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| **Supplementary Table 1: Summary of findings for the effect of wet Cupping therapy on persistent non-specific low back pain** | | | | | | |
| **Study:** Kim et al. [14]  **Patient or population:** persistent non-specific low back pain  **Settings:** not mentioned  **Study**: two weeks  **Comparison:** control group **(**no study) | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (no treatment)** | **Risk or value with wet cupping** |
| **Overall clinical improvement in pain level with**  **pain at short-term follow-up**  **(Assessed with 0 to100 numeric rating scale)** | The overall pain mean in the control group decreased by 9.10 | The overall mean of severity sensation with pain in the study group decreased by 16.00 | - | 32 | **Lowa, b** |  |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with** **McGill Pain Questionnaire)** | The overall mean of pain intensity in the control group decreased by .20 | The overall mean of pain intensity in the study group decreased by 1.20 | - | 32 | **Lowa, b** |  |
| **Overall clinical improvement in disability at short-term follow-up**  **(Assessed with Oswestry Disability Questionnaire)** | The overall mean of disability in the control group decreased by 5.60 | The overall mean of disability in the study group decreased by 1.80 | - |  | **Lowa, b** |  |
| **Adverse events** | No adverse effects |  | **-** | 32 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 2: Summary of findings for the effect of wet Cupping therapy on persistent non-specific low back pain** | | | | | | | |
| **Study:** Teut et al. [23]  **Patient or population:** chronic low back pain  **Settings:** Charité Universitätsmediz in in Berlin, Germany  **Study**: twelve weeks  **Comparison:** control group **(**no study) | | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control vs. cupping** | **Control vs.**  **minimal cupping** | **Minimal cupping**  **vs. high cupping** |
| **Overall clinical improvement in pain level with**  **pain at short-term follow-up**  **(Assessed with 0 to100 Visual analog scale)** | The overall mean difference of pain level was 21.20. | The overall mean difference of pain level was 15.70. | The overall mean difference of pain level was 5.5 | Control vs. Cupping was 21.20. Control vs. Minimal Cupping was 15.70. Minimal Cupping vs. Cupping was 5.50. | 110 | **Moderate** | Results were compared using analysis of covariance (ANCOVA) with the fixed factor  treatment group adjusted for baseline value of VAS pain  intensity (covariate) and high number of participants |
| **Overall clinical improvement in back function at short-term follow-up**  **(Assessed with ‘Funktionsfragebogen Hannover Rücken’ (FFbH-R)** | The overall mean difference of back function level was 5.80 | The overall mean difference back function was 4.00 | The overall mean difference of back function was 1.80 | Control vs. Cupping was −5.40. Control vs. Minimal Cupping was −5.0. Minimal Cupping vs. Cupping was −0.4. | 110 | **Moderate** |  |
| **Overall clinical improvement in physical component scores at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean difference of physical component scores was 5.60 | The overall mean difference of physical component scores was 1.30 | The overall mean difference of physical component scores was 4.30 | Control vs. Cupping was −6.1. Control vs. Minimal Cupping was −2.3. Minimal Cupping vs. Cupping was −3.8. | 110 | **Moderate** |  |
| **Overall clinical improvement in mental component scores**  **at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean difference of mental component scores was 2.50 | The overall mean difference of mental component scores was .50 | The overall mean difference of mental component scores was 3.00 | Control vs. Cupping was 1.8. Control vs. Minimal Cupping was 2.6. Minimal Cupping vs. Cupping was −0.9. | 110 | **Moderate** |  |
| **Adverse events** | Minor adverse effects |  |  | **-** | 110 | **low** | Two patients in the pulsatile cupping group who reported an aggravation of their low back pain after the cupping sessions for a few hours |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | | |

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| **Supplementary Table 3: Summary of findings for the effect of wet cupping therapy on non-specific low back pain** | | | | | | |
| **Study:** Farhadi et al. [15]  **Patient or population:** non-specific low back pain  **Settings:** medical clinic in Kermanshah, Iran  **Study**: 12 weeks  **Comparison:** control group **(**usual care) | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (usual care)** | **Risk or value with wet cupping** |
| **Overall clinical improvement in back pain and disability by at short-term follow-up**  **(Assessed Oswestry Pain Disability Index)** | The overall mean difference between the two groups for back pain and disability after 12 weeks was 15.00 | | RR: 11.20-18.80 | 98 | **Lowa, b** | We only wrote the mean difference because the authors did not mention within-group analyses. |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with** **McGill Pain Questionnaire)** | The overall mean difference between the two groups for pain level after 12 weeks was 2.20 | | RR: 1.70- 2.60 | 98 | **Lowa, b** | We only wrote the mean difference because the authors did not mention within-group analyses. |
| **Overall clinical pain medications at short-term follow-up**  **(Assessed Medication Quantification**  **Scale)** | The overall mean difference between the two groups for pain level after 12 weeks was 6.60 | | RR: 3.60- 9.50 | 98 |  | We only wrote the mean difference because the authors did not mention within-group analyses. |
| **Adverse events** | No adverse effects | |  | 98 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 4: Summary of findings for the effect of dry cupping therapy on postpartum low back pain** | | | | | | |
