Effectiveness of cupping therapy for low back pain: a systematic review

Cupping therapy has been used for thousands of years in traditional Chinese medicine for the treatment of several chronic conditions, such as low back pain, chronic arthralgia, radiculopathy and respiratory disease.\(^1\) Dry and wet cupping (with controlled bleeding) are the two main types of cupping therapy. Other subtypes of the treatment are cupping with retention (keeping cups on the skin or acupuncture points for 10–15 min); moving-cupping (sliding cups over the skin or acupuncture points with lubricants); shaking-cupping (moving cups up and down repeatedly on skin or acupuncture points); quick-cupping (removing cups immediately when the skin is sucked in); and balance-cupping (composite manipulation, each dose including cupping with retention 6–8 min, moving-cupping four times, shaking-cupping three times and quick-cupping three times).

Nowadays, an increasing number of patients have shown an interest in using cupping therapy for the treatment of low back pain owing to their belief that it is more effective than Western therapeutics. Although cupping therapy is considered a safe, non-invasive procedure, the outcome does not always fulfil the expectation of therapists and patients. Moreover, complications of cupping therapy, such as anaemia and skin pigmentation, have also been reported.\(^2\)

Since there is no consensus on the role of cupping therapy in the treatment of low back pain, we reviewed the medical literature in an attempt to test its effectiveness in low back pain and to further examine this method.

The systematic research started with a thorough English and Chinese language literature search of PubMed from 1980 through 2013. The keyword search terms in combination were ‘cupping therapy’, ‘low back pain’, ‘lumbar sprain’, ‘lumbar myofascitis’ and ‘lumbosacral pain’.

Articles with laboratory studies were excluded.

Three reviewers took part in the study. One reviewer selected the titles and abstracts for inclusion, one extracted data from the full-text articles and the third reviewer confirmed the reference lists of potentially eligible studies. Identified studies were assigned a level of evidence according to the Oxford Centre for Evidence-Based Medicine 2011 levels of evidence.\(^3\)

### Table 1  The studies with levels I and II evidence

<table>
<thead>
<tr>
<th>Studies (level of evidence)</th>
<th>Treatment (N)</th>
<th>Dose and regimen</th>
<th>Results (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kim et al</strong>(^4) (level I)</td>
<td>Intervention group (21)</td>
<td>Wet cupping</td>
<td>1. Brochures for exercise Bilateral BL23, BL24 and BL25, 3 times weekly for 2 weeks</td>
</tr>
<tr>
<td>Control group (11)</td>
<td>Waiting-list</td>
<td>2. General advice</td>
<td>2. ODQ scores &gt;0.05</td>
</tr>
<tr>
<td><strong>Liu et al</strong>(^5) (level II)</td>
<td>Intervention group (25/25)</td>
<td>Cupping with retention</td>
<td>Bilateral at BL, 15 min daily Bilateral low back area, along BL and GV, every 2 days</td>
</tr>
<tr>
<td>Control group (25)</td>
<td>Diclofenac</td>
<td>50 mg, daily</td>
<td>2. ODQ scores &lt;0.05</td>
</tr>
<tr>
<td><strong>Xuan</strong>(^6) (level II)</td>
<td>Intervention group (40)</td>
<td>Moving-cupping</td>
<td>Bilateral at BL, 5–10 times (about 5 min), alternate days for 11 days 0.15 g, T.I.D. for 12 days</td>
</tr>
<tr>
<td>Control group (40)</td>
<td>Dexibuprofen</td>
<td>2. SF-36 &lt;0.01</td>
<td></td>
</tr>
<tr>
<td><strong>Hong et al</strong>(^7) (level II)</td>
<td>Intervention group (37)</td>
<td>Moving-cupping</td>
<td>Bilateral at BL, 5–10 times (about 5 min), alternate days for 11 days 0.15 g, T.I.D. for 12 days</td>
</tr>
<tr>
<td>Control group (33)</td>
<td>Dexibuprofen</td>
<td>2. SF-36 &lt;0.01</td>
<td></td>
</tr>
<tr>
<td><strong>Lo and Ma</strong>(^8) (level II)</td>
<td>Intervention group (33)</td>
<td>Balance-cupping</td>
<td>Bilateral low back area, along BL, GV and local tender points, every 2 days for 2 weeks 1 tablet of composite chlorzoxazone (chlorzoxazone 0.25 g + acetaminophen 0.3 g), B.I.D. for 2 weeks</td>
</tr>
<tr>
<td>Control group (31)</td>
<td>Western medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ma and Lo</strong>(^9) (level II)</td>
<td>Intervention group (33)</td>
<td>Balance-cupping</td>
<td>Bilateral low back area, along BL and GV, every 2 days 1 tablet of composite chlorzoxazone (chlorzoxazone 0.25 g + acetaminophen 0.3 g), B.I.D.</td>
</tr>
<tr>
<td>Control group (31)</td>
<td>Western medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chen and Pan</strong>(^10) (level II)</td>
<td>Intervention group (60)</td>
<td>Moving-cupping and cupping with retention</td>
<td>Bilateral at BL, Huatuoliāji points and local tender points, alternate days 1. 2% Local anaesthetics (novocaine or lidocaine) 4–6 mL+ vitamin B12 500 mg + dexamethasone 5–10 mg for point injection, every 2 days 2. Indomethacin 25 mg for oral administration, T.I.D.</td>
</tr>
<tr>
<td>Control group (40)</td>
<td>Western medication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^*\)Refer to text.

B.I.D., twice a day; NRS, numerical rating scale; ODQ, Oswestry Disability Questionnaire; PPI, McGill Pain Questionnaire for pain intensity; SF-36, 36-item Short Form; T.I.D., three times a day; VAS, visual analogue scale.
Through our electronic and reference search we identified 29 citations (table 1): one randomised controlled trial (RCT, level I evidence),4 six non-RCTs (level II evidence),5–10 20 case reports (level IV evidence) and two mechanism-based reasoning studies (level V evidence).

In the wetRCT, the effective rate of the wet-cupping group was similar to that of the waiting-list group (p>0.05). Interventions in both groups decreased pain, disability and acetaminophen dosage, but a significant decrease in pain intensity according to the McGill pain questionnaire (p<0.01) and reduced consumption of acetaminophen (p=0.09) were seen in the wet-cupping group.4

Of the six non-RCTs, one showed that the visual analogue scale (VAS) score and the Oswestry disability index in the balance-cupping group were significantly lower than in the group with cupping with retention and diclofenac (p<0.05), but there was no difference between the cupping with retention group and the diclofenac-only group (p>0.05).5 The other studies individually showed that the effectiveness of cupping in decreasing VAS,6–9 reducing recurrence rate10 and improving quality of life6–7 was better than Western medication.

Although evidence level I and II studies on the effectiveness of cupping treatment in low back pain have been reported, aspects such as manipulations, sites and dosage of cupping and Western medication in the comparison group are not uniform. Although RCTs provide a higher quality of evidence, we included non-RCTs in this study because the limited number of RCTs did not provide convincing evidence.

In this article, the research results show that cupping therapy is promising for pain control and improvement of quality of life, and minimises the potential risks of treatment. Therefore, further studies are needed to determine the potential role of cupping therapy in the treatment of low back pain.

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REFERENCES
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