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CUPPING THERAPY IN THE TREATMENT OF CHRONIC PAIN

Jéssyca Mesquita dos Anjos
http://lattes.cnpq.br/7601155599315799

Ana Paula Herber Rodrigues
http://lattes.cnpq.br/3210183993345894

Cintia Karine Ramalho Persegona
http://lattes.cnpq.br/5301537291896933

Gardenia Sampaio de Castro Feliciano
http://lattes.cnpq.br/7218510364302482

Rubia Mundim Rego
http://lattes.cnpq.br/5111821778561070

Gyzelle Pereira Vilhena do Nascimento
http://lattes.cnpq.br/6940105522124089

Abstract: Chronic pain interferes with human quality of life and affects thousands of people. Cupping therapy has been an option for the treatment of chronic pain, as it can provide the patient with relief and improve the quality of life. Thus, the present work aims to describe the use of cupping therapy as an alternative complementary treatment in cases of chronic pain. A literature review was carried out in electronic databases Scielo, PubMed and Google Scholar. The research considered complete articles, in Portuguese, English and Spanish, published between 2010 and 2021. The results showed that cupping therapy can bring relief from chronic pain, however, further studies related to the topic must be considered to have more science as to its mechanism of action.
Keywords: Cupping, Chronic Pain, Traditional Chinese Medicine, Dry cupping, Wet cupping.

INTRODUCTION

Chronic pain is a problem that affects the individual's quality of life and even interferes with the performance of their daily tasks. It affects an average of 100 million people, 14% of whom have pain related to joints and the musculoskeletal system (CUNHA et al; 2011). As a result, it can generate associated problems such as depression, physical, functional and emotional disability, social withdrawal, financial difficulties, feelings of death, among others, which leads to impairment in the individual's quality of life in addition to bringing limitations due to fatigue, tiredness, problems with sleep, anguish, stress (COSTA et al; 2007).

Therapeutic management of chronic pain may include options such as surgeries, pharmacotherapy, interventions with integrative and complementary practices such as acupuncture, cupping therapy, or electrotherapy treatments and behavioral changes (SILVA et al, 2022). Pharmacological treatment for chronic pain includes the use of non-steroidal anti-inflammatory drugs (NSAIDs) with which a satisfactory clinical response is often not obtained, as well as the use of drugs of this therapeutic class that can lead the individual to side effects such as the gastrointestinal and/or kidney problems (TEUT et al; 2018).

In view of this, the search for alternative or complementary treatments such as cupping therapy has gained space, as it is a non-aggressive, easy to apply, affordable procedure that brings numerous benefits (OLIVEIRA et al; 2018).

The application of this technique consists of the use of suction cups applied to the skin, where a vacuum is created, causing suction in the more superficial tissues where the treatment is desired (AL-BEDAH et al., 2019). The suction cup acts especially in cleaning the blood, discarding static gases through gas exchange and maintaining the acid-base balance of the blood. Gas exchange is carried out by the suction cup where oxygen enters and is distributed throughout the body and carbon dioxide is removed, increasing the pH. In such a way, it is through the cleansing of the blood that there is an increase in the body's resistance to diseases, and on the spot, the improvement of blood circulation promotes the relief of painful symptoms (OLIVEIRA et al., 2018).

Considering the mechanism of action of cupping therapy, this study aims to describe its use as an alternative complementary treatment in cases of chronic pain.

LITERATURE REVIEW

Chronic pain has different natures and associations, as it is related to congenital factors, directly linked to the person in relation to their individual and social life or even indirectly related, which may have

consequences related to social life and thus trigger social exclusion. of the carrier, since this individual tends to isolate himself due to his painful condition, compromising his financial and mental options in search of a better quality of life (CELICH et al., 2009).

