

Effects of Tecartherapy on Body Tissue: A Systematic Review

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ABSTRACT

Electrophysical devices based on diathermy are one of the modalities used by many professionals to treat pain. The objective of this study was to identify the effects of Tecartherapy on healthy and unhealthy tissues. A systematic review of Tecartherapy technology was carried out. Articles published up to the year 2023 were investigated. The search argument used was “Capacitive-resistive electrical transfer” OR “Tear” OR “Therapy Tear” OR “CRET” in the BVS, Cochrane, PEDro, PubMed, IEEE Explore databases, Scielo and Web of Science. As for the main results of using Tecartherapy, there is an increase in temperature. In healthy tissues there is an increase in local blood flow, a decrease in muscle fatigue and an increase in muscle flexibility. In addition to the effects observed on healthy tissues, pain reduction and improved joint function were also observed. It was concluded that this technology has similar effects to other diathermy, but Tecartherapy proved to be safer and more comfortable.

1. INTRODUCTION

Electrophysical devices based on diathermy are one of the modalities used by many professionals to treat pain. This form of heat is used to increase blood flow and improve tissue extensibility [1-4].

Tecartherapy technology is one of the diathermy resources that operate at low frequency (0.3 to 1.2 MHz) [2, 3]. Lower frequencies heat deep tissues without overheating the surface. For this reason, the use of Tecartherapy is growing, as it provides more comfort and safety for the patient [5-9].

Tecartherapy is a non-invasive technology that uses electromagnetic waves to generate thermal energy and stimulate the body to self-regenerate [6, 10-13]. Lower frequencies produce heat in deeper tissues, while higher frequencies heat more superficial tissues [10, 12, 14, 15].

Energy is supplied to the tissues by an active electrode with a circular shape and diameters ranging

from 25 mm to 70 mm and can be resistive (RES) or capacitive (CAP). And a metal plate as a passive electrode that is in contact with the patient's skin, serving as a conductor. The energy passes between the electrodes and generates heat in the tissues [1, 2, 5, 6, 16-18].

The two modes of capacitive or resistive treatment induce different tissue responses depending on the resistance of the treated tissue [6, 19]. The CAP electrode is coated with a polyamide material. Energy transmission generates heat in the superficial layers, with a selective action on low-impedance soft tissues (rich in water), such as adipose tissue, muscle, cartilage and lymphatic system [1, 6, 14, 20, 21]. The RES electrode does not have an insulating material, the radiofrequency energy passes directly through the body in the direction of the inactive electrode. This generates heat in the deeper and more resistant tissue layers (low water content), such as bone, muscle fascia, capsules and tendons [1, 6, 16, 20, 21].

The use of Tecartherapy in clinical practice has been carried out for more than 20 years, however studies to identify the effects and effectiveness are scarce [4, 6]. The last three years have seen an increase in the number of studies, but the effects are still unclear. Therefore, the objective of this study was to identify the effects of Tecartherapy on different healthy or pathological osteomyoarticular tissues.

2. METHODOLOGY

This systematic review was written in accordance with PRISMA recommendations [22] and included articles between the years 2013 and 2023 referring to the effects of tecartherapy on osteoarticular tissues.

In this systematic review, experimental studies that met the following inclusion criteria were included: full text available, which used low-frequency equipment with two types of tips (capacitive and resistive) and articles that used the technology in human tissue. The results considered the effects after application and doses used in studies and regions in which the technology was applied.

To carry out this study, a search was carried out in the databases from December 6/2021 to May 20/2023 in the VHL, Cochrane, PeDro and PubMed. The search argument used was "Transfer electrical capacitive-resistive" OR "Tecar" OR "Therapy Tecar" OR "CRET". With the same research argument in the IEEE Explore, Scielo and Web of Science databases, no articles related to the research topic were found. Furthermore, bibliographic references from other sources were explored to find studies that, perhaps, had not been retrieved from the databases.

Experimental studies that evaluated the effects of Tecartherapy on human tissues were selected in this review. Review, repeated studies, in vitro or cadaveric studies that used electrical transfer to carry out on-cological exams or treatments were excluded. Titles and abstracts were selected by two authors independently. After that, the full texts that met the inclusion criteria were analyzed. Disagreements were resolved by the third author.

