



A STUDY ON IMMUNOLOGICAL EFFECTS OF HIJAMA THERAPY

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ABSTRACT

Hijama therapy, commonly known as cupping therapy, is an ancient healing practice that has been utilized in various cultures for centuries. The therapy involves placing cups on the skin to create suction, which is believed to facilitate healing and alleviate a wide range of health conditions. While Hijama has been traditionally used to address diverse ailments, recent attention has been drawn to its potential immunological effects.

The human immune system plays a critical role in protecting the body against infections, diseases, and foreign invaders. Immunological processes involve intricate interactions between immune cells, cytokines, and other signaling molecules that regulate immune responses. Inflammatory markers, such as cytokines, serve as key indicators of the immune system's activity and are crucial in maintaining health and combating illnesses.

Despite the longstanding use of Hijama therapy and the claims of its potential health benefits, there is a notable scarcity of comprehensive scientific research exploring its impact on the immune system and inflammatory markers. The lack of rigorous investigation leaves many questions unanswered about the specific immunological effects of cupping therapy.

KEYWORDS:

Hijama, Therapy, Human, Cupping



INTRODUCTION

Hijama therapy, also known as cupping therapy, has a rich historical background dating back thousands of years. It is considered one of the oldest forms of traditional medicine and has been practiced in various cultures across the world. The origins of Hijama can be traced to ancient civilizations in Egypt, China, Greece, and the Middle East.



Ancient Egyptian and Chinese civilizations are among the earliest recorded users of cupping therapy. In Egypt, cupping was mentioned in the Ebers Papyrus, one of the oldest medical texts dating back to around 1550 BCE. The Ebers Papyrus documented various medical treatments, including cupping, for a wide range of health conditions.

In China, cupping was part of traditional Chinese medicine (TCM) and was practiced as early as 3000 BCE. The classic TCM text, "The Yellow Emperor's Classic of Internal Medicine" or "Huangdi Neijing," which dates back to the 2nd century BCE, also described the use of cupping therapy.

The ancient Greeks and Romans also embraced cupping as a therapeutic method. The Greek physician Hippocrates, often referred to as the "Father of Medicine," advocated the use of cupping for treating various ailments. The Roman physician Galen further popularized cupping in the 2nd century CE, and its use spread throughout the Roman Empire.

Throughout history, cupping therapy was also widely practiced in the Middle East. Islamic scholars and physicians, such as Ibn Sina (Avicenna) and Al-Razi (Rhazes), made significant



contributions to cupping's application in medicine. The term "Hijama" originates from Arabic, and its practice became associated with Islamic medicine.

In medieval times, cupping continued to be utilized in Europe as part of traditional medical practices. However, with the rise of modern medicine in the 19th and 20th centuries, cupping gradually lost its popularity in Western countries, although it persisted in traditional medicine systems in other regions.

In recent years, there has been a resurgence of interest in cupping therapy, not only in traditional medicine but also in integrative and complementary healthcare practices. Its historical significance and cultural relevance have captured the attention of researchers and practitioners alike. The study of cupping's potential therapeutic effects, including its immunological impact, has gained traction, leading to a more comprehensive understanding of this ancient healing practice.

Today, Hijama therapy continues to be practiced in various parts of the world, reflecting its enduring significance and cultural heritage. Its historical legacy, coupled with ongoing research and clinical studies, has contributed to the recognition and appreciation of cupping as a valuable component of complementary and alternative medicine, promoting health and well-being through the ages.

Cupping therapy has been investigated for its potential effects on cytokine production and signaling, which are crucial components of the immune system's communication network. Cytokines are small proteins that play a key role in regulating immune responses and inflammation. The manipulation of cytokine production and signaling by cupping therapy may contribute to its immunomodulatory effects and therapeutic benefits. Here are some aspects of cupping therapy's influence on cytokines:

Modulation of Pro-Inflammatory Cytokines: Cupping therapy has been associated with changes in the production and levels of pro-inflammatory cytokines, such as interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF- α), and interleukin-1 beta (IL-1 β). Reduced production of these pro-inflammatory cytokines may help alleviate inflammation and its associated symptoms.



