CUPPING THERAPY: TYPES, FUNDAMENTAL PRINCIPLES, AND EVIDENCE-BASED APPLICATION TECHNIQUES

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Abstract

Cupping therapy is one of the oldest complementary therapeutic interventions, with a history spanning several millennia across Traditional Chinese Medicine and other traditional healing systems. This review examines its historical development, principal therapeutic techniques, and contemporary applications in health promotion, disease prevention, and rehabilitation. A narrative review was conducted to analyze the evolution of cupping devices, materials, and application methods, together with the physiological mechanisms associated with negative-pressure stimulation. Current evidence suggests that cupping therapy enhances microcirculation, relieves musculoskeletal pain, promotes tissue recovery, and supports the body's natural healing processes. Owing to its favorable safety profile, low cost, and ease of application, cupping therapy represents a valuable complementary approach within integrative healthcare. However, further well-designed clinical studies are needed to establish standardized treatment protocols and strengthen the evidence supporting its clinical efficacy.

Keywords: cupping therapy; health promotion; preventive healthcare; integrative medicine.

INTRODUCTION

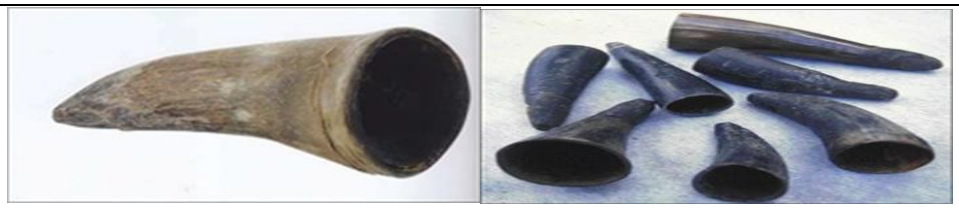
The professional and social dynamics of modern life have contributed to increasingly low levels of physical activity across populations (7, 9). Young people represent the most affected demographic, primarily due to the rapid expansion of information and communication technologies (8, 11). Contributing factors include fast-paced lifestyles, occupational and leisure activities centered on digital and electronic devices, and the growing amount of time spent on social media platforms (3, 10). Another important determinant is the insufficient health culture and the lack of knowledge required to adopt and maintain a healthy lifestyle (4, 12). In some regions, financial constraints and outdated sports infrastructures further discourage participation in regular physical activity (13, 15). Cupping therapy constitutes an important component of Traditional Chinese Medicine (TCM); however, its application has also been documented in numerous cultures worldwide as part of traditional folk medicine (19, 23). Known in Chinese medicine as *bahuoguan liaofa*, cupping therapy has a history spanning several millennia and is recognized as one of the oldest natural therapeutic methods (24). Modern cupping devices are typically small, cup-shaped instruments that create localized negative pressure through either mechanical suction or thermal vacuum. This process induces local hyperemia and congestion by drawing the skin and superficial tissues into the cup. Throughout history, the techniques and styles of cupping therapy have evolved according to geographical location and the materials available in different regions. Animal horns, bamboo, ceramic, glass, metal, and, more recently, plastic have all been used in cupping practice, with the common objective of stimulating the body's intrinsic self-healing mechanisms. Today, cupping therapy is recognized for its broad therapeutic indications, favorable safety profile, cost-effectiveness, and ease of application, making it a widely accessible complementary therapeutic intervention (17, 22). Increasing scientific interest in complementary and integrative medicine has further contributed to its use in pain management, rehabilitation, sports medicine, and preventive healthcare.

METHODS

The aim of the present study was to analyse the most used cupping therapy techniques, examine their historical development, and evaluate their potential applications in treatment, disease prevention, and health promotion. The study employed a narrative literature review, synthesizing historical and contemporary scientific evidence regarding the evolution of cupping therapy, its principal therapeutic methods, and its role within modern complementary medicine, wellness, and preventive healthcare. The analysis focused on the classification of cupping techniques, their mechanisms of application, therapeutic indications, and their contribution to maintaining health and improving quality of life.