| **Study:** Akbarzadeh et al. [27]  **Patient or population:** postpartum low back pain  **Settings:** Hafez Hospital, Iran  **Study**: 2 weeks  **Comparison:** control group **(**routine care) | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (usual care)** | **Risk or value with dry cupping** |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with** **Visual analog scale)** | The overall pain mean in the control group at the baseline, immediately after the session, after 24 h, and after 2 weeks were 7.60, 6.40, 5.00, and 3.70, respectively | The overall pain mean in the study group at the baseline, immediately after the session, after 24 h, and after 2 weeks were 7.80, 3.7, 2.50, and 1.40, respectively | - | 98 | **Very low** |  |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with Short-form McGill Pain Questionnaire)** | The overall pain mean in the control group at the baseline, immediately after the session, after 24 h, and after 2 weeks were 31.80, 29.20, 21.7, and 14.00, respectively | The overall pain mean in the study group at the baseline, immediately after the session, after 24 h, and after 2 weeks were 31.80, 9.50, 7.50, and 4.10, respectively | - | 98 | **Very low** |  |
| **Adverse events** | No adverse effects | | **-** | 98 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 5: Summary of findings for the effect of wet cupping therapy on persistent non-specific low back pain** | | | | | | |
| **Study:** AlBedah et al. [16]  **Patient or population:** persistent non-specific low back pain  **Settings:** Outpatient clinic in three secondary care hospitals in Saudi Arabia  **Study**: 2 hours  **Comparison:** control group **(**routine care) | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (no ınterventıon)** | **Risk or value with wet cupping** |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with** **numerical rating scale)** | The overall pain mean in the control group at the baseline, after 2 weeks, and after 4 weeks were 56.25, 57.90, and 56.30, respectively | The overall pain mean in the study group at the baseline, after 2 weeks, and after 4 weeks were 60.50, 29.2, and 24.4, respectively | - | 80 | **Very low** |  |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with McGill Pain Questionnaire)** | The overall pain mean in the control group at the baseline, after 2 weeks, and after 4 weeks were 2.13, 2.30, and 2.30, respectively | The overall pain mean in the study group at the baseline, after 2 weeks, and after 4 weeks were 2.35, 1.17, and .98, respectively | - | 80 | **Very low** |  |
| **Overall clinical improvement in pain intensity at short-term follow-up**  **(Assessed with Oswestry Disability Questionnaire)** | The overall mean of pain and disability levels in the control group at the baseline, after 2 weeks, and after 4 weeks were 32.05, 35.40, and 35.90, respectively | The overall mean of pain and disability levels in the study group at the baseline, after 2 weeks, and after 4 weeks were 38.33, 19.6, and 15.2, respectively | - | 80 | **Very low** |  |
| **Overall clinical improvement in the number of acetaminophen tablets at short-term follow-up** | The overall mean of the number of acetaminophen tablets in the control group after 4 weeks was 13.30 | The overall pain mean in the study group after 4 weeks was 6.50 | - | 80 | **Very low** | The authors did not write the mean of the number of acetaminophen tablets neither at the baseline nor after 2 weeks. |
| **Adverse events** | No adverse effects | | **-** | 80 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 6: Summary of findings for the effect of cupping therapy on persistent non-specific lower back pain and client disability** | | | | | | | |
| **Study:** Hanan & Eman [13]  **Patient or population:** Low back pain  **Settings:** Islamic Al-Hijama Centre, Yanbu City, Al-Madinah Al Munawarah, Kingdom of Saudi Arabia.  **Study**: One session  **Comparison:** No control group | | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** | |
| **No control group** | **Risk or value with wet cupping** |
| **Overall clinical improvement in severity sensation with**  **pain at short-term follow-up**  **(Assessed with American Pain Society Client Outcome**  **Questionnaire)** | No control group | The overall mean of severity sensation with pain in the study group decreased from 6.57 to 1.37 | - | 30 | **Very low** |  | |
| **Overall clinical improvement in back disability at short-term follow-up**  **(Assessed with Oswestry Low Back Pain Disability**  **Questionnaire)** | No control group | The overall mean of disability score in the study group decreased from 21.13 to 5.20 | - | 30 | **Very low** |  | |
| **Adverse events** | No adverse effects |  | **-** | 30 | **Very low** |  | |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | | |
| **Supplementary Table 7: Summary of findings for the effect of cupping therapy on pain level and function in patients with** **chronic neck pain** | | | | | | |
| Study: Saha et al. [29]  Patient or population**:** chronic neck pain  Settings: not mentioned  Study: five sessions  Comparison: no intervention | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (no treatment)** | **Risk or value with dry cupping therapy** |
| **Overall clinical improvement in neck pain at rest at short-term follow-up**  **(Assessed with** **Visual analog Scale)** | The overall mean of neck pain level in the control group decreased from 45.1 to 42.80 compared to the baseline | The overall mean of neck pain level in the study group decreased from 49.80 to 29.90 compared to the baseline | RR: –14.30 (–27.7; –1.0) | 50 | **Moderate** |  |
| **Overall clinical improvement in pain with movement at short-term follow-up**  **(Assessed with Visual analog Scale)** | The overall mean of pain with movement score in the control group decreased from 43.10 to 45.80 compared to the baseline | The overall mean of pain with movement score in the study group decreased from 41.70 to 31.3 compared to the baseline | RR: –11.70 (–21.3; –2.1) | 50 | **Moderate** |  |
| **Overall clinical improvement in neck-related function at short-term follow-up**  **(Assessed with Neck Disability index)** | The overall mean of neck-related function score in the control group decreased from 14.00 to 13.70 compared to the baseline | The overall mean of n-related function score in the study group decreased from 13.90 to 10.30 compared to the baseline | RR: –4.10 (–6.3; –2.0) | 50 | **Moderate** |  |
| **Overall clinical improvement in physical component scores at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of physical status score in the control group increased from 40.90 to 42.20 compared to the baseline | The overall mean of physical status score in the study group increased from 36.40 to 41.50 compared to the baseline | RR: 3.10 (2.3; 8.4) | 50 | **Moderate** |  |