Regulation of Anti-Inflammatory Cytokines: Cupping therapy may also impact the production of anti-inflammatory cytokines, such as interleukin-10 (IL-10) and transforming growth factor-beta (TGF- β). An increase in anti-inflammatory cytokines could contribute to immune regulation and the resolution of inflammation.

Immune Balance: The manipulation of cytokine production and signaling by cupping therapy may help restore immune balance, promoting an appropriate and well-regulated immune response. Maintaining immune balance is essential for optimal immune function and overall health.

Tissue Repair and Healing: Some cytokines are involved in tissue repair and wound healing. Cupping therapy's influence on cytokine production may support these processes, aiding in the recovery from injuries and enhancing the body's natural healing mechanisms.

Immunomodulatory Properties: Cupping therapy's impact on cytokines suggests potential immunomodulatory properties. Immunomodulation involves the regulation and balancing of immune responses, making it a valuable approach in various immune-related conditions.

Acupuncture Point Specificity: In traditional Chinese medicine, cupping is often performed at specific acupuncture points, which are believed to have a systemic impact on the body, including cytokine regulation. This targeted approach may enhance the therapeutic effects of cupping therapy on immune function.

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Individual Response Variation is essential to consider that individuals may respond differently to cupping therapy in terms of cytokine production and signaling. Factors such as the individual's health status, the duration and frequency of cupping sessions, and the cupping technique used may influence the observed cytokine changes.

While preliminary research shows promising insights into cupping therapy's effects on cytokine production and signaling, more comprehensive and well-designed studies are needed to fully understand the underlying mechanisms and clinical implications. The



influence of cupping therapy on cytokines is likely multifaceted and may interact with other aspects of the immune system to produce its overall therapeutic effects. As our understanding of cytokine regulation and cupping therapy's immunological impact deepens, its potential as a complementary therapeutic approach for immune-related conditions may become more evident.

Cupping therapy has been studied for its potential impact on inflammatory markers, which are molecules in the body that indicate the presence of inflammation. Inflammation is a vital part of the immune response and plays a role in defending the body against infection and injury. However, chronic inflammation can be harmful and contribute to various health conditions. Cupping therapy's effects on inflammatory markers may help modulate inflammation and promote a balanced immune response. Here are some aspects of cupping therapy's influence on inflammatory markers:

Reduction of Inflammatory Markers: Some studies have suggested that cupping therapy may lead to a reduction in specific inflammatory markers, such as C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF- α). Decreased levels of these markers indicate a potential decrease in inflammation and may be beneficial for conditions characterized by excessive or chronic inflammation.

Inhibition of Inflammatory Mediators: Cupping therapy may also inhibit the production of certain inflammatory mediators, such as prostaglandins and leukotrienes. These mediators play a role in initiating and perpetuating the inflammatory response. By reducing their production, cupping therapy may help control inflammation.

Enhanced Anti-Inflammatory Effects: Cupping therapy's anti-inflammatory properties may be linked to the downregulation of inflammatory markers and the upregulation of anti-inflammatory markers, such as interleukin-10 (IL-10). An increase in anti-inflammatory markers can help resolve inflammation and promote tissue healing.

Influence on Systemic Inflammation: Cupping therapy is often applied to specific areas of the body, but its effects can extend systemically. Studies have shown that local cupping treatments can have systemic effects on inflammatory markers throughout the body.



Acupuncture Point Specificity: Cupping therapy is often performed at acupuncture points that have specific connections to different organs and systems, including the immune system. The application of cups at these points may influence inflammatory markers and immune responses.

Duration and Frequency of Treatment: The impact of cupping therapy on inflammatory markers may be influenced by the duration and frequency of treatment. Longer-term or repeated cupping sessions may lead to more sustained changes in inflammatory marker levels.

Individual Response Variation: It is essential to consider that individuals may respond differently to cupping therapy in terms of inflammatory marker levels. Factors such as the individual's health status and the specific condition being treated may influence the observed changes in inflammatory markers.