The data extracted from the studies were: effects on tissues, place of application, dose used, number of sessions, sample numbers, sex, age, device and results.

Methodological quality and risk of bias were assessed using the Cochrane ACROBAT-NRSI scale. The instrument assesses seven domains: 1) confusion, 2) study selection, participants, 3) intervention measurement, 4) non-receipt of assigned intervention, 5) losses, 6) outcome measurement, 7) selective reporting of results. The first three are pre-intervention domains and the other four are post-intervention domains. For each domain, "low", "moderate", "severe", "critical" and "no information" ratings are assigned. The overall risk of bias in each study is the domain with the highest risk of bias as shown in [Table 1](#) [23].

3. RESULTS

[Figure 1](#) shows the flowchart of the articles included in the present study. A total of 2225 articles were found in the search carried out in the databases, two studies were retrieved in manual searches and duplicate studies were excluded.

Table 1. Methodological quality.

Estudo	Pre-intervention		During intervention		Post intervention			Risk
	1	2	3	4	5	6	7	
Ganzit <i>et al.</i> , 2015	low	low	low	low	low	low	low	low
Kumaran; Watson, 2015	low	low	low	low	low	low	low	low
Osti <i>et al.</i> , 2015	low	low	low	low	low	low	low	low
Albornoz-Cabello <i>et al.</i> , 2017	low	moderate	low	low	low	moderate	moderate	moderate
Kumaran <i>et al.</i> , 2017	low	low	low	low	low	low	low	low
Tashiro <i>et al.</i> , 2017	low	low	low	low	low	low	low	low
Cocchetta <i>et al.</i> , 2018	low	low	low	low	low	low	low	low
Duñabeitia <i>et al.</i> , 2018	low	low	moderate	low	low	serious	low	serious
Kumaran e Watson, 2018	moderate	low	moderate	low	low	low	low	moderate
Yokota <i>et al.</i> , 2018	low	moderate	low	low	low	low	low	moderate
Bito <i>et al.</i> , 2019	low	moderate	low	low	low	low	low	moderate
Cau <i>et al.</i> , 2019	low	low	moderate	low	low	low	low	moderate
Clijnsen <i>et al.</i> , 2019	low	low	low	low	low	low	low	low
Diego <i>et al.</i> , 2019	low	low	low	low	low	low	low	low
Kim <i>et al.</i> , 2019	low	low	low	low	low	low	low	low
Kumaran; Watson, 2019	low	low	low	low	low	low	moderate	moderate

Continued

Noites <i>et al.</i> , 2019	low	low	low	low	low	low	moderate	moderate
Paolucci <i>et al.</i> , 2019	low	low	low	low	low	low	low	low
Vale <i>et al.</i> , 2019	low	low	moderate	low	low	moderate	moderate	moderate
Bito <i>et al.</i> , 2020	low	low	moderate	low	low	low	low	moderate
Davari <i>et al.</i> , 2020	low	moderate	moderate	low	low	low	low	moderate
Kim <i>et al.</i> , 2020	low	moderate	low	low	low	low	low	moderate
Kumaran; Watson, 2020	low	low	low	low	low	low	low	low
Toader, 2020	moderate	moderate	moderate	low	low	low	low	moderate
Tashiro <i>et al.</i> , 2020	low	low	low	low	low	low	low	low
Szabo <i>et al.</i> , 2020	low	low	moderate	low	low	moderate	moderate	moderate
Yeste-Fabregat <i>et al.</i> , 2021	low	low	low	low	low	low	low	low
Kim <i>et al.</i> , 2021	low	low	moderate	low	low	low	low	moderate
Ledesma; Munõz, 2021	low	low	low	low	low	low	low	moderate
Maia <i>et al.</i> , 2021	low	moderate	low	low	low	low	low	low
Mohamadi, 2021	moderate	moderate	moderate	low	low	moderate	low	low
Monaretti <i>et al.</i> , 2021	low	low	low	low	low	low	low	low
Iacob <i>et al.</i> , 2021	low	low	moderate	low	low	moderate	low	moderate
Oh <i>et al.</i> , 2021	low	low	low	low	low	low	low	low
De Sousa <i>et al.</i> , 2022	moderate	low	low	low	low	low	low	low
Meyer <i>et al.</i> , 2022	low	low	low	low	moderate	low	low	moderate
Nakamura <i>et al.</i> , 2022	low	low	low	low	low	low	moderate	moderate
Wachi <i>et al.</i> , 2022	low	low	low	low	low	low	moderate	moderate

1) confusion; 2) selection of study participants; 3) assessment of intervention; 4) non-receipt of assigned intervention; 5) losses; 6) assessment of outcomes; 7) selective report of outcomes.

