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MINI REVIEW

Cupping Therapy and Scientific Basics

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Abstract
Cupping therapy is a traditional and complementary medicine practice that has a history of 5000 years and is used in many societies. One of the 15 complementary medicine methods accepted in the Regulation on Traditional and Complementary Medicine Practices published by the Ministry of Health in Turkey is cupping. In this article, cupping therapy application and studies on cupping therapy will be presented.
Keywords: Cupping Therapy, Traditional Medicine, Cupping Therapy Studies

INTRODUCTION

Cupping therapy overview

Among the traditional and complementary medicine (T&CM) applications, one of the most frequently used methods in our country and in the world is cupping. Cupping is a procedure performed on various parts of the body with the help of regional vacuum tools. In this process, the process of taking blood safely by creating superficial skin incisions is called wet cupping. The wet cup application is also called hijama.

In dry cupping application, as a result of the vacuum process created by placing cups on certain points on the skin, swelling, redness of the skin, and dilatation of the subcutaneous tissue and blood vessels occur in that area. As a result of this procedure, blood circulation and circulation in the relevant area increase due to the increase in interstitial fluid in the subcutaneous tissues and local temperature increase.

After the dry cupping application, the process of removing the cups and making very superficial and short scratches on the skin within the borders of the epidermis layer, closing and vacuuming the cups again, waiting for a while, removing the cups again and removing the accumulated residual materials in a hygienic way is called wet cupping (Hijama)[1].

The cup practice, which is thought to have a history of 5000 years, was also frequently applied in the Ottoman period. Also, It is known that the Prophet Muhammad (PBUH) personally had received cupping therapy and highly recommended it. Its widespread use increased in the 18th and 19th centuries in Europe and is now used in many clinics[2].

In the Regulation on Traditional and Complementary Medicine Practices published by the Ministry of Health in our country, the definition of cup application, the personel authorized to practice, the situations in which cups can be applied and not, and the devices and materials that should be kept in the practice units are given widely.

There are studies investigating its effectiveness in diseases such as disc herniations, herpetic lesions, spondylosis, chronic low back pain, carpal tunnel syndrome, osteoarthritis, fibromyalgia, chronic neck pain, neuralgia, migraine, and some other headache syndromes. It has also been applied in hypertension and some neurological diseases.

Cupping therapy indications

Cupping therapy indication spectrum is quite wide. Some of these indications have been supported by clinical studies. Others have come from traditional practices and experiences. Here, primary prevention, that is, preventive medicine, has come to the fore. It is used in chronic diseases for its therapeutic and symptom-reducing effects.

The indications specified in the T&CM regulation of the Ministry of Health are given as follows[3].

- Primary Prevention; Strengthening the immune system in patients who do not identify an organic disorder

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- Accompanying rheumatic diseases; Chronic pain, limited range of motion, morning stiffness, fatigue
- Fibromyalgia
- Musculoskeletal system mechanical pains
- Knee pain
- Non-organic Chronic headaches; Migraine, Tension headache, etc.
- Sleeping disorders
- GI disorders; nausea, vomiting, constipation
- In addition in the T&CM centers; Neuralgia-related pain, Stroke-related; Hiccups, aphasia, fatigue, etc symptoms.

Contraindications

- The situations in which cupping treatment should not be performed are given as follows[4].
- Thrombophlebitis
- Active wounds
- Surgical wounds
- Decompensated heart disease
- Anemia (hemoglobin below 9.5mg/dl)
- Hemophilia
- History of bleeding/coagulation disorder
- Antiaggregant drug use
- Cups are not applied directly to the varicose veins.
- Practically; under 2 years old, over 70 years old
- Partial Contraindication: Menstrual Period

Side effects

Side effects of cupping therapy can be listed as syncope, hypoglycemia, infection, and scar formation. Moreover, in a systematic review examining the side effects of cupping therapy, the WHOUMC causality scale was used; they were classified as definite, probable, and possible side effects[4,5]. 572 articles were reviewed and 16 studies were included in the review; Five cases of iron deficiency anemia were detected. In other studies examined; Side effects such as dermatitis, herpes infection, skin pigmentation and laceration, cervical epidural abscess, cardiac hypertrophy, and increased pain have been reported. Methodological differences in practices affect the frequency of side effects according to regions[4]. No serious adverse events were reported in any of the 135 randomized controlled studies reviewed in another review[6].

Although it is rare, the most serious side effect of cupping therapy is vaso-vagal syncope. After the application, there may be a risk of infection such as hepatitis B, C, and HIV. However, when cupping is performed by certified physicians by taking the necessary precautions, the existing side effects will also decrease. Therefore, physical examination, anamnesis, and laboratory evaluation of patients should be performed before treatment. In the early period after cupping, erythema, circular ecchymosis, swelling, bleeding, discomfort, pain, mild headache, sweating, pressure sensation, and tingling can be observed; Scarring, bruising, and hyperpigmentation in the incision area are the changes observed later[7,8].