This disease can be considered chronic when the individual is diagnosed with a minimum duration of 3 months, in many cases it has an uncertain cause or reason, and there is no improvement with conventional therapeutic treatments. Being of continuous and exacerbated intensity, it can trigger a certain degree of physical disability that appears on a recurring basis and is usually accompanied by vegetative symptoms with the aim of relieving symptoms, such as sleep disturbance, loss of appetite, decreased sexual activity, increased irritability and social exclusion. The psychosomatic consequences of chronic pain are more intensified than acute pain and are often associated with anxious and depressive symptoms (CELICH et at, 2009).

Chronic pain may be related to inflammatory, degenerative, neoplastic diseases, congenital defects, muscle weakness, rheumatic predisposition, signs of spinal or intervertebral disc degeneration, and others. However, chronic low back pain is often not related to specific diseases, but to a set of causes as important as sociodemographic factors (age, sex, income and education), behavioral factors (smoking and low physical activity), exposures occurred in everyday activities (heavy physical work, vibration, vicious position, repetitive movements) and others (obesity, psychological morbidities) (SILVA et al., 2022).

It is possible to differentiate pain based on its cause and consequence, pathophysiological processes and place of origin. In pathophysiological terms, the possible ways to classify it are: inflammatory pain, pathological pain, among which neuropathic pain and fibromyalgia, and cancer pain stand out (PINTO, 2019).

Inflammatory pain begins with the action of inflammatory mediators that secondarily sensitize peripheral receptors, which involves a change in the sense of pain, in the quality of a sensation, of any kind. Inflammatory pain is often linked to rheumatic diseases and the post-surgical period, being considered a pain that has treatment and relief of symptoms (PINTO, 2019).

Neuropathic pain, on the other hand, is linked to a primary lesion or dysfunction of the nervous system at any of its levels, with peripheral neuropathic pain caused by a primary lesion or dysfunction in the peripheral nervous system (PNS), and central neuropathic pain, originating from the central nervous system (CNS) (JULIÃO et al, 2010).

In cancer pain, it is estimated that 35-45% of cancer patients feel pain from diagnosis or at an early and even early stage of the disease, about 70% have pain in the advanced stage and almost all have pain in the terminal stage of the disease. intensively and continuously. It has a great impact on the quality of life of cancer patients, meaning worsening of the prognosis or even near death, reducing their autonomy and increasing their physical and emotional suffering (COSTA et al; 2007).

Finally, the pain associated with fibromyalgia can be defined as a chronic, non-inflammatory pain syndrome of unknown origin, which is preferentially present in the musculoskeletal system. Its etiology is basically undefined due to the absence of an anatomical substrate in its pathophysiology and symptoms that are confused with depression and chronic fatigue syndrome (CAO et al, 2020).

Considering the types of pain and their treatments, cupping therapy has been used for health promotion, prevention and therapy purposes. The literature shows benefits in

the treatment of low back pain, neck and muster pain, migraine, knee pain, rheumatoid arthritis and fibromyalgia. These diseases can be categorized into localized diseases (neck pain, low back pain, and knee pain) and systemic diseases (migraine, fibromyalgia, and rheumatoid arthritis) (CAO et al, 2020).

The suction cups are made of acrylic with valve, glass or electromagnetic suction cups. The purpose of its application is to regulate the flow of energy and blood, helping to eliminate, through the opening of the pores, pathogenic factors resulting from the environment that can trigger imbalances in our body (CHIRALI, 2014). Therapy with the use of cups occurs through the clearing of the body's pathways with the purpose of cell renewal (DOS SANTOS et al, 2022).

Cupping therapy, although an ancient healing technique, has been used for different medical treatments, especially those involving pain (CHI et al, 2016). It is based on the belief that resistance against diseases can be obtained by applying cups to points on the acupuncture meridians or positive reaction nodes (CUNHA, 2011). This technique, despite being used and better known in Eastern countries, has been gaining ground in Brazil, being widely used in clinical practice, having helped many patients to treat pain in addition to the use of analgesics (SILVA et al, 2022).

The use of cups related to the reduction of the painful process, presents a positive result when there is knowledge about the therapy, leading to a decrease in pain, being effective in inducing analgesia, even if little described in scientific studies (CAMPOS et al; 2015).