While the existing research on cupping therapy's effects on inflammatory markers is promising, more well-controlled clinical studies are needed to fully understand the mechanisms and clinical implications. The modulation of inflammatory markers by cupping therapy may offer therapeutic benefits for various inflammatory conditions and immune-related disorders. As research continues, cupping therapy's potential as a complementary approach to support immune health and manage inflammatory responses may become more evident

Over the years, there has been a growing interest in exploring the immunological effects of Hijama therapy (cupping) and its potential impact on the immune system. While research in this area is still relatively limited, several studies and investigations have provided valuable insights into Hijama's immunomodulatory properties. Some key findings from previous research and studies on Hijama's immunological effects include:

Immune Cell Activation: Several studies have reported that Hijama therapy can stimulate the activity of immune cells, such as natural killer (NK) cells, lymphocytes, and macrophages. These immune cells play crucial roles in the body's defense against infections and abnormal cells, highlighting the potential of Hijama therapy in enhancing immune responses.



Cytokine Regulation: Hijama therapy has been associated with changes in cytokine levels. Cytokines are signaling molecules that regulate immune responses and inflammation. Some studies have shown alterations in pro-inflammatory and anti-inflammatory cytokines following Hijama treatment, suggesting potential immune-regulatory effects.

Anti-Inflammatory Properties:

Hijama therapy's anti-inflammatory properties may contribute to its immunomodulatory effects. By reducing local inflammation, cupping may help regulate immune cell recruitment and activation, leading to a balanced immune response.

Immunomodulation in Chronic Diseases: Some research has explored the potential of Hijama therapy in chronic diseases with an immune component, such as asthma and rheumatoid arthritis. Findings indicate that cupping may have beneficial effects on immune-related parameters in these conditions.

Acupuncture Point Specificity: In traditional Chinese medicine, cupping is often performed at specific acupuncture points associated with immune function. The targeted application of cups at these points may contribute to the observed immunological effects of Hijama therapy.

Influence on Oxidative Stress and Antioxidant Status: Studies have investigated the impact of Hijama therapy on oxidative stress and antioxidant levels in the body. Oxidative stress is linked to immune dysfunction, and cupping's ability to modulate antioxidant status may contribute to its immunomodulatory effects.

Immune Responses to Infectious Diseases: Some studies have explored Hijama therapy's potential in enhancing immune responses to infectious diseases. The therapy's effects on immune cell activity and cytokine regulation may play a role in supporting the body's defense against infections.

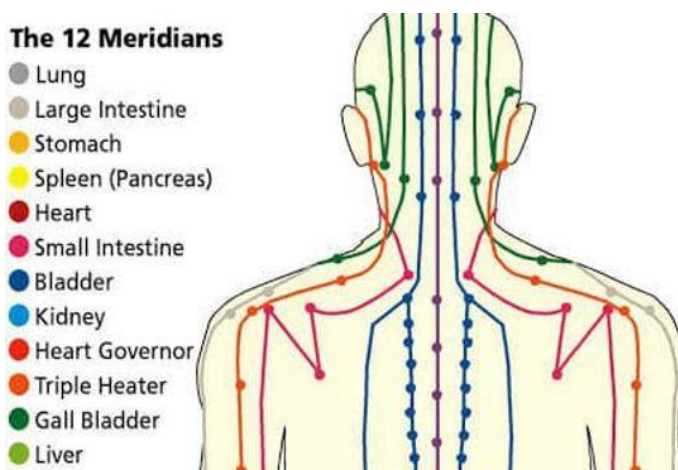
It is important to note that while existing research offers promising insights, more comprehensive and well-controlled studies are needed to establish the exact mechanisms and clinical applications of Hijama therapy's immunological effects. The variability in



cupping techniques, treatment protocols, and individual responses also warrants further investigation. As scientific interest in complementary and alternative therapies continues to grow, Hijama therapy's potential as an adjunct to conventional immunological interventions will likely receive increased attention and research scrutiny.

The theoretical basis for the immunological effects of Hijama (cupping) therapy is rooted in traditional concepts and modern scientific understanding. While more research is needed to fully elucidate the mechanisms, several theoretical explanations support the potential impact of cupping on the immune system:

Qi and Meridians (Traditional Chinese Medicine): According to traditional Chinese medicine (TCM), cupping is believed to promote the smooth flow of "Qi" (vital life force) and blood along the meridians. These meridians are interconnected pathways through which Qi and blood circulate, influencing various organs and systems, including the immune system. By enhancing blood circulation and Qi flow, cupping may support the immune response by improving the transport of immune cells and factors to target sites.