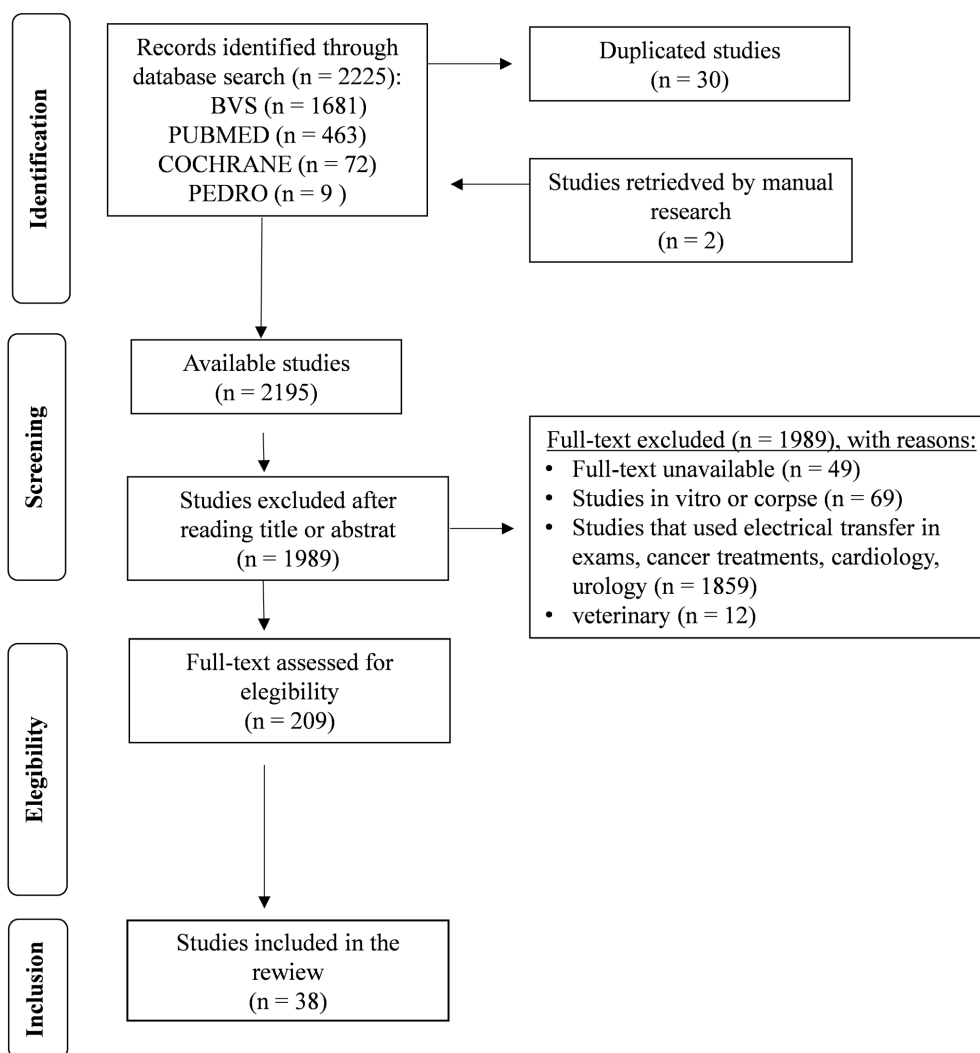


Figure 1. Flowchart of studies included in the review.

The research involved the participation of 1240 individuals (466 men and 592 women) in a total of 38 studies selected for this review. Some studies do not mention the age or gender of the participants. Of those mentioned, the average age of the participants was 51 years old, with the youngest age being 18 years old and the oldest age being 84 years old.