RESULTS

We applied a detailed analysis of the Cupping Therapy from Antiquity to the Present. This type of healthy influence is one of the oldest therapeutic modalities in the history of medicine. As an ancient healing practice, it has been applied for thousands of years across numerous civilizations, including China, Greece, Egypt, and the Middle East. In China, cupping therapy has been practiced for more than 2,000 years. Historically, it was known as Jiao Fa (角法) or the "Horn Method", because hollow animal horns were originally used as therapeutic instruments for creating suction (Figures 1 and 2).



Figures 1–2. *Traditional cupping devices made from animal horns.*

Today, this technique is commonly referred to as Huo Guan (火罐) or Fire Cupping. When animal horns were employed, practitioners created negative pressure either by sucking air through a small opening at the tip of the horn, which was subsequently sealed with dried grass, or by heating the horn before application. These procedures were believed to eliminate toxins from the body. Animal horns were also widely used for draining pus from abscesses and treating inflammatory conditions, insect stings, infections, bites, and other localized disorders. Another traditional technique involved heating the horn over burning dry leaves before immediately placing it on the skin to generate suction through thermal expansion and cooling. Chinese practitioners also developed wet cupping, in which superficial skin incisions are made before cup application to facilitate controlled bloodletting. In Western medicine, cupping therapy is believed to have originated in Ancient Egypt. References to cupping have been identified in the Ebers Papyrus, the oldest known Egyptian medical manuscript, dating to approximately 1550 BCE (Fig.3):

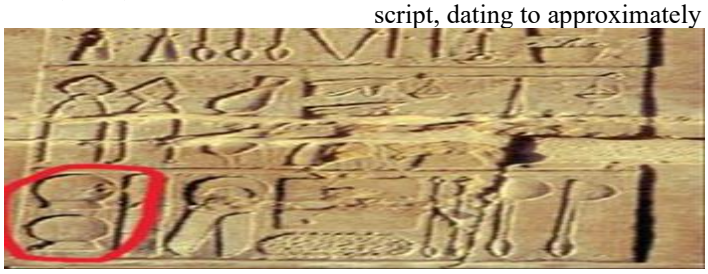


Figure 3. *The Ebers Papyrus, the oldest known ancient Egyptian medical manuscript.*

Historical records further indicate that cupping therapy was incorporated into Ancient Greek medicine, likely through Egyptian medical influence. During the Bronze Age, Greek physicians employed bronze cups for therapeutic purposes, and the technique was later adopted by Roman physicians (Fig.4),