The mechanism that explains its action is related to the negative pressure exerted by the cups, which increases blood and lymph flow at the place where it was applied, providing relief from pain and muscle tension (AL-BEDAH et al., 2019). Other researchers report that the mechanism of action of cupping therapy is still not well elucidated, requiring further studies (CUNHA et al, 2011).

Its results occur through increased circulation and tissue oxygenation, performing massage and activating blood circulation (CUNHA, 2011). It works primarily to purify the blood, remove stationary gases through gas exchange, and maintain the acid-base balance of the blood. This exchange of fluids by the cup is similar to hematosis caused by the lungs, in which oxygen enters through a difference in pressure distributed throughout the body, and the removal of carbon dioxide, raises the pH. It also works by cleaning the blood, which increases immunity and improves the quality of blood circulation. Its advantages are: to increase gas exchange, increase the mobility of body fluids, increase tissue trophism, improve tissue strengthening and act on lymph nodes (OLIVEIRA et al, 2018).

The suction cups must be used within 5 to 15 minutes for a better therapeutic effect, it is important to emphasize that the application must be less than 30 minutes to avoid changes in the balance of CO_2 and O_2 in the blood, which can cause erythema if not used properly and bruising (CUNHA, 2011).

The application of suction cups can lead to several cutaneous and subcutaneous manifestations, among them: vasodilation promoting circulation, increasing skin temperature, causing congestion, stimulating skin tissue metabolism, improvement of sebaceous and sweat gland function and adequate supply of nutrients in the skin. epithelium and dermis (CHIRALI, 2014).

After the application of cupping therapy, it is expected that the blood quality will improve and blood circulation will improve through the release of nutrients generated by suction. It is also expected the elimination of pain, muscle relaxation and the balance

of bodily functions, since the secretion of these substances helps to eliminate muscle spasms that may be present in muscle tissue and inhibit the formation of trigger points (CAMPOS et al, 2015).

METHODOLOGY

A bibliographic review was carried out on scientific articles in electronic databases Scielo, PubMed and Google Scholar. The keywords used were "suction cup; chronic pain; Traditional Chinese medicine, *dry cupping* and *wet cupping*". Works, articles and books published in English and Portuguese were included in the theoretical framework. The research considered complete articles, in Portuguese, English and Spanish, published between 2010 and 2021, without considering the time frame of documents relevant to the topic, aiming at the need to know the history, use, case reports and the benefits of cupping therapy in the treatment of chronic pain. Articles that were not available in full and/or that did not present the methodology adopted to obtain the results clearly were excluded from the analysis. The synopses of the articles obtained were compiled, analyzed and classified separately, as "out of scope" or "in scope". After the complete reading of each article, articles were selected and used as a theoretical basis for the elaboration of this work.

DATA PRESENTATION AND ANALYSIS

Table 1 presents the results according to the guidelines of Katz (2009) being developed containing the source of the article and descriptive text with 10 to 50 words.

Reference	Results
ALBEDAH et al, 2015	Wet cupping is remarkably effective in reducing chronic pain.
CAO et al, 2020	Cupping therapy with greater analgesic potential compared to drug treatment of fibromyalgia.
CHI et al, 2016	Cupping therapy with analgesic effect, without side effects and safe application.
KIM et al, 2011	Wet suction cup presenting benefits for the reduction of low back pain.
LAUCHE et al. 2012	A cupping therapy application can be effective in the treatment of chronic non-specific neck pain.
LAUCHE et al. 2013	Cupping massage has more benefits than progressive muscle relaxation in improving well-being and reducing sensitivity to chronic non-specific cervical pressure pain.
MOURA et al, 2019	Cupping therapy has shown effectiveness in reducing pain severity and in interfering with pain in daily activities.
SAHA et al, 2017	Cupping Massage has been shown to be effective in decreasing pain and increasing function and quality of life in patients with chronic non-specific neck pain.
SALEMI, 2020	Effective cupping therapy for the improvement of pain intensity in individuals with nonspecific low back pain.
TEUT, 2018	Cupping therapy demonstrated improvement in low back pain.
VOLPATO et al, 2018	Cupping therapy proved to be effective in reducing the rates of specific disability tests.