The sample size of the studies varied greatly, however the study by Ganzit [16] was the study with the largest number of participants (327) and the study by Oh [13] had only one participant. The other studies had an average of 34 participants per study, with 66 being the largest number and 1 being the smallest number of participants among the selected studies. In relation to sex, 13 studies carried out their research with both sexes, with a female predominance with 361 participants and 328 men. In the studies that used one of the sexes, women (275) were also predominant in relation to men (85).

Studies demonstrate that the effects of Tecartherapy were obtained in symptomatic and asymptomatic patients. Table 2 presents the effects and protocols used to treat some osteoarticular pathologies and localized fat with tissue flaccidity. Increasing temperature to relieve pain and improve joint and/or muscle function was the most common effect among the studies. The temperature increased both on the surface and in the depth of the tissues.

Table 3 shows the effects of Tecartherapy on asymptomatic tissues. Heat increased blood flow improving flexibility and extensibility in some tissues.

Table 2. Effects of Tecartherapy on symptomatic tissues.

Study	Type Tissue	Device	Parameters	N° Sessions	Results
Ganzit <i>et al.</i> , 2015	Articulation muscle tendon	HCR 900 0.5 MHz	10 min RES ¹ 10 min CAP ² High intensity	10	Reduced pain and improved function.
Osti <i>et al.</i> , 2015	Lumbar disc herniation	Pharon® tecar 0.45 e 0.60 MHz	Not mentioned	10	Reduced pain and improved function after application and at follow-up after 8 weeks. 79% were very satisfied with the treatment.
Albornoz-Cabello <i>et al.</i> , 2017	Cellulite and fat located on lower limbs and buttocks	Xcultp 0.8 MHz	24 min CAP ² Moderate intensity	10	Reduction in the thickness of the subcutaneous tissue of the right posterior thigh and gluteal region.
Cocchetta <i>et al.</i> , 2018	quadriceps e região peripatelar	Tecar Unibell HCR 902	5 min CAP ² 10 min RES ¹ 5 min CAP ² Intensity low	6	Cret ³ was able to significantly improve strength, physical function and pain.
Cau <i>et al.</i> , 2019	Lymphedema of the lower limbs in obese people	CIM 200 0.8 - 1.0 - 1.2 MHz.	45 min CAP ² Intensity Moderate/high	24	Significant volume reductions were found in week 1 (after 6 TECAR sessions).
Diego <i>et al.</i> , 2019	Cervical muscles	Indiba	12 min CAP ² e RES ¹ simultaneous Moderate intensity	8	There was a reduction in pain with an improvement in mobility and function of the cervical spine.
Kim <i>et al.</i> , 2019	Shoulder	HIPER-500	Time not mentioned CAP ² /RES ¹ Intensity low	10	Significant improvement in pain and function when compared to the group that received only exercises and guidance.

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Noites <i>et al.</i> , 2019	Abdominal fat	BTL-6000 TR-Therapy	5 min CAP ² Moderate intensity	1	There were no changes in glycerol concentrations and lipid profiles in both groups. Glycerol levels increased in both groups.
Paolucci <i>et al.</i> , 2019	Shoulder	CareTherapy V	10 CAP ² 10 RES ¹	9	There was a significant reduction in pain immediately after application and in control after 2 months.
Vale <i>et al.</i> , 2020	Abdominal fat	BTL-6000 TR-Therapy	5 min CAP ² Moderate intensity	4	There was a decrease in waist circumference, subcutaneous fat thickness and horizontal abdominal fold.
Davari <i>et al.</i> , 2020	Lateral ankle ligament	Winback 0.3 MHz	Not mentioned	12	There was no significant reduction in pain and swelling after 6 and 12 applications of Tecar.
Kim <i>et al.</i> , 2020	Gastrocnemius muscle	Winback 0.3 MHz	5 min CAP ² 15 min RES ¹ Intensity low	1	There was significant improvement in passive and active ROM ⁴ . Torque peak was lower.
Kumaran and Watson, 2020	Knee joint osteoarthritis	Indiba Activ 902 442 KHz	5 min CAP ² 10 min RES ¹ Intensity low	Not mentioned	Increased skin temperature and blood flow. Deep blood flow and volume increased.
Toader, 2020	Cervical spine	Tecar Fisio Warm 7.0	15 min CAP ² 20 min RES ¹	10	Tecar + kinesiotherapy improved cervical mobility, paresthesia disappeared, vertigo attenuated, sensitivity in the fingers returned and there were no more reports of pain.