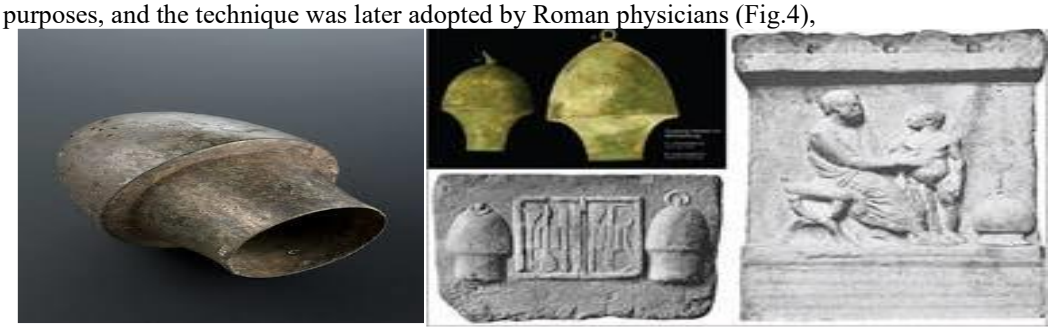


Figure 4. *A cupping instrument used by the ancient Greeks.*

Both Hippocrates and Galen advocated cupping therapy as an effective treatment for a wide range of diseases. The principal therapeutic rationale underlying cupping therapy in antiquity was the removal of harmful substances or the redistribution of blood within the body (16, 22). Ancient Greek physicians employed cupping particularly for the treatment of chronic illnesses and severe pathological conditions (5, 20). Subsequently, cupping therapy spread throughout the Islamic world and Persia via Alexandrian and Byzantine medical traditions. In Islamic medicine, the procedure became known as Hijama, derived from the Arabic word *hajm*, meaning "suction" or "drawing out" (21). Hijama remains one of the principal therapeutic procedures in traditional Islamic medicine and continues to be widely practiced throughout the Middle East. Specialised cupping techniques were also developed to treat gynecological disorders and conditions associated with the female menstrual cycle. Historically, cupping therapy also had spiritual and ritualistic applications. In many cultures, it was believed that the procedure could expel evil spirits responsible for pain, illness, or psychological distress. Over time, animal horns were gradually replaced by bamboo cups, which were heated in boiling water before application to the skin. As the bamboo cooled, negative pressure developed, creating the therapeutic suction effect. This procedure was repeated several times during treatment. Today, cupping devices are manufactured from various materials, including glass, plastic, bamboo, silicone, rubber, and mechanically operated vacuum systems.

Classification of Cupping Therapy Techniques

Contemporary clinical practice recognizes several principal cupping techniques, each differing in its method of application and therapeutic indication.

1. **Static (Retained) Cupping.** The most applied technique, in which cups remain fixed over painful areas or acupuncture points for a predetermined period. Negative pressure is typically created by thermal suc-

tion (fire cupping). It is primarily indicated for musculoskeletal pain, chronic disorders, respiratory diseases, and localized pain syndromes (21, 22).

2. **Moving (Sliding) Cupping.** The skin is lubricated with neutral or herbal oil, allowing the cup to glide over the treatment area until erythema develops. This technique enhances local circulation and is particularly suitable for large muscle groups, including the back, lumbar region, and thighs.

3. **Flash Cupping.** This technique consists of repeated rapid application and removal of the cup, producing intense local hyperemia. It is mainly used for acute musculoskeletal, gastrointestinal, and respiratory disorders.

4. **Warm Water Cupping.** A less frequently used technique in which the cup is partially filled with warm water before application. Due to its technical complexity, it requires considerable clinical experience.

5. **Pulsating Vacuum Cupping.** Modern electronic devices generate rhythmic negative pressure and may be combined with electrotherapy or other physical modalities to enhance therapeutic outcomes.

6. **Combined Acupuncture–Cupping Therapy.** Cupping is applied over previously inserted acupuncture needles after the elicitation of *Qi*. This combined technique is widely used in Traditional Chinese Medicine for localized musculoskeletal disorders and chronic pain syndromes.

7. **Herbal Oil Cupping**. Medicinal oils or herbal tinctures are applied before cup placement to enhance the therapeutic effects of negative-pressure stimulation.

8. **Wet (Bloodletting) Cupping.** Superficial skin punctures are made before cup application to withdraw a controlled amount of blood. This technique has been used in selected dermatological, vascular, neurological, and inflammatory conditions but requires strict aseptic procedures (Lin et al., 2018).

9. Modern Cupping Devices

Glass cups remain the clinical standard because they are inexpensive, easy to sterilize, and allow direct visualization of tissue response, although they are relatively fragile (Fig.5).

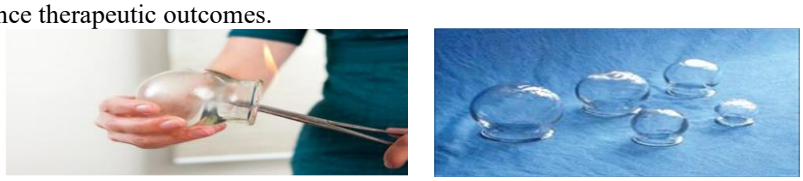


Figure 5. *Classical glass cup used for cupping therapy.*

Plastic cups equipped with manual vacuum pumps eliminate the need for fire and enable precise regulation of suction; some models incorporate therapeutic magnets. Recent technological advances have introduced electronic vacuum cupping systems with adjustable suction and infrared heating, improving muscle relaxation, circulation, lymphatic drainage, and tissue recovery.

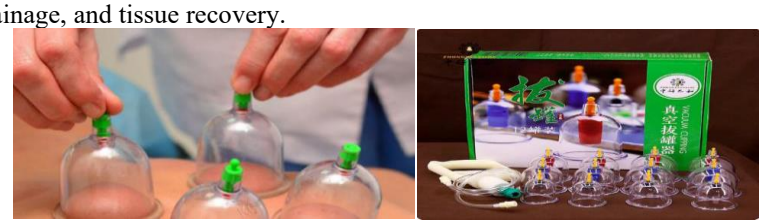


Figure 6. *Plastic cupping cups with magnetic inserts and a hand-operated vacuum pump.*

These innovations have expanded the application of cupping therapy in rehabilitation, physiotherapy, sports medicine, and integrative healthcare (Fig.7).



