



## **MAPPING THE EFFECT OF CUPPING THERAPY ON BODY HEALTH: A BIBLIOMETRIC ANALYSIS**

**Achmad Budi Santoso<sup>1</sup>, MG Catur Yuantari<sup>2</sup>, Supriyono Asfawi<sup>3</sup>**

<sup>1,2,3</sup> Program Studi Magister Kesehatan Masyarakat, Universitas Dian Nuswantoro Semarang  
[achmadbudisantoso934@gmail.com](mailto:achmadbudisantoso934@gmail.com)

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### **Abstract**

*Cupping therapy is a traditional treatment method that has been used for centuries. This study aims to map the effects of cupping therapy on body health based on existing literature. This study reviews various scientific articles that discuss physiological effects, mechanisms of action, and benefits and potential risks. The review results show that cupping therapy has a positive effect on improving blood circulation, relieving pain, and reducing inflammation. However, further research is needed to strengthen the scientific evidence supporting the application of this therapy in modern medical practice.*

**Keywords:** *cupping therapy, body health, blood circulation, inflammation*

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✉ Corresponding author : Achmad Budi Santoso  
Address : Universitas Dian Nuswantoro Semarang  
Email : [achmadbudisantoso934@gmail.com](mailto:achmadbudisantoso934@gmail.com)  
Phone : 085298456666

## INTRODUCTION

Cupping therapy, also known as cupping therapy, is an alternative medicine practice that involves the use of cups to create suction on the skin. It has been used in various cultures, such as China, the Middle East, and Southeast Asia, to treat a variety of health conditions. With the increasing public interest in alternative medicine, it is important to evaluate the effects of cupping therapy based on current scientific evidence.

Cupping therapy is an alternative medicine practice that has long been used in various parts of the world. In China, cupping therapy is an integral part of Traditional Chinese Medicine (TCM) and is often used to treat musculoskeletal disorders and improve the body's chi or energy flow. In the Middle East, it is known as “hijamah” and is considered one of the Islamic healing methods recommended in religious texts to treat various diseases. Meanwhile, in Southeast Asia, especially Malaysia and Indonesia, cupping therapy has strong cultural roots and is often associated with local traditions to maintain health and treat chronic diseases.

Several literature reviews and meta-analyses have reported the efficacy of cupping therapy for various medical conditions, including pain management, musculoskeletal disorders(3), and sports performance. However, the exact mechanism of action and the long-term effects of cupping therapy on body metabolism are still not fully understood. In Indonesia, cupping therapy is developing rapidly, not only as a traditional practice but also as part of alternative health services that are increasingly accepted by the community. Many cupping clinics have emerged, offering services with a combination of traditional methods and modern technology. This therapy is often used to treat complaints such as fatigue, hypertension, and muscle pain. However, there are still challenges in implementing cupping therapy in Indonesia, such as the lack of standard procedures, formal training for practitioners, and scientific evidence supporting its effectiveness.

However, behind its popularity, there are still a number of important questions regarding the function of cupping therapy for the human body. To what extent is this therapy effective in

improving body health? Is the mechanism of cupping fully understood from a modern medical perspective? And can this therapy be safely integrated into the conventional health system? These questions are the basis for the need for further research to evaluate the benefits, risks, and potential applications of cupping therapy more comprehensively. This study aims to conduct a literature review associated to the effects of cupping therapy on body health. Some of the specific objectives of this study are: (1) Analyzing Publication Trends to identify the development of the number of publications related to cupping therapy from 2004 to 2024, as well as their distribution patterns based on time, (2) Identifying Main Research Themes, to reveal keywords and main topics that often appear in the literature related to cupping therapy, and their relationship to the Health sector, (3) Mapping Collaboration of Researchers and Institutions, to map the collaboration network between researchers, institutions, and countries that contribute to research related to cupping therapy, (4) Determining Influential Journals and Articles to identify journals with the largest number of publications and articles that have the highest citation rates related to cupping therapy, (5) Identifying research gaps to find deficiencies or gaps in research related to cupping therapy that can be recommendations for further research.

## METHOD

This study uses a literature study approach with a bibliometric design. The research sample consists of 100 articles published in journals indexed by Scopus, Web of Science, China National Knowledge Infrastructure, and Google Scholar in the period 2004–2024. Data collection techniques are carried out through documentation, using the keywords cupping therapy, body health, blood circulation, inflammation, body health, with the Publish or Perish application to obtain bibliographic data and VOS-Viewer for visualization analysis.

Inclusion criteria include articles that examine the effects of cupping therapy on humans, both clinically and mechanistically. Exclusion criteria include non-empirical articles or those that

only discuss historical aspects without scientific data. Data analysis is carried out by identifying research patterns, collaboration between authors, keyword frequency, and citations of articles related to cupping therapy.