| **Overall clinical improvement in mental component scores**  **at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of mental status score in the control group increased from 45.50 to 45.90 compared to the baseline | The overall mean of mental status score in the study group decreased from 46.90 to 51.20 compared to the baseline | RR: 4.30 (0.3; 8.4) | 50 | **Moderate** |  |
| **Adverse events** | Minor adverse effects |  |  | 50 | **Low** | 2 patients experienced some headache after cupping, lasting no longer than 60 min |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  AROM: active range of motion, PROM: passive range of motion, EMG: electromyography | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 8: Summary of findings for the effect of cupping therapy on relieving chronic neck and shoulder pain** | | | | | | |
| Study: Chi et al. [32]  Patient or population**:** community residents with chronic neck pain  Settings: not mentioned  Study: one session  Comparison: no study | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with the control group (no study)** | **Risk or value with flame-heated cupping therapy** |
| **Overall clinical improvement in SST at SI 15 (acupuncture point) after 5 mins**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.99 to 30.72 | The overall mean of SST in the study group increased from 30.68 to 31.33 | Cupping vs. control was 0.61. | 60 | **Moderate** |  |
| **Overall clinical improvement in SST at SI 15 (acupuncture point) after 10 mins**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.99 to 30.78 | The overall mean of SST in the study group increased from 30.68 to 32.18 | Cupping vs. control was 1.40. | 60 | **Moderate** | Results were compared to baseline results |
| **Overall clinical improvement in SST at SI 15 (acupuncture point) after 15 min**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.99 to 30.89 | The overall mean of SST score in the study group increased from 30.68 to 32.82 | Cupping vs. control was 1.93. | 60 | **Moderate** | Results were compared to baseline results |
| **Overall clinical improvement in SST at GB 21 (acupuncture point) after 5 min**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.71 to 30.57 | The overall mean of SST score in the study group increased from 30.62 to 31.09 | Cupping vs. control was 0.52. | 60 | **Moderate** |  |
| **Overall clinical improvement in SST at GB 21 (acupuncture point) after 10 min**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.71 to 30.61 | The overall mean of SST score in the study group increased from 30.62 to 32.08 | Cupping vs. control was 1.47. | 60 | **Moderate** | Results were compared to baseline results |
| **Overall clinical improvement in SST at GB 21 (acupuncture point) after 15 min**  **(Assessed with infrared thermal detector)** | The overall mean of SST score in the control group decreased from 30.71 to 30.60 | The overall mean of SST score in the study group increased from 30.62 to 32.72 | Cupping vs. control was 2.12. | 60 | **Moderate** | Results were compared to baseline results |
| **Overall clinical improvement in SST at LI 15 (acupuncture point) after 5 min**  **(Assessed with infrared thermal detector)** | The overall mean of neck pain level in the control group decreased from 29.65 to 29.56. | The overall mean of neck pain level in the study group decreased from 29.39 to 29.78 | Cupping vs. control was 0.22. | 60 | **Moderate** |  |
| **Overall clinical improvement in SST at LI 15 (acupuncture point) after 10 min**  **(Assessed with infrared thermal detector)** | The overall mean of neck pain level in the control group decreased from 29.65 to 29.65. | The overall mean of shoulder pain level in the study group decreased from 29.39 to 30.70 | Cupping vs. control was 1.05. | 60 | **Moderate** |  |
| **Overall clinical improvement in SST at LI 15 (acupuncture point) after 15 min**  **(Assessed with infrared thermal detector)** | The overall mean of neck pain level in the control group decreased from 29.65 to 29.64. | The overall mean of shoulder pain level in the study group decreased from 29.39 to 31.12. | Cupping vs. control was 1.48. | 60 | **Moderate** |  |
| **Adverse events** | Minor adverse effects |  | - | 60 | **Low** | Two participants in the cupping group reported mild low back pain related to the seated position |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  SST: Skin surface temperature, BP: blood pressure. SST: skin surface temperature | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 9: Summary of findings for the comparison between the effect of pulsating cupping therapy and self-directed standard medical care on neck pain in patients with chronic low back pain** | | | | | | |
| Study: Cramer et al. [28]  Patient or population**:** chronic low back pain  Settings: not mentioned  Study: 5 sessions in two weeks  Comparison: self-directed standard medical care. | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with self-directed standard medical care** | **Risk or value with pulsating cupping therapy** |
| **Overall clinical improvement in neck pain at short-term follow-up**  **(Assessed with** **numerical rating scale)** | The overall mean of neck pain level in the control group increased from 4.29 to reach 4.44 compared to after the first session results | The overall mean of neck pain level in the study group decreased from 3.39 to 2.72 compared to after the first session results | RR: -1.90 (-3.16; -0.63) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in pain with movement at short-term follow-up**  **(Assessed with Visual analog Scale)** | The overall mean of pain with movement score in the control group increased from 22.05 to 26.15 compared to the baseline | The overall mean of pain with movement score in the study group decreased from 24.84 to 16.73 compared to the baseline | RR: -11.22 (-16.24; -6.20) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in Neck-related function at short-term follow-up**  **(Assessed with Neck Disability index)** | The overall mean of Neck-related function score in the control group increased from 29.17 to 28.83 compared to the baseline | The overall mean of Neck-related function score in the study group decreased from 25.92 to 20.44 compared to the baseline | RR: -5.78 (-10.80; -0.76) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in physical component scores at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of physical status score in the control group decreased from 41.66 to 40.49 compared to the baseline | The overall mean of physical status score in the study group increased from 43.85 to 47.60 compared