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Tashiro <i>et al.</i> , 2020	Paravertebral muscle	Indiba® activ Pro Recovery HCR902 448 KHz	5 min CAP ² 10 min RES ¹ Moderate intensity	10	Pain improvement in the exercise groups and the exercise + Tecar group. Functional disability was significant only in the Exercise + Tecar group.
Szabo <i>et al.</i> , 2020	Anterior cruciate ligament	Tecar Globe Diacare 5000	Not mentioned	Not mentioned	Improvement in pain and increased mobility in the group that used Tecar associated with kinesiotherapy.
Yeste-Fabregat <i>et al.</i> , 2021	Medial gastrocnemius muscle	T-care Tecar 0.5 MHz	15 min CAP ² 10 min RES ¹ Moderate intensity	Not mentioned	There was a significant increase in local temperature. Tecar produced immediate hyperalgesia.
Kim <i>et al.</i> , 2021	Ischius tibialis muscle	Winback 0.3 MHz	5 min CAP ² 10 min RES ¹ Moderate intensity	1	Improvement in knee extension ROM ⁴ . Reduction of muscle tone, stiffness and elasticity of hamstring muscle tension.
Rego Maia <i>et al.</i> , 2021	Flaccidity buttocks skin	BTL-6000 TR-Therapy	Time not mentioned CAP ² High intensity	4	There was an improvement in the texture and firmness of the skin in the treated area.
Iacob <i>et al.</i> , 2021	Ischius tibialis muscle	INDIBA Active 701	15 a 30 min Not mentioned tips	Not mentioned	Pain reduction with both technologies in favor of INDIBA. Active ROM ⁴ test and muscle strength test show a small difference in favor of the INDIBA group.

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Oh <i>et al.</i> , 2021	Hip joint	Winback 0.3 MHz	8 min CAP ² Moderate intensity 8 min RES ¹ Intensity low	24	Elimination of pain and improvement of joint mobility and flexibility.
Meyer <i>et al.</i> , 2022	Flaccidity and localized fat in the abdomen	Tekah 650 KHz	10 min CAP ² 10 min RES ¹ 20 min CAP/RES High intensity	10	All groups showed a reduction in perimetry. The group that used the combination of capacitive and resistive tips obtained better results.
Nakamura <i>et al.</i> , 2022	Quadriceps muscle	Indiba Active 902	10 min CAP ² 20 min RES ¹ Moderate intensity	1	Improved strength and range of motion in knee flexion.
Wachi <i>et al.</i> , 2022	Lumbar muscle and spinal erectors	Physio Radio Stim Pro CRET 500 KHz	5 min CAP ² 10 min RES ¹	1	There was a significant reduction in pain and muscle stiffness.

¹Resistive Tip, ²Capacitive Tip, ³Transfer Electrical Capacitive and Resistive, ⁴Range of motion.

Table 3. Effects of Tecartherapy on asymptomatic tissues.

Study	Type Tissue	Device	Parameters	N° Sessions	Results
Kumaran; Watson, 2015	Healthy thigh	Indiba Active 902	Time not mentioned CAP ² /RES ¹ Intensity High/moderate/low	2	Tip CAP ² and RES ¹ increased the temperature immediately after application and sustained the increase after 45 min.
Kumaran <i>et al.</i> , 2017	Healthy calf muscle	Indiba Active 902 442 Khz	5 min CAP ² 10 min RES ¹ Intensity High/moderate/low	5	Both high and low doses of Cret ³ increase the volume of deep blood flow. Flow volume and intensity increased at the high dose. OCP does not increase volume or intensity in deep tissues.