RESULTS AND DISCUSSION

Citation metrics are presented in table 1

Table 1. Citation Metrics

Citation metrics		Help
Publication years:	2004-2023	
Citation years:	20 (2004-2024)	
Papers:	100	
Citations:	17828	
Cites/year:	891.40	
Cites/paper:	178.28	
Cites/author:	7004.06	
Papers/author:	35.31	
Authors/paper:	3.75	
h-index:	65	
g-index:	100	
hI,norm:	36	
hI,annual:	1.80	
hA-index:	20	
Papers with ACC >= 1,2,5,10,20:	100,97,87,50,18	

Table 1 depicts some relevant metrics for investigation implemented between 2004 and 2024. During this period, a total of 100 papers were published, garnering 17828 citations. On average, each paper obtained 178.28 citations, with an annual citation rate of 891.40. Each researcher produced an average of 7,004.06 papers per study and had 3.75 authors per paper. Furthermore, the h-index, which measures the number of articles with at least h citations, stands at 65, indicating a substantial impact in this research field. The g-index, which assesses the productivity of writers, stands at 100. The H-I norm, of 36, indicates that this investigation has a greater than average impact in its field. The annual H-I, of 1.80 indicates an increase in annual impact. Furthermore, the h-A index of 20 indicates that several researchers have made significant participations to this investigation field. These data highlight the history and

significant effect of the investigation conducted during this period.

Development of scientific publications related to the Trend of Cupping Therapy for Human Health

The first question regarding scientific progress in cupping therapy for human health can be answered using the feature of Network Visualization. The outcomes of the Interpretation of this feature are presented in Figure 1. The simple visualization shows that the theme of cupping therapy for human health does not seem complicated, which indicates that this topic does not attract much interest from writers.

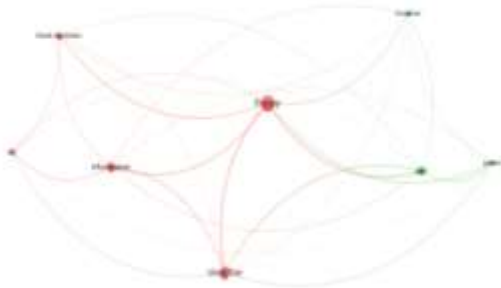


Figure 1. Output of Network Visualization

Figure 1 above depicts two different colors: red, and green, each representing a different group. Terms that have the same color indicate that the terms belong to the same group and have the same theme or relationship. As a result, the literature on this theme is categorized into two groups. The first group, shown in red, contains 5 terms; the second group in green has 3 terms. These groups will be referred to as clusters hereinafter.

Table 2 below describes the composition of each group with the most relevant terms.

Table 2. Clusters and Composition

Clusters	Cluster Composition
1	Blood circulation, blood flow, cup, inflammation, therapy
2	Circulation, pain, patient

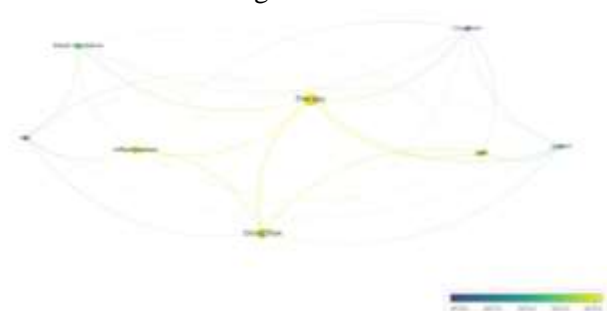
Source: VOSViewer Analysis, 2024

Identifying Main Research Themes, to reveal keywords and main topics that often appear in the literature related to cupping therapy

In the last decade, there has been significant scientific development related to

cupping therapy for human health. Countries in the region, such as Malaysia, Indonesia, Thailand, and the Philippines, have developed cupping therapy for human health. In addition, user/patient awareness of cupping therapy for human health is increasing, with consumers having a higher level of awareness and better education regarding physical/physical health.

The next step after identifying the grouping of literature references is to analyze the output of the Overlay Visualization feature in the VOS-Viewer software. This feature identifies investigation trends from 2013 to 2015 based on the timeline bar in Figure 2.



**Figure 2.** Output of Overlay Visualization

Figure 2 depicts that terms namely “circulation,” “cup,” and “patient” are shown in dark (purple) color, indicating that these terms emerged as investigation trends around 2013. Then, terms namely “blood circulation,” became prominent in 2014. In addition, terms such as “therapy,” “blood flow,” and “inflammation” emerged as investigation trends in 2015.

#### **Mapping Collaboration of Researchers, to map the collaboration network**

These investigation trends can be further analyzed by identifying the primary literature or most influential scientific papers in the field. The impact of existing literature is indicated by the number of citations, meaning that articles with the highest number of citations are considered the most influential in advancing the knowledge of cupping therapy on human health.

