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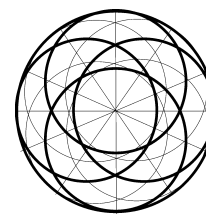
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## Hijama (cupping): a review of the evidence

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### Abstract

Hijama means cupping, but in Arab and Muslim culture it refers to wet cupping. At present, there is much controversy around the practice of wet cupping. To evaluate the current scientific evidence for Hijama, specifically wet cupping, we searched for relevant literature using CAM on PubMed, ACP journal club, Cochrane controlled trials register, Cochrane database of systematic reviews, Cochrane methodology register, database of abstracts of reviews of effects, health technology assessment database, Journals@Ovid, MEDLINE and the NHS economic evaluation database. Three systematic reviews investigated the effectiveness of wet and dry cupping. Two of the reviews found some evidence of effectiveness for cupping and pain. Favourable effects were reported for wet cupping when used as an adjuvant to conventional drugs. The third systematic review found very little evidence of effectiveness for cupping and stroke rehabilitation. Other clinical and observational studies were of limited quality. Few randomised controlled trials have examined the effectiveness of cupping (specifically wet cupping), and those that have been published were generally of low quality, with many limitations.

### Keywords

Cupping • Hijama • systematic review • wet cupping

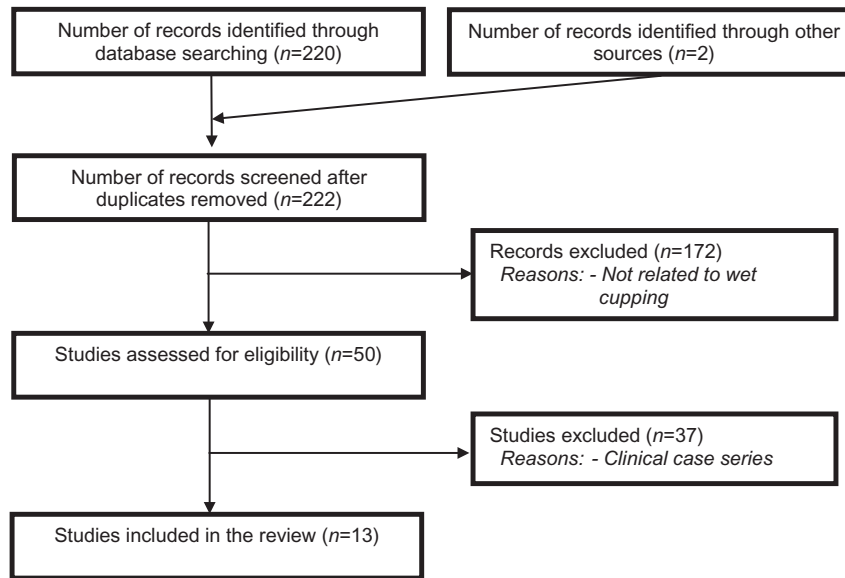
### Introduction

The popularity of CAM continues to grow in developed countries, including the USA.<sup>1</sup> Accordingly, substantial efforts have been devoted to building the evidence base of CAM. Much of the scientific research on alternative medicine, particularly TCM, has focused on acupuncture. A review by Ernst and colleagues in 2007 found the body of evidence for acupuncture was growing, research is active, and that the 'emerging clinical evidence seems to imply that acupuncture is effective for some but not all conditions'.<sup>2</sup> On the other hand, bleeding and cupping therapy, although some of the oldest documented medical techniques, did not attract much attention in the Western world.<sup>3</sup> With the onset of the scientific approach to medical practice, bleeding was one of the first casualties that medicine transformed from art to science.<sup>4</sup> However, in other parts of the world, especially East Asia and the Middle East, wet cupping is still widely used.

In traditional Arabian medicine, Hijama literally means sucking (cupping), and includes wet and dry cupping, but in Arabian culture Hijama refers to wet cupping.<sup>5</sup> Hijama is generally performed by Muslims as it is a form of medicine specifically mentioned and encouraged by the Islamic prophet Muhammad. Among other hadith (narratives), it is mentioned in that recorded by Muhammad al-Bukhari (5263) and Muslim ibn al-Hajjaj (2952) that 'the Hijama is the best of your remedies'.<sup>5</sup>

### Methods

This review set out to examine the best available evidence for Hijama (mainly wet cupping), as traditionally practised in the Arab world. Although proponents of alternative medicine often cite the large number of studies that have been performed, including unpublished data, critics point out that there are no data on exactly how many of those studies are