to the baseline | RR: 5.80 (2.34; 9.27) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in mental component scores**  **at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of mental status score in the control group increased from 47.48 to 48.07 compared to the baseline | The overall mean of mental status score in the study group increased from 46.79 to 49.83 compared to the baseline | RR: 2.01 (-2.62; 6.64) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in pain pressure threshold at short-term follow-up**  **(Assessed with an electronic**  **algometer)** | The overall mean of pain pressure threshold score in the control group decreased from 0.57 to 0.54 compared to the baseline | The overall mean of pain pressure threshold score in the study group increased from 0.46 to 0.55  compared to the baseline | RR: 0.08 (0.03; 0.13) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in mechanical detection threshold at short-term follow-up**  **(Assessed with a set of von**  **Frey filaments)** | The overall mean of mechanical detection threshold score in the control group decreased from 0.57 to 0.54 compared to the baseline | The overall mean of mechanical detection threshold score in the study group increased from 0.46 to 0.55 compared to the baseline | RR: 0.10 (-0.08; 0.28) | 50 | **Lowa, b** |  |
| **Overall clinical improvement in vibration detection threshold at short-term follow-up**  **(Assessed with a Rydel-Seiffer tuning**  **fork)** | The overall mean of vibration detection threshold score in the control group increased from 2.41 to 2.36 compared to the baseline | The overall mean of vibration detection threshold score in the study group increased from 2.44 to 2.47 compared to the baseline | RR: -0.11 (-0.79; 0.57) | 50 | **Lowa, b** |  |
| **Adverse events** | Minor adverse effects |  | - | 50 | **low** | Two participants had muscle soreness for 1–2 days, one participant had  minor hematoma at the treated site for 2 days and two participants had  increased neck pain for 1–5 h. |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 10: Summary of findings for the effect of dry cupping on pain and mechanical thresholds in patients with chronic nonspecific neck pain** | | | | | | |
| Study: Lauche et al. [30]  Patient or population**:** chronic nonspecific neck pain  Settings: not mentioned  Study: one session  Comparison: No study | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with rest** | **Risk or value with dry cupping therapy** |
| **Overall clinical improvement in neck pain at rest at short-term follow-up**  **(Assessed with** **Visual analog Scale)** | The overall mean of neck pain level in the control group decreased from 42.60 to 45.70 compared to the baseline | The overall mean of neck pain level in the study group decreased from 44.90 to 28.50 compared to the baseline | RR: -17.90 (-9.20: -6.60) | 50 | **Moderate** |  |
| **Overall clinical improvement in pain with movement at short-term follow-up**  **(Assessed with Visual analog Scale)** | The overall mean of pain with movement score in the control group decreased from 65.60 to 53.80 compared to the baseline | The overall mean of pain with movement score in the study group decreased from 53.90 to 29.10 compared to the baseline | RR: *-*19.70 (-32.20: -7.20) | 50 | **Moderate** |  |
| **Overall clinical improvement in neck-related function at short-term follow-up**  **(Assessed with Neck Disability index)** | The overall mean of neck-related function score in the control group decreased from 31.10 to 29.00 compared to the baseline | The overall mean of n-related function score in the study group decreased from 29.90 to 24.50 compared to the baseline | RR: *-*3.60 (-.70: 1.60) | 50 | **Moderate** |  |
| **Overall clinical improvement in physical component scores at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of physical status score in the control group increased from 38.70 to 39.00 compared to the baseline | The overall mean of physical status score in the study group increased from 37.80 to 43.30 compared to the baseline | RR: 5.00 (1.40: 8.50) | 50 | **Moderate** |  |
| **Overall clinical improvement in mental component scores**  **at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of mental status score in the control group increased from 48.70 to 49.80 compared to the baseline | The overall mean of mental status score in the study group decreased from 51.80 to 50.40 compared to the baseline | RR: *-*2.10 (-.10: 3.00) | 50 | **Moderate** |  |
| **Overall clinical improvement in pain pressure threshold at short-term follow-up**  **(Assessed with an electronic**  **algometer)** | The overall mean of pain pressure threshold score in the control group decreased from 2.36 to 2.30 compared to the baseline | The overall mean of pain pressure threshold score in the study group increased from 2.35 to 2.38  compared to the baseline | RR: 0.09 (0.03: 0.15) | 50 | **Moderate** |  |
| **Overall clinical improvement in mechanical detection threshold at short-term follow-up**  **(Assessed with a set of von**  **Frey filaments)** | The overall mean of mechanical detection threshold score in the control group decreased from 0.44 to 0.41 compared to the baseline | The overall mean of mechanical detection threshold score in the study group increased from 0.43 to 0.45 compared to the baseline | RR: 0.05 (-.19: 0.28) | 50 | **Moderate** |  |
| **Overall clinical improvement in vibration detection threshold at short-term follow-up**  **(Assessed with a Rydel-Seiffer tuning**  **fork)** | The overall mean of vibration detection threshold score in the control group almost remains constant from 5.99 to 5.96 compared to the baseline | The overall mean of vibration detection threshold score in the study group almost remains constant from 6.06 to 6.06 compared to the baseline | RR: 0.02 (*-*.49: 0.53) | 50 | **Moderate** |  |
| **Adverse events** | Minor adverse effects |  | - | 50 | **Low** | One patient reported that the procedure itself was  painful, other adverse events including slight reactions such  as circulatory instability in the first minutes after treatment,  tension headaches, a migraine attack, a reappearing tinnitus  or wound healing itches |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  AROM: active range of motion, PROM: passive range of motion, EMG: electromyography | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 11: Summary of findings for the comparison of the effects of muscle stretching exercises and cupping therapy on pain thresholds, cervical range of motion, and angle in college students** | | | | | | |