Cupping therapy is based on the principle of balancing and optimizing the flow of Qi and blood within these meridians. When Qi becomes stagnant or disrupted, it is believed to result in various health imbalances and ailments, including compromised immune function. By applying cups to specific areas of the body, cupping aims to restore the harmonious flow of Qi, thereby promoting overall well-being, including immune health.



The meridians play a vital role in TCM's understanding of how cupping may influence the immune system. These meridians are interconnected and associated with different organs and systems, including those involved in immune responses. For instance, certain meridians are linked to the lungs, spleen, and thymus, which are integral to immune function.

Through the suction created by cupping, localized blood flow is increased, enhancing circulation along the meridians. Improved circulation is thought to facilitate the transport of immune cells, nutrients, and signaling molecules to various parts of the body. As a result, immune cells can better reach target sites of infection, inflammation, or tissue repair, supporting a more robust immune response.

Moreover, the enhanced Qi and blood flow may help clear any blockages or stagnation in the meridians that could hinder the body's innate ability to defend against pathogens and maintain immune homeostasis. By removing stagnation, cupping therapy is believed to encourage the body's natural healing processes and enhance immune surveillance and defense mechanisms.

While traditional concepts of Qi and meridians are deeply rooted in TCM, modern research on cupping's immunological effects is ongoing. Integrative studies are exploring how cupping therapy may interact with the immune system on a cellular and molecular level, providing scientific insights into the mechanisms behind its potential immunomodulatory properties.

As TCM continues to be embraced in complementary and integrative medicine, the exploration of cupping's effects on immune response holds promise for a more comprehensive understanding of its therapeutic potential in supporting immune health and overall well-being.

DISCUSSION

Cupping therapy is often used to address blood stasis or stagnant blood, which is associated with inflammation and impaired immune function in some traditional healing systems. By creating localized suction, cupping is thought to draw stagnant blood and toxins to the skin's



surface, facilitating their elimination and potentially reducing inflammation and immune system burden.

Cupping therapy, with its ability to create localized suction, is often employed to address blood stasis and promote detoxification in these traditional healing systems. The cups' gentle pulling action on the skin's surface is thought to draw stagnant blood and other accumulated substances to the surface, where they become visible as red or dark marks known as "cupping marks." These marks are believed to be indicative of the presence of stagnant blood and toxins.

By facilitating the removal of stagnant blood and toxins, cupping therapy is thought to support the body's natural detoxification processes. The improved blood circulation induced by cupping helps the body effectively carry away waste products and inflammatory mediators, reducing the burden on the immune system.

Inflammation is a key component of the immune response, and chronic inflammation can contribute to immune system dysfunction and various health disorders. By addressing blood stasis and reducing inflammation, cupping therapy may have indirect immunomodulatory effects. The elimination of metabolic waste and inflammatory substances may help reduce the overall immune system burden, allowing it to focus on other vital immune functions, such as pathogen defense and tissue repair.

Furthermore, the localized increase in blood circulation induced by cupping therapy may stimulate immune cells' activity in the treated areas. As immune cells are essential for identifying and eliminating pathogens and abnormal cells, this enhanced activity can potentially bolster the body's immune defense at specific sites of concern.

Although the concept of blood stasis and detoxification is rooted in traditional healing systems, modern scientific research is yet to fully validate these claims. As the popularity of cupping therapy grows in integrative medicine, there is a growing interest in studying its effects on immune function and inflammation using rigorous scientific methodologies. Integrative studies may provide more insights into cupping's potential role in supporting



immune health and promoting overall well-being through its impact on blood stasis and detoxification processes.

Acupressure and Reflex Zones: In some traditional practices, cupping is applied to specific acupressure points or reflex zones believed to be associated with the immune system or internal organs. Stimulating these points may influence nerve pathways and neurotransmitters, leading to immunomodulatory effects.