Figure 7. *Electric Vacuum Cupping Massage Device*

Silicone cups are flexible, easy to use, and particularly suitable for beginners and anatomically challenging areas, although they generate lower suction pressure than conventional cups (Fig.8).



Figure 8. Silicone cups used for cupping therapy.

Bamboo cups, traditionally used in China, are lightweight, inexpensive, and available in various sizes. However, they present limitations related to sterilization, visualization of tissue response, and patient comfort (Fig.9).



Figure 9. Bamboo Cupping Devices

Therapeutic Indications

According to Traditional Chinese Medicine (TCM), cupping therapy promotes the circulation of Qi and blood, disperses pathogenic factors, and alleviates pain and inflammation (20, 21, 22). It is applied both prophylactically to support immune function and therapeutically as an adjunctive intervention for acute and chronic conditions. The primary indications include musculoskeletal pain (neck, shoulder, back, and lower limbs), headaches, respiratory disorders (asthma, bronchitis, chronic cough), gastrointestinal diseases, and selected gynecological conditions. Growing evidence also supports its complementary use in chronic disorders such as hypertension, rheumatoid arthritis, fibromyalgia, diabetes mellitus, migraine, anxiety, depression, varicose veins, cardiovascular diseases, and dermatological conditions, acne or eczema (1, 21).

Therapeutic Effects

The therapeutic effects of cupping therapy are associated with negative-pressure stimulation, which induces local hyperemia, enhances microcirculation, improves tissue oxygenation, and activates neuroendocrine responses. These physiological changes promote pain relief, muscle relaxation, edema reduction, tissue regeneration, and functional recovery (21, 23, 24). Clinical evidence suggests that cupping therapy may improve musculoskeletal function, reduce inflammation and fatigue, stimulate collagen synthesis, enhance skin elasticity, increase joint mobility, and support gastrointestinal and reproductive function. It has also been associated with improved immune response and accelerated recovery following musculoskeletal injuries (2). Although current findings are promising, further randomized controlled trials are required to confirm its efficacy and clarify the underlying biological mechanisms.

Safety Considerations

When performed by appropriately trained practitioners, cupping therapy is considered a safe complementary intervention with a low incidence of adverse effects. Treatment should follow standardized hygienic procedures, including appropriate patient positioning, correct cup selection, and sterilization of reusable equipment, particularly during wet cupping. Common transient reactions include erythema, ecchymosis, and mild blistering, which generally resolve spontaneously. Larger blisters require sterile management to prevent secondary infection. Contraindications include bleeding disorders, open wounds, severe skin disease, deep vein thrombosis, pregnancy over the abdominal and lumbosacral regions, high fever, and application over major blood vessels, the cardiac region, lymph nodes, or mammary glands. Owing to its simplicity, low cost, and favorable safety profile, cupping therapy remains a valuable adjunct to acupuncture, moxibustion, massage therapy, and modern rehabilitation practice.

Common Post-Treatment Reactions

Expected Physiological Responses: The negative pressure generated within the cup typically produces sensations of pulling, tightness, and tissue expansion. Many patients report warmth, relaxation, and immediate symptomatic relief. Following cup removal, localized erythema or characteristic purple-red circular discolorations frequently develop at the treatment sites (Fig. 10). These cutaneous changes represent normal physiological responses and generally resolve spontaneously within several days without medical intervention.

Pathological Reactions

Pathological reactions during cupping therapy may range from mild sensations of tension or burning to severe, intolerable pain. Within several minutes of treatment, blisters, localized edema, or water vapor accumulating inside the cup may develop; these are considered the most common adverse local reactions. According to Traditional Chinese Medicine (TCM), these reactions have diagnostic significance. The appearance of blisters, edema, or clear water vapor is interpreted as an indication of excessive dampness or cold-damp syndrome. Yellowish condensation within the cup is considered indicative of damp-heat syndrome. Red or dark-colored blisters suggest chronic pathological conditions associated with dampness and blood stasis. The characteristic purple discoloration left after cupping is traditionally interpreted as evidence of blood stagnation, whereas a dark purple or black discoloration accompanied by tenderness and fever is considered suggestive of toxin accumulation and severe blood stasis (Fig. 10).



