therapeutic alliance in physical therapy for chronic musculoskeletal pain: A systematic review of the literature. *Physiother Theory Pract* 28: 1-13.
28. Fillingim RB, Loeser JD, Baron R, Edwards RR (2016) Assessment of chronic pain: Domains, Methods, and Mechanisms. *J Pain* 17(9 Suppl): T10-T20.
29. Gaskin DJ, Richard P (2012) The economic costs of pain in the United States. *J Pain* 13(8): 715-724.
30. Parsons B, Schaefer C, Mann R, Sadosky A, Daniel S, et al. (2013) Economic and humanistic burden of post-trauma and post-surgical neuropathic pain among adults in the United States. *J Pain Res* 6: 459-469.
31. Bradt J, Dileo C, Shim M (2013) Music interventions for preoperative anxiety. *Cochrane Database Syst Rev* (6): CD006908.
32. Anlauf M, Hein L, Hense HW, Köbberling J, Lasek R, et al. (2015) Complementary and alternative drug therapy versus science-oriented medicine. *Ger Med Sci* 13: Doc05.
33. Wijma AJ, van Wilgen CP, Meeus M, Nijss J (2016) Clinical biopsychosocial physiotherapy assessment of patients with chronic pain: The first step in pain neuroscience education. *Physiother Theory Pract* 32(5): 368-384.
34. Ramos A, Domínguez J, Gutiérrez S (2018) Acupuncture for rheumatoid arthritis. *Medwave* 18(6): e7284.



Creative Commons Attribution 4.0 International License

For possible submissions Click Here

[Submit Article](#)



Researches in Arthritis & Bone Study

Benefits of Publishing with us

- High-level peer review and editorial services
- Freely accessible online immediately upon publication
- Authors retain the copyright to their work
- Licensing it under a Creative Commons license
- Visibility through different online platforms