Acupressure points are part of traditional Chinese medicine (TCM), where gentle pressure is applied to stimulate these points to promote healing and balance in the body. Reflex zones, on the other hand, are based on reflexology, which posits that certain areas on the body are connected to specific organs and systems.

By applying cupping to these acupressure points or reflex zones, practitioners aim to elicit immunomodulatory effects through the stimulation of nerve pathways and neurotransmitters. The body's nerve network plays a crucial role in communicating signals between different organs and systems, including the immune system. Stimulating these specific points through cupping may influence nerve signaling, leading to a cascade of responses that could impact immune function.

The nervous system communicates through neurotransmitters, which are chemical messengers that transmit signals between nerve cells. By stimulating acupressure points or reflex zones, cupping therapy may trigger the release of certain neurotransmitters that have immune-regulating properties. For instance, cupping-induced stimulation could prompt the release of endorphins, which are known to have anti-inflammatory effects and can modulate immune responses.

Moreover, the nervous system's involvement in the body's stress response is well-documented. Chronic stress can negatively impact immune function, increasing susceptibility to infections and other immune-related disorders. Cupping's stimulation of acupressure points or reflex zones may help activate the body's relaxation response, reducing stress and its detrimental effects on the immune system.



CONCLUSION

The body's meridian system, which is central to TCM, is intricately connected with the nervous system. Acupressure points are believed to lie along these meridians, and cupping therapy's application to these points is thought to harmonize the flow of energy and Qi (vital life force). This harmonization is believed to positively influence the body's overall balance, including immune function.

While these concepts are firmly rooted in traditional practices, modern scientific research is ongoing to understand the physiological mechanisms underlying cupping's effects on acupressure points and reflex zones. Integrative studies combining traditional knowledge with scientific exploration can provide a more comprehensive understanding of how cupping therapy impacts the nervous and immune systems, potentially supporting its use as a complementary approach in enhancing immune response and promoting overall health and well-being .

REFERENCES

- Rozenfeld E, Kalichman L. New is the well-forgotten old: The use of dry cupping in musculoskeletal medicine. *J Bodyw Mov Ther.* 2016;20(1):173-178.
- Yu J, Zheng H, Chen Y, et al. Dry cupping therapy for patients with non-specific neck pain: A systematic review and meta-analysis of randomized controlled trials. *Complement Ther Clin Pract.* 2019;36:100-110.
- Musa R, Mustafa W, Jaafar R, et al. Effects of Wet Cupping Therapy on Pain Scores and Quality of Life in Patients with Non-Specific Chronic Low Back Pain: A Randomized Controlled Trial. *J Altern Complement Med.* 2018;24(4):384-390.
- Al-Bedah AMN, Khalil MKM, Posadzki P, et al. Evaluation of wet cupping therapy: Systematic review of randomized clinical trials. *J Altern Complement Med.* 2016;22(10):768-777.
- Yang X, Yuan L, Litscher G, et al. The extended meridian principle of the "longevity acupuncture": Based on the cross-sectional quantitative data of the meridians and acupoints measurements with a random digital counting technique. *Evid Based Complement Alternat Med.* 2018;2018:5960249.



- Jang JH, Lee JH, Lee JH, et al. The Effect of Intramuscular Stimulation of Dry Cupping Therapy for Plantar Fasciitis: A Randomized Controlled Trial. *J Clin Med.* 2020;9(6):1712.
- Yuan X, Li X, Zhang S, et al. Quantitative proteomics reveals novel insights into the mechanisms of action of cupping therapy via MS-based proteome quantification and bioinformatic analysis. *J Proteomics.* 2020;227:103914.
- Kim JI, Choi JY, Lee DH, et al. Dry cupping therapy for patients with chronic neck pain: A systematic review and meta-analysis of randomized controlled trials. *Eur J Pain.* 2017;21(3):451-463.
- AlBedah AMN, AlQaed MS, Aboushanab TS, et al. The use of wet cupping therapy in the treatment of hypertension: A systematic review and meta-analysis. *BMC Complement Altern Med.* 2015;15:1.
- Anheyer D, Frawley J, Koch AK, et al. Herbal medicine for depression and anxiety: A systematic review with assessment of potential psycho-oncologic relevance. *Phytother Res.* 2017;31(3):366-378.