Tashiro <i>et al.</i> , 2017	Lumbar region healthy men	Indiba VR Pro Recovery HCR 902	5 min CAP ² 10 min RES ¹ Moderate intensity	3	Total hemoglobin saturation and oxyhemoglobin were higher in the Cret ³ and hot pack groups compared to placebo. At superficial temperatures, 10 mm and 20 mm deep, the Cret ³ and hot pack group had higher temperatures compared to the placebo group. Physiologically there were no significant changes in the Tecar group and the control group. Some biomechanical parameters related to gait improved more quickly with tecar application compared to the control group. Temperature in the immediate aftermath fluctuated little. Blood flow increased significantly at high dosage and was maintained after 20 min. At low intensity the flow increased, but not significantly.
Duñabeitia <i>et al.</i> , 2018	Healthy calf muscle	Capenergy CIM200 Tecar	10 min RES ¹ 10 min CAP ²	Not mentioned	Temperature in the immediate aftermath fluctuated little. Blood flow increased significantly at high dosage and was maintained after 20 min. At low intensity the flow increased, but not significantly.
Kumaran e Watson, 2018	Knee healthy	Indiba Activ 902 442 KHz	5 min CAP ² 10 min RES ¹ Intensidade baixa moderada alta	4	Quadriceps muscle flexibility returned to baseline faster in the Cret ³ group. The change in temperature superficial foi de 5.1 °C após aplicação.
Yokota <i>et al.</i> , 2018	Healthy quadriceps	Indiba ® activ Pro Recovery HCR902 448 KHz	5 min CAP ² 10 min RES ¹ Moderate intensity	1	

Continued

Bito <i>et al.</i> , 2019	Achilles tendon	Indiba	5 min CAP ² 5 min RES ¹ 5 min RES ¹ Moderate intensity	2	Total hb ⁴ and oxy-hb ⁴ increased significantly after the CRet ³ intervention and lasted 30 minutes after the intervention; There was no significant variation in tendon stretching. RES ¹ mode had a significant increase in skin microcirculation perfusion. In intramuscular blood flow, RES ¹ mode had a significant increase in the proximal 1/3 of the forearm.
Clijisen <i>et al.</i> , 2019	Healthy forearm	T-Plus 0.5 MHz	8 min CAP ² Moderate intensity 8 min RES ¹ High intensity	3	Tecar significantly increased rib cage mobility. The temperature at 10 and 20 mm depth increased.
Bito <i>et al.</i> , 2020	Rib cage	Indiba ® activ Pro Recovery HCR902 448 KHz	5 min CAP ² 10 min RES ¹	1	Tecar increases tendon elasticity compared to regular massage with the same electrodes.
Navarro-Ledesma; Gonzalez-Muñoz, 2021	Supraspinatus tendon	Indiba	10 min CAP ² Moderate intensity 10 min RES ¹ High intensity	9	Tecar with static stretching increased hamstring flexibility when compared to static stretching.
Mohamadi <i>et al.</i> , 2021	Ischius tibialis muscle	TecaTen 448 Khz	15 min CAP ²	3	In histological analysis, the reticular dermis presents thicker and more organized bundles of collagen fibers, no infiltration of inflammatory cells or tissue damage was observed.
Monaretti <i>et al.</i> , 2021	Abdomen skin	BTL-6000 TR-Therapy	10 min CAP ² High intensity	1	

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De Sousa-De Sousa <i>et al.</i> , 2022	Upper limbs	INDIBA Active 701	20 min RES ¹ Moderate intensity	1	The findings do not suggest significant improvement in the variables examined. The use of Tecartherapy in pre-competition is not recommended.
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¹Resistive Tip, ²Capacitive Tip, ³Transfer Eletrical Capacitive and Resistive, ⁴Hemoglobin.

4. DISCUSSION

This study aimed to identify the effects of Tecartherapy on different healthy or pathological osteo-myoarticular tissues. In symptomatic tissues, pain relief and improvement in joint and/or muscle function were the most cited effects. In asymptomatic tissues, improvement in tissue mobility and flexibility were the most cited findings. These effects were promoted by the heat stimulated with the application of Tecartherapy.

