



Review Article

The Compound Effect of Cupping Therapy: Searching Beyond the Meridians

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ABSTRACT

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Cupping therapy (CT) is used in Asia, Europe, and the Middle East and is prevalent in Muslim communities where it is recommended by the Prophet of Islam. The majority of modern, medical practitioners interested in CT, view it as a medical technique and distance themselves from the mechanisms proposed by traditional medicine. However, modern medicine does not offer a valid explanation for the mechanisms involved in CT. There is growing evidence of CT's effectiveness, specifically in chronic pain management when compared to an inactive control, but not against sham treatment. CT accompanied by religion and prayer, as it is in Muslim communities, cannot be considered to be equivalent to any procedures in modern medicine. "Whole System Research" may be the most appropriate trial design to test the ancient practice of CT efficacy whilst pending development of a novel placebo for assessing the connectivity of body and mind interventions.

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Introduction

Cupping therapy (CT) is usually referred to as an ancient Chinese practice, but the history of cupping can be traced back to diverse and ancient civilizations in both the Eastern and Western world [1-3]. The continuity and widespread use of CT reflects a model of interconnectivity and cross-cultural influence. Although CT is named differently across cultures and traditions worldwide the basic procedure is the same and the referred cupping sites can be linked to corresponding Chinese acupuncture points [4]. The increased acceptance and openness to use traditional and complementary medicine in the industrialized world [5-8] has been accompanied by research [9, 10] identifying the clinical effects and biological mechanisms of traditional medicine [11]. Acupuncture is at the center of research interests, especially in the industrialized world [12-14]. However, CT is more prevalent than acupuncture in certain areas such as the Middle East, and in Muslim communities because of the religious aspects of the treatment [15-18]. In an attempt to evaluate effectiveness of CT and to identify the underlying biological mechanism, CT research

needs to address the misunderstandings brought about by the complexity of connectivity between the mind and the body [19]. A challenge similar to that faced by acupuncture research [19] and it is made more difficult by the lack of understanding of the compound effect of CT in different communities, which can further complicate the "mind-body concept."

Religious and spiritual influences as part of the compound effect of CT

The relationship between spirituality, religion, and medicine as a healing system has been recognized since antiquity [20,21]. However, in highly developed countries religion and medicine have been separated and are seen as 2 systems of healing. This is not the case in many developing countries [21,22] where organized religion can influence medical interventions. For example, Eastern religion-inspired traditional practices can promote or oppose specific practices imported from other traditions [23].

CT known as "hijamah" in Muslim communities is very popular and is categorized under "Prophetic Medicine" [24]. Prophetic

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Medicine is related to the collection of “hadiths” or accounts of the sayings and actions of the Prophet Muhammad that are related to sickness, diet, hygiene, and other aspects or determinants of health. Hijamah was specifically mentioned and endorsed by the Prophet Muhammad. Among other narratives of “hadith or prophetic sayings,” the Prophet noted that “Hijamah is the best of your remedies.” [24-26].

In Prophetic Medicine and according to the majority of Muslims, there is no need to search for a scientific explanation or evidence of effectiveness or mechanism of action of treatments because they are considered credible as a consequence of having been recommended by the Prophet of Islam [27]. This explains the unique status of hijamah in Muslim societies [16]. It also explains the priority given to regulating CT in Saudi Arabia.

The majority of practitioners providing CT in Muslim communities used to perform CT accompanied by recitations from the Quran or narrations of the sayings of the Prophet. Mixing religious rituals with CT indicates the complexity of evaluating the compound effect of hijamah if accompanied by prayer as a part of religious belief. It has been proposed that Islamic religious rituals comprise elements of mind–body medicine [28].

Mechanism of action of CT in the light of traditional and modern medicine

CT has been a successful treatment for centuries. However, its mechanism of action is not yet well understood. As CT forms part of traditional medicine, concepts embedded in traditional medicine such as the meridian system have been used to propose a mechanism of action [29,30]. Within the same concept, the effects of local negative pressure applied to the human body or skin puncturing have also been studied. The research has included specific changes in local tissue structure, stretching of the nerves and muscles, increased blood circulation, and auto hemolysis. Still, these were considered as multiple types of stimulation exerted onto the regional acupoint areas [31].

When modern medical practitioners became interested in CT, they divorced CT from its origins and re-conceived it as a technique. The majority of modern medical practitioners attempted to keep their distance from the mechanisms offered by traditional medicine to explain the effects of CT and focused on theories from the perspective of modern medicine [32,33]. The pain gate theory [34,35], diffuse noxious inhibitory control [36-38] the reflex zone theory, the activation of the immune system [10,39,40], and blood detoxification were among the proposed explanations [41]. However, no single theory has been able to explain CT’s mechanism of action. Moreover, no one has been able to explain why the effect of CT was small and comparable to that of sham treatment, and if those mechanisms were in fact capable of explaining the effect of CT [42,43].

Measuring the compound effect of CT

A growing body of evidence has been reported in systematic reviews and clinical trials describing the effectiveness of CT for musculoskeletal pain [24], low back pain [44], migraine [45], herpes zoster [46], hypertension, and other conditions [46,47]. However, evidence of CT effectiveness, specifically in chronic pain management compared to an inactive control [44,46,47], but not against sham treatment [42], has shown CT to have various nonspecific effects. Sham devices in CT and acupuncture research may also have some of the same contextual effects and are actually an active placebo [48].

Modern research on the specific effects of cupping using

advanced techniques [49], or measuring specific hematological and biochemical parameters [10,40] is an excellent achievement. Nevertheless, it may explain only part of the compound effect of CT.

No one can argue that a sham control is the correct methodological approach in evaluating the evidence of the specific effects of any intervention. However, measuring the effectiveness in complementary and traditional medicine interventions has proven to be more pragmatic as it measures both the specific and nonspecific effects of the intervention [50].

Attempts to eliminate the nonspecific effects of the intervention in efficacy trials as compared with a placebo will underestimate the holistic effects of complementary medicine interventions, as was proven in acupuncture trials [51]. It may result in the retraction of a positive recommendation to use complementary medicine intervention [52,53]. A misunderstanding of the complex relationship between mind and body has been the most crucial factor giving rise to misleading trial outcomes [19]. Ignoring the whole human being and the importance of the healing potential of the mind or simply the “mind–body concept” [54-56] will also lead to the underestimation of the effect of CT, just as with any other complementary approach. Comparative effectiveness trials contrasting CT with standard care may therefore be the appropriate study design [48,50].

Conclusion

The widespread use of CT in nonpharmacological pain management needs further and rigorous research given its usefulness as part of an integrative approach to lower the cost of pain management in healthcare [57]. Its status as an ancient practice indicates its reliance on the complex connections between the mind and the body. New research should take into consideration the holistic research approach and the compound effect of the entire specific and the contextual effects included in CT. The complexity of these inseparable effects and their potential synergistic effect requires innovative evaluative research concepts.

Whole System Research using mixed methods to address the healing theory and the complexity of intervention in CT is the ideal approach.

Conflicts of Interest

Authors declared no conflicts of interest.

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