Figure 10. Typical cutaneous markings following cupping therapy

Conversely, the absence of visible tissue changes or local warming during treatment may indicate Qi and blood deficiency. Cutaneous markings accompanied by pruritus are interpreted as evidence of external wind invasion. Pale-colored bruising or bleeding is associated with deficiency syndromes. During combined acupuncture and cupping therapy, dark-red bleeding is regarded as a sign of heat syndrome, whereas bluish discoloration is associated with impaired blood circulation (21). In Traditional Chinese Medicine, these clinical manifestations are interpreted collectively to support differential diagnosis and individualized therapeutic decision-making

DISCUSSION

Adverse Effects

Cupping therapy is generally regarded as a low-risk complementary therapeutic intervention when performed by appropriately trained practitioners. Adverse effects are typically mild, transient, and occur either during treatment or immediately afterward. During the body's adaptive or detoxification response, some patients may experience temporary dizziness, sweating, nausea, fatigue, headache, or generalized muscle soreness. Following treatment, localized skin irritation may occur around the rim of the cup, together with circular ecchymosis, bruising, or pruritus. Uncommon, infection remains a potential complication, particularly following wet cupping procedures. This risk can be minimized through strict adherence to aseptic techniques, appropriate skin preparation, and adequate sterilization of all reusable equipment.

Additional adverse reactions may include:

- thermal burns caused by overheated cups;
- blister formation resulting from excessive suction pressure or prolonged retention of static cups (Fig. 11).



Figure 11*. Blister formation following cupping therapy*

Cupping therapy is contraindicated in patients presenting with active hemorrhage, bleeding disorders or anticoagulant therapy, severe edema, skin irritation (including excessively dry or cracked skin), open wounds, ulcers, varicose veins, deep vein thrombosis, or over blood vessels. Additional contraindications include high fever, convulsive disorders, pregnancy (particularly over the abdominal and lumbosacral regions), and during menstruation when clinically inappropriate. Furthermore, cups should not be applied directly over the cardiac region, lymph nodes, mammary glands, dislocated joints, abscesses, or in patients with severe anemia, muscular dystrophy, or children younger than two years when static cupping is employed (2, 5, 24).

CONCLUSION

Cupping therapy is one of the oldest complementary therapeutic modalities and continues to play an important role in preventive healthcare, rehabilitation, sports medicine, and integrative medicine. Its therapeutic benefits are associated with improved microcirculation, enhanced tissue metabolism, pain reduction, muscle relaxation, and activation of endogenous healing mechanisms, thereby supporting physical recovery and overall well-being.

As a complementary intervention, cupping therapy effectively integrates with acupuncture, moxibustion, massage, and other rehabilitation approaches. The continuous development of new techniques and technologies has expanded its clinical applications, emphasizing the need for standardized professional education, evidence-based practice, and appropriate clinical competencies.

Although cupping therapy has maintained its relevance across centuries and is increasingly accepted in contemporary healthcare, further high-quality clinical research is required to clarify its physiological mechanisms, establish standardized treatment protocols, and strengthen the scientific evidence supporting its efficacy and safety.

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Declarations *of informed consent have been signed regarding the publication of survey data.*

ChatGPT is used for English grammar revision and translation.

References

1. Aboushanab, T. S., & AlSanad, S. (2018). Cupping therapy: An overview from a modern medicine perspective.

2. Al-Bedah, A. M. N., Elsubai, I. S., Qureshi, N. A., Aboushanab, T. S., Ali, G. I. M., El-Olemy, A. T., Khalil, M. K. M., Khalil, A. A. H., & Alqaed, M. S. (2018). The medical perspective of cupping therapy: Effects and mechanisms of action. Journal of Traditional and Complementary Medicine, 9(2), 90–97. https://doi.org/10.1016/j.jtcme.2018.03.003

3. Angelcheva, M., & Petkova, S. (2019). Effects of combination between relax massage and Dr Bach flower remedies on everyday stress. In Proceedings of

the International Scientific Congress "Applied Sports Sciences" and Balkan Scientific Congress "Physical Education, Sports, Health" (pp. 348–352). NSA Press.