Effect mechanism

Different theories have been proposed regarding the mechanism of action of cupping therapy[9]. According to the cutivisceral reflex theory, which is one of the theories related to the neuronal system, there are connections with the internal organs in the relevant skin areas along the segments formed by the spinal nerves. These connections are defined as the cutivisceral/viscerouteneal reflex. In the pathological condition occurring in the organ, skin changes, or pain may occur in this area with the signal going to the relevant skin area. According to this theory, it is possible to contribute to the treatment of organs with cupping therapy to the relevant skin segment. The incision and vacuum created in the wet cup application stimulate the thick unmyelinated A-delta fibers with the door control theory and provide the closure of the entrance gates of the pain signals reaching the spinal cord with group C thin myelinated nerve fibers in the substantia gelatinosa[10,11]. In addition, with the stimulation of mechanoreceptors, other pain stimuli are inhibited via nociceptive afferent fibers and their uptake is prevented[10].

With all these theories, the mechanism that best explains the effect of cupping is ensuring microcirculation by bloodletting; as a result of this, it is the detoxification of the connective tissue and the homeostasis of the relevant part of the body. In addition, some of the toxins accumulated in the body can be taken out with the blood. Cupping emerges as a successful treatment method if it is applied according to the basic principles of acupuncture[12].

Studies on cupping therapy

There are a limited number of scientific studies on cupping therapy and cupping. There are studies investigating its effectiveness in diseases such as disc herniations, herpetic lesions, spondylosis, chronic low back pain, carpal tunnel syndrome, osteoarthritis, fibromyalgia, chronic neck pain, neuralgia, migraine, and some other headache syndromes. It has also been applied to hypertension and some neurological diseases[12].

It is also observed that there are some methodological limitations in the studies carried out. These studies

will be presented below in the form of preclinical observational studies, case reports, clinical studies, meta-analyses, and cases indicating complications, especially by examining the Pubmed database.

Preclinical and observational studies and cases

In another study, it was shown in mice that cupping increased pain mediators such as beta endorphin[13]. In a study conducted on mice in China, an increase in lymphatic vascularity was detected with cupping therapy[14]. In another study, cupping therapy was shown to reduce fibromyalgia symptoms[15]. In some preclinical studies, it was stated that cupping therapy increased flap blood flow[16]. In a study, it was shown that both symptoms and EMG findings of carpal tunnel syndrome regressed with cupping therapy[17,18]. In some studies, it has been stated that cupping therapy can activate and increase diseases such as eczema and psoriasis[19].

Clinical trials

In a randomized controlled study, it was shown that cupping reduces migraine pain. It is stated that the effectiveness of the treatment continues to increase in reducing migraine pain and increasing the quality of life if the cupping continues[20]. There are also studies showing that cupping therapy is beneficial in chronic insomnia[21]. There are also studies conducted on some menstrual disorders[22]. There have been some randomized controlled clinical studies showing the reduction of heavy metals in the body. Some studies have reported that cupping therapy reduces blood lipid levels[9,23]. There are studies reported to control hypertension and decrease systolic blood pressure[24]. In addition to these, there are also studies applied to trigger point pain, chronic low back neck pain and osteoarthritis. There are several studies showing that it improves the quality of life[25].

Meta-analysis

A meta-analysis study conducted between 1992 and 2010 reviewed hundreds of studies. In this meta-analysis study, cupping therapy was examined as a randomized study, and it was reported that when used together with other treatment methods, it contributed to a significant increase in recovery and did not have significant side effects[26]. Meta-analyses were conducted on chronic low back pain, musculoskeletal pain and neck pain. It has been stated that it can be used in the treatment of pain[27].

Cases indicating complications

As with any medical intervention, complications may develop during and after cupping therapy. However, no serious complications were described in the studies. More localized complications were noted. There are cases where it may increase eczema and psoriasis[28].

In a study showing that skin interventions should be handled sensitively during cupping treatment, cupping was applied to the abdomen and a case of widespread skin infection was reported afterward[29]. There are also cases showing localized bulla formation and infection after cupping[30]. Continuing severe bleeding in patients with a diagnosis of hemophilia has also been reported in cases[31].

Conclusion

We have seen that there are limited number of scientific studies on cupping therapy. It has been stated in most of the studies that there are especially methodological limitations in the studies. We have seen that there are studies in which cupping therapy is frequently used, especially in chronic low back pain, osteoarthritis, fibromyalgia, chronic neck pain, migraine and hypertension. There is a need for more studies with large participation in cupping therapy.

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