| Study: Yim et al. [26]  Patient or population**:** college students  Settings: not mentioned  Study: ten sessions  Comparison: McKenzie stretching exercises | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with McKenzie stretching** | **Risk or value with cupping therapy** |
| **Overall clinical improvement in the cervical angle at short-term follow-up**  **(Assessed with smartphone goniometer)** | The overall mean of cervical angle in the control group increased from 48.94 to 49.69 | The overall mean of cervical angle in the study group decreased from 52.39 to 51.83 | - | 18 | **Lowa, b** |  |
| **Overall clinical improvement in turtleneck angle at short-term follow-up**  **(Assessed with smartphone goniometer)** | The overall mean of turtleneck angle in the control group increased from 32.95 to 34.26 | The overall mean of turtleneck angle in the study group increased from 34.12 to 35.26 | - | 18 | **Lowa, b** |  |
| **Overall clinical improvement in right pain threshold at short-term follow-up**  **(Assessed with electronic algometer)** | The overall mean of right pain threshold score in the control group decreased from 48.60 to 47.69 | The overall mean of right pain threshold score in the study group increased from 45.50 to 61.74 |  | 18 | **Lowa, b** |  |
| **Overall clinical improvement in left pain threshold at short-term follow-up**  **(Assessed with electronic algometer)** | The overall mean of left pain threshold score in the control group increased from 51.13 to 46.09 | The overall mean of left pain threshold score in the study group increased from 47.55 to 61.06 |  | 18 | **Lowa, b** |  |
| **Overall clinical improvement in neck flexion ROM at short-term follow-up**  **(Assessed with Cervical**  **Range of Motion Instrument “CROM3”)** | The overall mean neck flexion ROM score in the control group increased from 47.88 to 54.83 | The overall mean of neck flexion ROM score in the study group increased from 52.33 to 63.22 |  | 18 | **Lowa, b** |  |
| **Overall clinical improvement in neck extension ROM at short-term follow-up**  **(Assessed with Cervical**  **Range of Motion Instrument “CROM3”)** | The overall mean neck extension ROM score in the control group increased from 71.11 to 72.05 | The overall mean of neck extension ROM score in the study group increased from 68.55 to 78.55 |  | 18 | **Lowa, b** |  |
| **Overall clinical improvement in neck right lateral flexion ROM at short-term follow-up**  **(Assessed with Cervical**  **Range of Motion Instrument “CROM3”)** | The overall mean neck right lateral flexion score in the control group increased from 40.05 to 42.50 | The overall mean of neck right lateral flexion score in the study group increased from 43.16 to 51.77 |  | 18 | **Lowa, b** |  |
| **Overall clinical improvement in neck left lateral flexion ROM at short-term follow-up**  **(Assessed with Cervical**  **Range of Motion Instrument “CROM3”)** | The overall mean neck left lateral flexion score in the control group increased from 42.11to 45.44 | The overall mean of the neck left lateral flexion score in the study group increased from 45.00 to 52.50 |  | 18 | **Lowa, b** |  |
| **Adverse events** | No adverse effects |  | - | 18 | **Very low** | The authors did not write whether there were adverse events of no |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  ROM: range of motion | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 12: Summary of findings for the effect of dry cupping for carpal tunnel syndrome** | | | | | | |
| Study: Michalsen et al. [17]  Patient or population**:** Carpal tunnel syndrome  Settings: Department of the Kliniken Essen-Mitte, an academic teaching hospital of the University of Duisburg-Essen, Germany.  Study: one session  Comparison: heating pad | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with**  **Heating pad** | **Risk or value with wet cupping** |
| **Overall clinical improvement in pain at rest at short-term follow-up**  **(Assessed with Visual analog sub-scale)** | The overall pain mean in the control decreased from 58.60 to 47.00 | The overall pain mean in the study decreased from 61.50 to 25.20 | RR: -22.90 (-5.30; -10.50) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in numbness at short-term follow-up**  **(Assessed with Visual analog sub-scale)** | The overall mean of numbness score in the control decreased from 72.90 to 54.40 | The overall mean of numbness score in the study decreased from 61.10 to 21.40 | RR: - 28.80 (-42.50; -15.10) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in tingling at short-term follow-up**  **(Assessed with Visual analog sub-scale)** | The overall mean of tingling score in the control group decreased from 70.00 to 52.90 | The overall mean of tingling score in the study group decreased from 61.30 to 24.30 | RR: -25.20 (-37.80; -12.60) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in pain with movement at short-term follow-up**  **(Assessed with Visual analogueue sub-scale)** | The overall pain mean in the control group increased from 60.10 to 60.50 | The overall pain mean in the study group decreased from 64.00 to 29.20 | RR: -32.40 (-45.50; -19.30) | 52 | **Very low** | It might be difficult to accept that the pain increased with the application of heat |
| **Overall clinical improvement in pain with pressure at short-term follow-up**  **(Assessed with Visual analogueue sub-scale)** | The overall pain mean in the control group increased from 38.20 to 49.00 | The overall pain mean in the study group decreased from 41.10 to 24.00 | RR: -26.50 (-38.20; -14.70) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in symptom severity at short-term follow-up**  **(Assessed with by the questionnaire of Levine)** | The overall mean of symptoms severity score in the control group increased from 3.20 to 3.00 | The overall mean of symptoms severity score in the study group decreased from 3.10 to 2.40 | RR: -0.60 (-0.90; -0.20) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in the functional status at short-term follow-up**  **(Assessed with by the questionnaire of Levine)** | The overall mean of functional status in the control remains the same at 2.60 | The overall mean of functional status in the study group decreased from 2.50 to 1.90 | RR: -0.60 (-0.80; -0.30) | 52 | **Very low** | It is difficult to accept that the functional status decreased with increases in previous scores |