4. Angelcheva, M. (2019). Effects of combination between relax massage and Dr Bach flower remedies on everyday stress / Mariana Angelcheva, Simona Petkova. // International Scientific Congress "Applied Sports Sciences", Balkan Scientific Congress"Physical Education, Sports, Health" 15-16 November 2019. NSA Press, Sofia, Proceedings: 348-352.

5. Best Health Physio. (2020). Cupping therapy. https://besthealthphysio.ca/cupping-therapy/

6. Dimitrova, B. (2018). Research impact through scientific publications in wellness culture. Avangard Prima.

7. Dimitrova, B. (2019). Quality assessment of standards for wellness services and certified skills of specialised staff. Trakia Journal of Sciences, 17(2), 143–149. https://doi.org/10.15547/tjs.2019.02.007

8. Dimitrova, B., Izov, N., Alexandrova, V., Iosifov, R., & Trendafilov, D. (2021). Smart cognitive toolkit: External assessment of professional competencies for specialised staff in niche tourism [Monograph, in Bulgarian]. NSA Press.

9. Dimitrova, B., & Nesheva, I. (2021a). Research to improve health care for women with normal pregnancy applying recreational wellness activity. Trakia Journal of Sciences, 19(Suppl. 1), 684–690.

10. Dimitrova, B. (2023). Educational policy, specialised staff, innovations and the recreational industry. Strategies for Policy in Science and Education, 31(5), 532–546. https://doi.org/10.53656/str2023-5-6-imp

11. Dimitrova, B., & Tomova, T. (2024). A wellness lifestyle, emotional intelligence, workplace and leadership success. Smart Innovations in Recreational, Wellness Industry and Niche Tourism, 6(2), 51–56.

12. Dimitrova, B. (2025a). Mechanical and energy efficiency in wellness programs with cyclical movements. Series on Biomechanics, 39(1), 59–67. https://doi.org/10.7546/SB.01.08.2025

13. Dimitrova, B. (2025b). Niche tourism: Innovations and quality culture in specialized workforce development. German International Journal of Modern Science, (101), 88–93. https://doi.org/10.5281/zenodo.15124768

14. Dimitrova, B., et al. (2025). Scientific evidence for personalisation of SPA services at the cellular level. German International Journal of Modern Science, (100), 42–46. https://doi.org/10.5281/zenodo.15061591

15. Dimitrova, B. (2026). Assessing the health benefits of forest art therapy: Evidence from Bulgaria. Forestry Ideas, 32(1), 16–18.

16. Healthline. (2020). Cupping therapy. https://www.healthline.com/health/cupping-therapy

17. Huzar, T. (2020). What to know about cupping therapy. Medical News Today. https://www.medicalnewstoday.com/articles/324817

18. International Cupping Association. (2018). History of cupping. http://www.cuppingtherapy.org.in/aboutus/historyof-cupping/

19. Lyme, K. (2018). Cupping Therapy (Hijama). http://www.lyme-kliniek.nl/cupping.html

20. Moore, C. (2018). Cupping vessels for bloodletting. Health Sciences Library, University of Virginia. http://exhibits.hsl.virginia.edu/hist-images/romansurgical/cuppingVessels_e.jpg

21. Nimrouzi, M., Mahbodi, A., Jaladat, A. M., Sadeghfard, A., & Zarshenas, M. M. (2014). Hijamat in traditional Persian medicine: Risks and benefits. Journal of Evidence-Based Complementary & Alternative Medicine, 19(2), 128–136. https://doi.org/10.1177/2156587214524578

22. PT Health. (2020). What is cupping therapy? https://www.pthealth.ca/blog/what-is-cupping-therapy/

23. Tao, X. Y., & Qu, F. (2009). Illustrations of cupping therapy. Shanghai Scientific and Technical Publishers.

24. Xinnong, C. (1987). Chinese acupuncture and moxibustion. Foreign Languages Press.