**Figure 1** Flow-chart outlining the study selection process.

controlled, double-blinded, peer-reviewed experiments, or how many studies produced results supporting alternative medicine or parts thereof. To address this issue, we conducted a comprehensive search of CAM on PubMed, ACP journal club, Cochrane controlled trials register, Cochrane database of systematic reviews, Cochrane methodology register, database of abstracts of reviews of effects, health technology assessment database, Journals@Ovid, MEDLINE and the NHS economic evaluation database. We used a very broad search strategy, using 'cupping' as a search term followed by a manual search to ensure relevant studies were not missed. Studies were included if they were systematic reviews, RCTs or observational comparative studies. Case studies or clinical case series studies were excluded. Three hundred and seventy-three publications on cupping were retrieved, from which 50 publications on wet cupping were found. A total of 13 publications was included in the review, including three systematic reviews, five RCTs, and five observational studies (Figure 1).

### Systematic reviews involving wet cupping

Pain is the most common reason for seeking therapeutic alternatives to conventional medicine.<sup>6</sup> There is increasing evidence that reflex therapies, including cupping, are helpful in reducing pain.<sup>7</sup> Accordingly, many systematic reviews of alternative medicine (especially cupping) have concentrated on the therapeutic effectiveness of these therapies for pain.

A systematic review of the effectiveness of wet cupping for musculoskeletal problems identified five relevant trials, including two RCTs and three con-

trolled clinical trials. The review found wet cupping to be effective for treating low back pain. However, there were several limitations to this review; for instance, it included trials that combined wet cupping with other types of therapies, such as acupuncture and other types of cupping. Also, it pooled all the results together regardless of study design.<sup>8</sup>

A more comprehensive systematic review, which focused on the use of cupping for pain, and included only RCTs, found seven relevant trials.<sup>9</sup> Five of the studies used wet cupping and two dry cupping. One RCT compared dry cupping with conventional drug therapy for cancer pain, and reported a significant reduction in pain severity and pain-free duration, which favoured the cupping group. Another RCT compared dry cupping with NSAIDs in non-specific low back pain, and found a significant difference in the degree of pain relief. Regarding the five RCTs that used wet cupping, one reported that wet cupping significantly reduced the severity of acute trigeminal neuralgia when compared with analgesic medication ( $P<0.01$ ). Another RCT comparing wet cupping with usual care in non-specific low back pain reported a statistically significant difference in pain intensity ( $P<0.01$ ) in favour of cupping. Two RCTs reported favourable analgesic effects for wet cupping in patients with brachialgia, when compared with usual care ( $P<0.03$ ) or heat pad application ( $P<0.001$ ). One RCT found cupping to be no more effective than antiviral drugs in reducing herpes zoster pain ( $P=0.065$ ). Three trials reported favourable effects for wet cupping when used as an adjuvant to conventional drug treatment, compared with conventional treatment alone.<sup>10-12</sup> The researchers concluded that

'the results of our systemic review provide some suggestive evidence for the effectiveness of cupping in the management of pain conditions'.<sup>9</sup>

None of the RCTs included in the systematic review adopted both assessor and subject blinding. Although subject blinding is difficult to achieve for wet cupping, assessor blinding is possible. Some trials in the systematic review had a high risk of bias; low quality trials were more likely to overestimate the effect size.<sup>13</sup> The number of trials included was also too small to distinguish between specific and non-specific effects, which precluded any firm conclusions being drawn.

In a systematic review of cupping for stroke rehabilitation, the authors concluded that 'there are not enough trials to provide evidence for the effectiveness of cupping for stroke rehabilitation'. The study included three RCTs and one uncontrolled observational study using wet cupping. The fifth study used dry cupping.<sup>14</sup>

It is conceivable that many negative RCTs of cupping are not published. This may distort the overall direction of the evidence for this therapy. While Germany might be a leading country in wet cupping research, most of the trials were conducted in China; conducting more RCTs in developed countries may enrich the body of evidence for cupping.<sup>15</sup> A placebo cupping device developed in South Korea may also open the way for improved blinding in RCTs.<sup>16</sup>