| **Overall clinical improvement in functional impairment at short-term follow-up**  **(Assessed with by the DASH questionnaire)** | The overall mean of functional impairment in the control group decreased from 36.30 to 23.70 | The overall mean of functional impairment in the study group decreased from 44.50 to 43.40 | RR: -11.10 (-17.10; -5.10) | 52 | **Very low** | Mean difference is very small in the study group (1.1) |
| **Overall clinical improvement in neck pain at short-term follow-up**  **(Assessed with Northwick Pain Questionnaire)** | The overall mean of neck pain in the control group decreased from 39.3 6 to 22.60 | The overall mean of neck pain in the study group decreased from 44.20 to 39.40 | RR: -12.60 (-18.80; -6.40) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in neck pain at rest at short-term follow-up**  **(Assessed with Northwick Pain Questionnaire)** | The overall mean of neck pain at rest in the control group decreased from 52.20 to 47.80 | The overall mean of neck pain at rest in the study group decreased from 49.00 to 21.40 | RR: -24.40 (-35.00; -13.80) | 52 | **Lowa, b** |  |
| **Overall clinical improvement in neck pain with hand movement at short-term follow-up**  **(Assessed with Northwick Pain Questionnaire)** | The overall mean of neck pain with hand movement in the control group decreased from 64.90 to 56.50 | The overall mean of neck pain with hand movement in the study group decreased from 56.80 to 25.90 | RR: -26.20 (-38.20; -14.20) | 52 | **Lowa, b** |  |
| **Adverse events** | Minor adverse effects |  | - | 52 | **Low** | Minor adverse effect was a hematoma at the site of application of a cupping glass |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 13: Summary of findings for the comparison between the effect of cupping therapy and routine physiotherapy on pain severity and sensory and motor distal latencies in patients with carpal tunnel syndrome.** | | | | | | |
| Study: Mohammadi et al. [18]  Patient or population**:** patient with carpal tunnel syndrome  Settings: not mentioned  Study: ten sessions  Comparison: routine physiotherapy (transcutaneous electrical nerve stimulation and ultrasound) | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with routine physiotherapy (transcutaneous electrical nerve stimulation and ultrasound)** | **Risk or value with routine physiotherapy and cupping therapy** |
| **Overall clinical improvement in symptom severity at short-term follow-up**  **(Assessed with by the questionnaire of Levine)** | The overall mean of symptoms severity score in the control group decreased from 2.48 to 1.83 | The overall mean of symptoms severity score in the study group decreased from 2.46 to 1.43 | - | 56 | **Lowa, b** |  |
| **Overall clinical improvement in the functional status at short-term follow-up**  **(Assessed with by the questionnaire of Levine)** | The overall mean of functional status in the control decreased from 2.60 to 1.75 | The overall mean of functional status in the study group decreased from 2.44 to 1.51 | - | 56 | **Lowa, b** |  |
| **Overall clinical improvement in distal sensory latency at short-term follow-up**  **(Assessed with an EMG device)** | The overall mean of distal sensory latency score in the control group decreased from 5.24 to 5.15 | The overall mean of distal sensory latencies in the study group decreased from 4.93 to 4.53 |  | 56 | **Lowa, b** |  |
| **Overall clinical improvement in distal motor latency at short-term follow-up**  **(Assessed with an EMG device)** | The overall mean of distal sensory latency score in the control group decreased from 5.18 to 4.91 | The overall mean of distal sensory latencies in the study group decreased from 4.77 to 4.49 |  | 56 | **Lowa, b** |  |
| **Adverse events** | No adverse effects |  | - | 56 | **Very low** | The authors did not write whether there were adverse events of no |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  EMG: electromyography | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 14: Summary of findings for the effect of dry cupping on plantar fasciitis** | | | | | | |
| Study: Weiqing et al. [19]  Patient or population**:** plantar fasciitis  Settings: not mentioned  Study: twice a week for 4 weeks  Comparison: electrical stimulation | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with**  **Electrical stimulation** | **Risk or value with dry cupping** |
| **Overall clinical improvement in pain at short-term follow-up**  **(Assessed with Visual analogueue scale)** | The overall pain mean in the control group was -28.00 (-36.70, -19.20) mm | The overall pain mean in the study group was -29.80 (-39.40, -20.10) mm | - | 29 | **Lowa, b** |  |
| **Overall clinical improvement in foot and ankle function at short-term follow-up**  **(Assessed with the Foot and Ankle Ability Measure)** | The overall mean of foot and ankle function score in the control group was 12.90 (8.20, 17.60) % | The overall mean of foot and ankle function score in the study group was 16.90 (7.80, 26.00) % | - | 29 | **Lowa, b** |  |
| **Overall clinical improvement in lower extremity function at short-term follow-up**  **(Assessed with the Lower Extremity Functional Scale)** | The overall mean of lower extremity function score in the control group was 11.40 (7.70, 15.10) % | The overall mean of lower extremity function score in the study group was 19.60 (8.60, 30.70) % |  | 29 | **Lowa, b** |  |
| **Overall clinical improvement in pain pressure threshold at short-term follow-up**  **(Assessed with an electronic algometer)** | The overall mean of pain pressure threshold score in the control group was 1.70 (−2.70, 6.00) | The overall mean of pain pressure threshold score in the study group was 4.60 (0.00, 9.10) lb. |  | 29 | **Lowa, b** |  |
| **Adverse events** | No adverse effects |  | -- | 29 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - a We lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - b We lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 15: Summary of findings for the comparison between dry cupping and exercises on pain and function in patients with plantar heel pain** | | | | | | |
| Study: AlKhadhrawi and Alshamei [20]  Patient or population**:** heel pain  Settings: Department of physical therapy at Qatif Central Hospital, Saudi Arabia  Study: one session  Comparison: range of motion and stretching exercises | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with**  **exercises** | **Risk or value with dry cupping** |