Table 1 – Result of the article search.

Source: Authors themselves, 2022.

The patient with chronic pain will appreciate physiological reactions, with the use of cupping therapy (SILVA et al., 2022) and can be a complementary therapy in the treatment of chronic idiopathic low back pain, as it can lead to a decrease in complaints related to pain, gain in muscle flexibility and

prevention of injuries, presenting positive results mainly at the end of 4 sessions. However, further studies are needed to better demonstrate the potential of the technique (DOS SANTOS et al., 2022).

The treatment of chronic pain, it seems, currently has cupping therapy as an alternative in a complementary way in therapy, requiring investment in more clinical and scientific research. Using available safety information, the use of cups does not appear to have the adverse effects of many conventional pharmacological treatments. Future clinical trials will provide scientific support for the use of this integrative practice with potential action to reduce chronic pain as the real options for the treatment of muscle alterations.

FINAL CONSIDERATIONS

The present study considered the use of suction cups as a possible complementary treatment for patients with chronic pain. Future, controlled and randomized studies would be fundamental to analyze the underlying action of cups in controlling and decreasing pain, this would not only reveal the mechanisms of action in depth, but also advocate new targets for the alternative treatment of chronic pain.

REFERENCES

ALBEDAH, A.; KHALIL, M.; ELOLEMY. A.; HUSSEIN, A.; ALQAED, M.; MUDAIHEEM, A.; ABUTALIB, A.; BAZAID, F.; BAFAIL, A.; ESSA, A.; BAKRAIN, M. The Use of wet cupping for persistent nonspecific low back pain: randomized controlled clinical trial. **The Journal of alternative and complementary medicine**, vol. 21, ed. 8, pag. 504-508, 2015.

AL-BEDAH, A.; ELSUBAI, I.; QURESHI, N.; ABOUSHANAB, T.; ALI, G; EL-OLEMY, A.; KHALIL, A.; KHALIL, M.; ALQAED, M. The medical perspective of cupping therapy: Effects and mechanisms of action. **Journal of Traditional and Complementary Medicine**, vol. 9, n. 2019, p. 90-97, 2019.

CAMPOS, G.; SANTOS, C. Tratamento De Pontos-Gatilhos (Trigger Points) Por Meio De Terapia Por Ventosa. **Revista *de* Divulgação**. Científica Sena Aires, v. 4, n. 2, p. 146-154, 2015.

CAO, H.; ZHANG, Y.; ZHOU, L.; XIE, Z.; ZHENG, R.; HU, H.; LI, X.; LIU, J. Partially randomized patient preference trial: Comparative evaluation of fibromyalgia between acupuncture and cupping therapy. **Complementary Therapies in Clinical Practice**, vol. 41, 2020.

CELICH, K.; GALON, C. Dor crônica em idosos e sua influência nas atividades da vida diária e convivência social. **Revista Brasileira de Geriatria e Gerontologia,** Volume: 12, Edição: 3, 2009.

CHI, L.; LIN. M.; CHEN, C.; WANG, S.; LAI, H.; PENG, T. A eficácia da ventosaterapia no alívio da dor crônica no pescoço e no ombro: um estudo controlado randomizado. **Medicina complementar e alternativa baseada em evidências**, pag, 1-7, 2016.

CHIRALI, I. Traditional Chinese Medicine-Cupping Therapy. **3ª ed. London Churchill Livingstone Elsevier**, 2014 p. 372, 2014.

COSTA, C.; SANTOS, C.; ALVES, P.; COSTA, A. Dor Oncológica; **Revista Portuguesa de Pneumologia**, vol. 13, pag. 855-867, 2007.

CUNHA, A. Ventosaterapia. 3 ed. São Paulo: Ícone, pag. 120, 2011.

CUNHA, L.; MAYRINK, W. Influência da dor crônica na qualidade de vida em idosos. **Revista dor**, vol. 12, 2011.