### RCTs on wet cupping

One RCT, comparing traditional wet cupping to heat pad application, found Hijama to be relatively more effective in relieving pain and other symptoms related to carpal tunnel syndrome (CTS). The effectiveness was demonstrated in terms of the severity of symptoms ( $P<0.001$ ), Levine CTS score ( $P=0.002$ ), neck pain ( $P<0.001$ ), functional disability ( $P<0.001$ ) and physical QoL ( $P=0.048$ ). However, because the study was an open trial, of brief duration, the therapeutic effect of cupping may have seemed greater because of the control treatment with which it was compared.<sup>17</sup>

Another RCT found the use of wet cupping to be associated with a clinically significant improvement in non-specific low back pain when compared with usual care. Usual care covered a range of interventions, including the exclusion of heavy manual work, alteration in activity, treatment with acetaminophen, NSAIDs and/or muscle relaxants, 2 days' bed rest and spinal manipulation exercise.<sup>11</sup>

In Germany, a pilot RCT showed that brachialgia paraesthetica nocturna can be relieved through the application of wet cupping. However, like all studies on wet cupping, the trial lacked an adequate and suitably blinded placebo treatment.<sup>12</sup>

All the above-mentioned studies explored the effect of wet cupping on pain; but for different conditions. Few studies tried to evaluate the effect of wet cupping on blood parameters specific to certain diseases. One RCT examined the effect of wet cupping on serum lipid concentration in healthy young men, and showed that wet cupping may be effective in reducing low-density lipids levels ( $P<0.0001$ ) and, consequently, may have a preventive effect against atherosclerosis.<sup>18</sup>

Another study found bloodletting and cupping, when combined with conventional therapy, improved pain, tender joint count and swollen joint count in patients with rheumatoid arthritis; the treatment also demonstrated significant immunomodulatory effects.<sup>19</sup> An interesting observation of the latter studies<sup>18,19</sup> was that the researchers used objective, pathology-based outcome measures. If the same approach was applied to future studies, this may help to identify other potential uses for wet cupping.

### Observational studies

Many studies were published in the form of observation or case series studies. One study conducted in Iran, which used a pre-post research design, concluded that wet cupping led to clinically relevant benefits for patients with headache. The investigators added that there was a need for a case control design to test the efficacy of wet cupping, and that this should be compared with other more empirically supported techniques, as well as placebo or non-treatment groups.<sup>20</sup>

### Wet cupping combined with other modalities of alternative medicine

Many studies demonstrated better therapeutic outcomes when wet cupping was combined with electropuncture; specifically for the management of acute gouty arthritis<sup>21</sup> and herpes zoster.<sup>22</sup> An observation study also found the combination of red hot needle therapy with bloodletting and cupping to be superior in terms of cure rate, when compared with the use of external smears of halometazone cream for the treatment of neurodermatitis.<sup>23</sup> In acne conglobata, however, encircling acupuncture, in combination with venesection and cupping, was found to be no more effective than conventional Western treatment under RCT conditions.<sup>24</sup>

All the above-mentioned studies were conducted in China, and all reported favourable therapeutic outcomes for combinations of bloodletting, cupping and other traditional treatments in different types of illnesses. Similar conclusions were not found in studies published elsewhere or with different teams of investigators.

## Conclusion

The majority of systematic reviews and RCTs to date suggest a favourable effect of wet cupping, when used either alone or in combination with conventional treatment, for pain, especially tension headache and musculoskeletal pain. However, the low quality of RCTs investigating wet cupping, attributed to inadequate randomisation and blinding, and the lack of ethical review, affects the credibility of such studies. This may be one reason why many CAM studies, except perhaps CAM surveys, are published in low impact journals.

The body of CAM literature remains very small. It represents less than 1% of Medline content.<sup>2</sup> Even when 14 databases, including CAM databases, were searched for RCTs on cupping and its effect on pain, only seven RCTs were identified. Most of the positive results originated from China. Whereas positive results are primarily reported in studies conducted in developing countries, published data on the adverse events of wet cupping are often reported in journals of Western origin.<sup>25-27</sup>

Efforts should be made to promote research collaboration between developing countries and Western countries; particularly countries where wet cupping is still used as a traditional treatment, such as Finland, Poland, Brazil and Korea. Turkey may also be a place where East meets West, and thus may be suitable for conducting in-depth research into CAM. In Saudi Arabia (where the national CAM programme is playing a leading role), establishing a CAM research centre may pave the way for evidenced-based CAM practice. CAM surveys and integrated data collection systems should be a priority; a culture of CAM RCTs should also be promoted.

**Conflict of interest** None declared.

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