| **Overall clinical improvement in current pain level at short-term follow-up**  **(Assessed with Visual analogueue scale)** | The overall mean of current pain level in the control group at baseline, immediately after the session, and after 2 days were 3.60., 3.80, and 4.50, respectively | The overall mean of current pain level in the study group at baseline, immediately after the session, and after 2 days were 4.00, 2.50, and 3.40, respectively | - | 71 | **Lowa, b** |  |
| **Overall clinical improvement in morning pain at short-term follow-up**  **(Assessed with Visual analogueue scale)** | The overall mean of morning pain level in the control group at baseline, and after 2 days were 6.80, and 4.20, respectively | The overall mean of morning pain level in the study group at baseline, and after 2 days were 7.50, and 5.90, respectively | - | 71 | **Lowa, b** |  |
| **Overall clinical improvement in pain pressure threshold at the calf area at short-term follow-up**  **(Assessed with electronic ergometer)** | The overall mean of pain pressure threshold score in the control group base line, immediately after the session and after 2 days 384, 419, and 364 lb., respectively | The overall mean of pain pressure threshold score in the study group baseline, immediately after the session and after 2 days 393, 449, and 384 lb., respectively | - | 71 | **Lowa, b** |  |
| **Overall clinical improvement in pain pressure threshold at the heel area at short-term follow-up**  **(Assessed with the electronic ergometer)** | The overall mean of pain pressure threshold score in the control group at base line, immediately after the session and after 2 days were 619,613 and 592 lb., respectively | The overall mean of pain pressure threshold score in the study group baseline, immediately after the session and after 2 days 612, 644, and 620 lb., respectively | - | 71 | **Lowa, b** |  |
| **Overall clinical improvement in foot and ankle function at short-term follow-up**  **(Assessed with Patient-specific functional scale (PSFS))** | The overall mean of foot and ankle function in the control group at baseline, and after 2 days were 4.30 and 5.40 | The overall mean of foot and ankle function in the study group at baseline, and after 2 days were 4.40 and 5.80 | - | 71 | **Lowa, b** |  |
| **Overall clinical improvement in ankle dorsiflexion ROM with the knee extended at short-term follow-up**  **(Assessed with inclinometer)** | The overall mean of ankle dorsiflexion ROM in the control group at base line, immediately after the session and after 2 days were 36, 39, and 40, respectively | The overall mean of ankle dorsiflexion ROM in the study group at base line, immediately after the session and after 2 days were 36, 40, and 40, respectively |  | 71 | **Lowa, b** |  |
| **Overall clinical improvement in ankle dorsiflexion ROM from modified lounge position at short-term follow-up**  **(Assessed with inclinometer)** | The overall mean of ankle dorsiflexion ROM in the control group at base line, immediately after the session and after 2 days were 41, 44, and 44, respectively | The overall mean of ankle dorsiflexion ROM in the study group at base line, immediately after the session and after 2 days were 40.45, and 44, respectively |  | 71 | **Lowa, b** |  |
| **Overall clinical improvement in ankle plantar flexion strength. Ankle plantar flexion strength at short-term follow-up**  **(Assessed with heel-rise test)** | The overall mean of ankle dorsiflexion ROM in the control group at base line, immediately after the session and after 2 days were 14,14, and 14, respectively | The overall mean of ankle dorsiflexion ROM in the study group at base line, immediately after the session and after 2 days were 14,17, and 18, respectively |  | 71 | **Lowa, b** |  |
| **Adverse events** | No adverse effects |  | - | 71 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - a We lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - b We lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 16: Summary of findings for the effect of dry cupping hamstring flexibility in collegiate soccer players** | | | | | | |
| Study: Williams et al. [50]  Patient or population**:** collegiate soccer players (males and females)  Settings: collegiate athletic training clinic (no information about name or place of it)  Study: one session  Comparison: no treatment | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with**  **No study** | **Risk or value with dry cupping** |
| **Overall clinical improvement in hamstring flexibility at short-term follow-up**  **(Assessed with strait leg raising test)** | The overall mean of hamstring flexibility in the control group increased from 54.40° to  56.33° | The overall mean of hamstring flexibility in the study group increased from 50.18° to 54.53° | - | 25 | **Very low** |  |
| **Adverse events** | No adverse effects |  | - | 29 | **Very low** | The authors did not write whether there were adverse events of no |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - a We lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - b We lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 17: Summary of findings for the comparison between the effect of cupping therapy and passive stretching on range of motion, pain threshold, and muscle activity of the hamstring muscle** | | | | | | |
| Study: Kim et al. [21]  Patient or population**:** healthy males and females  Settings: not mentioned  Study: one session  Comparison: passive stretching | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with passive stretching** | **Risk or value with flame-heated cupping therapy** |
| **Overall clinical improvement in pain threshold at short-term follow-up**  **(Assessed with electronic algometer)** | The overall mean of pain threshold score in the control group increased from 53.30 to 58.20 | The overall mean of pain threshold score in the study group increased from 56.10 to 63.80 | - | 30 | **Moderate** |  |
| **Overall clinical improvement in knee AROM at short-term follow-up**  **(Assessed with an electronic goniometer)** | The overall mean of AROM score in the control group increased from 55.50 to 66.80 | The overall mean of AROM score in the study group increased from 56.50 to 66.60 | - | 30 | **Moderate** |  |