DOS SANTOS, D.; DA SILVA, M.; GUIDO, M. Efeitos da ventosaterapia no tratamento da lombalgia idiopática crônica em adultos: uma revisão integrativa. **Revista Liberum accessum**, v. 14, n. 1, p. 15-22, 2022.

JULIÃO, M.; FARELEIRA, F.; COSTA, J.; CARNEIRO, A. V. Norma de orientação clínica para tratamento da dor neuropática localizada. **Revista dor**, vol. 19, ed. 3, pag. 1-49, 2011.

KATZ, M. From Research to Manuscript: **A Guide to Scientific Writing**. 2ª ed. Berlim: Springer, 2009.

KIM, J.; KIM, T.; LEE, M.; KANG, J.; KIM, K.; CHOI, J.; KANG, K.; KIM, A.; SHIN, M.; JUNG, S.; CHOI, S. Evaluation of wet-cupping therapy for persistent non-specific low back pain: a randomised, waiting-list controlled, open-label, parallel-group pilot trial. **BMC Part of Springer Nature**, vol. 12, art. 1, 2011.

LAUCHE R.; CRAMER H.; HOHMANN, C.; CHOI. K.; RAMPP, T.; SAHA, F. The effect of traditional cupping on pain and mechanical thresholds in patients with chronic nonspecific neck pain: a randomised controlled pilot study. **Evid Based Complement Alternat Med**, pag. 1-10, 2012.

LAUCHE, R.; MATERDEY, S.; CRAMER, H.; HALLER, H.; STANGE, R.; DOBOS, G. Effectiveness of home- based cupping massage compared to progressive muscle relaxation in patients with chronic neck pain - a randomized controlled trial. **Plos one**, 2013.

MOURA, C.; CORRÊA, H.; AZEVEDO, C.; PEREIRA, G.; CHAVES, E.; CHIANCA, T.; Efeitos da ventosaterapia em pessoas com dor crônica nas costas: estudo piloto. III Jornada de Práticas Integrativas e Complementares em Saúde: evidências científcas, vol. 8 ed. 14, 2019.

OLIVEIRA, M., SILVA, A., PEREIRA, L. Ventosaterapia – revisão de literatura. **Revista Saúde em Foco**, ed. 10, pag. 15, 2018.

PINTO, F. Os mecanismos fisiopatológicos de modulação da dor crônica. **Repositório científico da UC**, 2019.

SAHA, F.; SCHUMANN, S.; CRAMER, H.; HOHMANN, C.; CHOI, K.; ROLKE, R.; LANGHORST, J.; RAMPP, T.; DOBOS, G.; LAUCHE, R. The Effects of Cupping Massage in Patients with Chronic Neck Pain - A Randomised Controlled Trial. **Complementary Medicine Research**, vol. 24, ed. 1, pag. 26-32, 2017.

SALEMI, M. Efeito da ventosaterapia sobre a dor e incapacidade funcional em indivíduos com dor lombar inespecífica persistente: um ensaio clínico randomizado Sham controlado. **Attena, repositório digital da UFPE**, pag 1-89, 2020.

SILVA, R.; TIM, C.; REZZO, T.; PICHARA, J.; MARTIGNAGO, C.; ASSIS, L. Therapeutic potential of ozone therapy as an adjuvant in the rehabilitation of chronic low back pain. **Research, Society and Development**, vol. 11, ed. 4, 2022.

TEUT, M., ULLMANN, A., ORTIZ, M. Pulsatile dry cupping in chronic low back pain – a randomized three-armed controlled clinical trial. **BMC Complementary and alternative medicine**, vol 18, art. 115, 2018.

VOLPATO, M.; BREDA, I.; CARVALHO, R.; CASTRO, M.; FERREIRA, L.; SILVA, M.; SILVA, J. Single Cupping Thearpy Session Improves Pain, Sleep, and Disability in Patients with Nonspecific Chronic Low Back Pain. **J Acupunct Meridian Stud,** vol. 13, pag. 48-52, 2020.