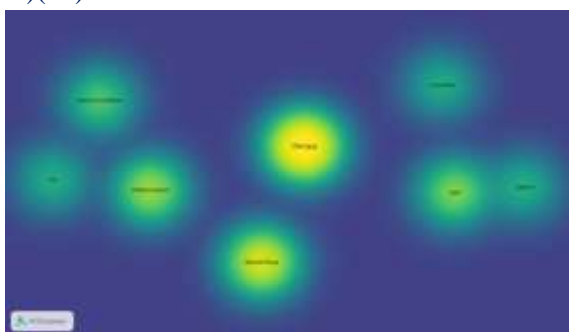
Table 3 displays the 6 studies with the highest number of citations, taken from various scientific article databases and journals.

**Table 3.** Most Cited of Published Papers

Citations	Author and Year	Title
208	Lauche, R et al (2012)	The effect of traditional cupping on pain and mechanical thresholds in patients with chronic nonspecific neck pain: a randomised controlled pilot study. Evidence-based .... Wiley Online Library; 2012 Effectiveness of home-based cupping massage compared to progressive muscle relaxation in patients with chronic neck pain—a randomized controlled trial. journals.plos.org; 2013 Meaningful differences in pain, disability and quality of life for chronic nonspecific neck pain—a reanalysis of 4 randomized controlled trials of cupping therapy. <i>Complementary therapies</i> , Elsevier; 2013 .... Efficacy of cupping therapy in patients with the fibromyalgia syndrome—a randomised placebo controlled trial. Scientific reports. Nature; 2016.
208	Cramer, H., et al (2011)	.... Randomized controlled trial of pulsating cupping (pneumatic pulsation therapy) for chronic neck pain. <i>Forschende Karger</i> ; 2011.
43	Mahmoud HS et al (2013)	.... Anatomical sites for practicing wet cupping therapy (Al-Hijamah): in light of modern medicine and prophetic medicine. <i>Altern Integpdfs.semanticscholar.org</i> ; 2013

Table 3 provides an overview of important scientific works in the field of cupping therapy. The study entitled "The impact of traditional cupping on pain and mechanical thresholds in patients with chronic nonspecific neck pain: a randomised controlled pilot study" by (20) is noteworthy, with 208 citations, while another study, "Anatomical sites for practicing wet cupping therapy (Al-Hijamah): in light of modern medicine and prophetic medicine" by (21), has collected 43 citations and makes an important contribution.

To identify under-researched themes that create research gaps and may be interesting areas for future investigations (22), the Density Visualization feature can be utilized. Figure 3 displays the outcomes of the interpretation, with some areas showing dimmer color intensity while others are brighter. The color intensity indicates how often researchers use each term; higher intensity indicates that more articles refer to the term, and lower intensity indicates the opposite (23)(24).



**Figure 3.** Density Visualization

According to Figure 3 above, terms such as "Therapy," "blood flow," "Inflammation," and "pain" show relatively high light intensity compared to other terms. This indicates that these terms have been frequently used in previous investigation and may have reached a saturation point, making them less recommended for future research (25). In contrast, terms such as "blood circulation," "circulation," and "patient" show dim light intensity, indicating that these terms are not commonly referred to and may represent interesting topics for future research (26).

Physiological Effects of Cupping Therapy Studies have shown that cupping therapy can

improve local blood circulation, reduce oxidative stress, and stimulate the release of bioactive substances such as endorphins(27)(28). These mechanisms are believed to contribute to the reduction of pain and inflammation(29).

**Therapeutic Benefits of Cupping Therapy.** Some of the documented benefits of cupping therapy include: Pain management, which is effective for lower back pain, neck pain, and migraines(30). Inflammation reduction, which has the potential to help patients with chronic inflammatory conditions such as arthritis (31). Skin Health Support, which aids in wound healing and reduces symptoms of skin conditions such as eczema (32).

**Potential Risks and Side Effects.** Common side effects include bruising, temporary discomfort, and skin irritation. Although rare, complications such as infection or allergic reactions to the cup material have also been reported (33).

### **Research Limitations**

Limitations of this study are (1) Lack of large-scale studies with randomized clinical trial designs, (2) Heterogeneity in the methods and tools used, making it difficult to compare results between studies.

### **CONCLUSION**

Based on this literature review, cupping therapy has the potential for significant benefits for health, especially in terms of pain and inflammation management. However, more studies with stronger designs are needed to ensure its effectiveness and safety. The use of cupping therapy should be carried out by trained practitioners to minimize risks and side effects.

### **RECOMMENDATIONS**

Future research needs to focus on: (1) Randomized clinical trials with large sample sizes, (2) Exploration of the molecular mechanisms of the effects of cupping therapy, and (3) Development of standard guidelines for the practice of cupping therapy.

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