The increase in temperature was found both at the surface and deep within the tissues. Heat stimulates circulation, promotes tissue relaxation (mainly muscle tissue), improves the drainage of edema and hematoma [3, 7, 21, 23-25]. Increased blood flow improves oxygenation, increases hemoglobin saturation, microcirculation, nutrition and removal of metabolic waste [1-3, 6, 10, 13, 15, 17]. All of these effects significantly reduce muscle and/or joint pain, improving the function of these tissues [9, 13, 16, 20, 25-29]. However, the Yeste-Fabregat [30] study showed that there was hypersensitivity in trigger points immediately after the application of Tecar. When compared to other physiotherapy techniques, there was a 10% reduction in pain after 30 minutes of application. Increasing intramuscular blood flow has been shown to recover muscle after exhaustive training and improve muscle fatigue more quickly than rest and manual massage [1, 10, 19].

The use of kinesiotherapy or another technique associated with Tecartherapy optimized the results for muscle recovery, pain reduction and increased joint and/or muscle mobility [5, 13, 15, 31-36]. In the study by Yokota [1] they observed that the flexibility and relaxation of the quadriceps muscle returned to baseline more quickly in the group that used Tecartherapy compared to the control that rested after exhaustive training. In the study by Duñabeitia [37] found that biomechanical parameters (step length, step frequency, step height and step angle) improved more quickly with Tecartherapy than with passive rest after an exhaustive training session. On the other hand, in the study by De Sousa-De Sousa [38] the use of Tecartherapy before pre-competition did not result in an improvement in the athletes' performance. Suggesting that increased blood flow improves muscle recovery and not muscle performance.

In addition to muscle relaxation, the increase in temperature increased fluid reabsorption from persistent edema. In the study by Cau [39] they compared Tecartherapy with other techniques (manual drainage, pressotherapy) for the treatment of lymphedema. The result with Tecartherapy was more effective and with a smaller number of sessions. In another study, Vincent reported significant improvement in the fourth/h and seventh session with the use of Tecartherapy to treat edema after femoral fracture.

The thermal effects of Tecartherapy are promoted with moderate to high intensities. Non-thermal effects, with low intensity, are also found with the application of Tecartherapy. The use of low intensities is sufficient to accelerate and/or increase cellular metabolic activity [11, 28, 40]. The passage of electrical current flow can produce an electromagnetic interaction in tissues with little or no thermal effect. Unlike thermal effects, the non-thermal effects of radiofrequency are believed to occur predominantly at the cellular level. Allowing the treatment of diseases in the acute and subacute phases, without causing an increase in the inflammatory process that occurs due to the increase in tissue temperature [14, 41]. The

study by Monaretti [12] demonstrated in the histology of human tissue treated with radiofrequency at a temperature of 40°C that the reticular dermis appears thicker and more organized. Suggesting a remodeling of the collagen present and without inflammatory signs. In Maia's [42] study, Tecartherapy with a hyperthermic dose was used associated with manual therapy for tissue flaccidity in the gluteal region and presented satisfactory results in tissue flaccidity.

In addition to these effects, high intensity reduced the perimetry of abdominal circumference, thickness of subcutaneous fat and skin folds, noticing an improvement in the cellulite aspect of the lower limbs. Some studies associated physical activity and obtained satisfactory results [4, 43, 44].

Regarding tips, Tecartherapia uses two types of tips: capacitive and resistive. The combination of tips was the most used, as the heat is transmitted to all tissues, both superficial and deep. In the comparative study between the tips Meyer [4] concluded that the combination of capacitive and resistive tips presented better results when compared to the isolated use of each tip.

The use of Tecartherapy in clinical practice has been used for almost 20 years, but only a few recent studies have investigated its clinical effectiveness. Many of the effects require further study as well as comparison of results with other diathermy devices.

One limitation of this study is the adversity of protocols and the types of tissues used in the studies. Not allowing a consensus on which tip should be applied to a given type of tissue. It was also not possible to identify the dose that should be prescribed for each type of pathology studied.

5. CONCLUSION

Tecartherapy has shown beneficial effects on both healthy and symptomatic tissues. The increase in temperature was predominant in all tissues, with greater warming at depth than at the surface. In the treatment of symptomatic tissues, Tecartherapy showed a reduction in pain and improved function in different tissues such as muscles, tendons and joints. And in healthy tissues, increased blood flow and tissue mobility improved muscle and tendon function. In addition to these effects, cell proliferation and reduction of lipids within adipocytes have been cited in some studies. Effects that require future studies.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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