| **Overall clinical improvement in knee PROM at short-term follow-up**  **(Assessed with an electronic goniometer)** | The overall mean of PROM score in the control group increased from 64.80 to 75.10 | The overall mean of PROM score in the study group increased from 64.60 to 76.0 |  | 30 | **Moderate** |  |
| **Overall clinical improvement in Semitendinosus-EMG at short-term follow-up**  **(Assessed with an EMG device)** | The overall mean of Semitendinosus-EMG in the control group score increased from 176.00 ㎶ to 214.90 ㎶ | The overall mean of Semitendinosus-EMG in the study group score increased from 175.40 ㎶ to 214.90 ㎶ |  | 30 | **Moderate** |  |
| **Overall clinical improvement in Biceps femoris –SEMG at short-term follow-up**  **(Assessed with an EMG device)** | The overall mean of Biceps femoris –SEMG score in the control group increased from 80.00 ㎶ to 128.10 ㎶ | The overall mean of Biceps femoris –SEMG score in the study group increased from 115.20 ㎶ to 132.50㎶ |  | 30 | **Moderate** |  |
| **Adverse events** | No adverse effects |  | - | 30 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  AROM: active range of motion, PROM: passive range of motion, EMG: electromyography | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 18: Summary of findings of the effects of moving cupping therapy on hip and knee range of movement and knee flexion power** | | | | | | |
| Study: Murray and Clarkson [24]  Patient or population**:** healthy males and females  Settings: not mentioned  Study: one session  Comparison: N/A | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Control group (N/A)** | **Risk or value with moving cupping therapy** |
| **Overall clinical improvement in straight leg raising (SLR) at short-term follow-up**  **(Assessed with an electronic goniometer)** | - | The overall mean of SLR in the study group increased from 86.10 to 9 92.00 | - | 21 | **Very low** |  |
| **Overall clinical improvement in the popliteal angle at short-term follow-up**  **(Assessed with an electronic goniometer)** | - | The overall mean of popliteal angle in the study group increased from 159.50 to 166.40 | - | 21 | **Very low** |  |
| **Overall clinical improvement in knee flexion peak torque at 60°/sec at short-term follow-up**  **(Assessed with Cybex-II isokinetic dynamometer)** | - | The overall mean of peak torque in the study group increased from 97.50 to 100.10 | - | 21 | **Very low** |  |
| **Overall clinical improvement in knee flexion peak torque at 90°/sec at short-term follow-up (assessed with Cybex-II isokinetic dynamometer)** | - | The overall mean of peak torque in the study group increased from 86.60 to 91.30 | - | 21 | **Very low** |  |
| **Overall clinical improvement in knee flexion peak torque at 120°/sec at short-term follow-up (assessed with Cybex-II isokinetic dynamometer)** | - | The overall mean of peak torque in the study group increased from 72.60 to 86.80 | - | 21 | **Very low** |  |
| **Adverse events** | No adverse effects |  | - | 21 | **Very low** |  |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  AROM: active range of motion, PROM: passive range of motion, EMG: electromyography | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 19: Summary of findings for the effect of cupping therapy on pain level and number of tender points in patients with fibromyalgia** | | | | | | |
| Study: Cao et al. [25]  Patient or population**:** fibromyalgia  Settings: hospital in Beijing, China  Study: ten sessions  Comparison: no control group | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **No control group** | **Risk or value with cupping therapy** |
| **Overall clinical improvement in pain level at short-term follow-up**  **(Assessed with Visual analog scale)** | N/A | The overall pain mean in the study group at the baseline, after 5 days, 10 days, 10 days, and at flow up were 2.63, 2.22, 1.78, 1.36, and 1.31, respectively | - | 30 | **Very low** |  |
| **Overall clinical improvement in the number of tender points at short-term follow-up** | N/A | The overall mean of in the number of tender points in the study group at the baseline, after 5 days, 10 days, 10 days, and at flow up were 13.5, 12.57, 11.20, 9.33, and 9.07, respectively | - | 30 | **Very low** |  |
| **Adverse events** | Minor adverse effects |  | - | 30 | **Lowa, b** | Two patients experienced minor burns because of the  steam in the cups |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  ROM: range of motion | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | |

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| **Supplementary Table 20: Summary of findings for the effect of cupping therapy on pain level and number of tender points in patients with fibromyalgia** | | | | | | | |
| Study: Lauche et al. [52]  Patient or population**:** fibromyalgia  Settings: hospital in Beijing, China  Study: 18 days  Comparison: no control group | | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Risk or value with Shame group** | **Risk or value with Usual care** | **Risk or value with cupping therapy** |
| **Overall clinical improvement in pain level at short-term follow-up**  **(Assessed with Visual analog scale)** | The overall pain mean in the shame group at the baseline and after 18 days were 58.9 and 56.4, respectively | The overall pain mean in the usual care group at the baseline, and after 18 days were 54.5 and 62.9, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 55.5, 51.1, and 58.5, respectively | Cupping vs. usual care at 18 days was −12.40 (−18.9; −5.9) p < 0.001. Cupping vs. shame at 18 days and 6 months were −3.0 (−9.9; 3.9) p = 0.396 and −1.2 (−8.0;5.5), respectively. | 141 | **Moderate** | The difference between cupping therapy and usual care is large. While The difference between cupping therapy and shame group is small. |
| **Overall clinical improvement in sensory pain level at short-term follow-up**  **(Assessed with SBL)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 11.60, 12.00, and 13.10, respectively | The overall pain mean in the usual care group at the baseline and after 18 days, were 9.9 and 11.3, respectively | The overall pain mean in the study group at the baseline and after 18 days were 11.6, 12.00, respectively | Cupping vs. usual care at 18 days was −0.60 (−2.20; 1.00). Cupping vs. shame at 18 days and 6 months were 0.20 (−1.70; 1.20) and −0.50 (−2.30; 1.30), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in affective pain level at short-term follow-up**  **(Assessed with SBL)** | The overall pain mean in the shame group at the baseline and after 18 days were 4.30 and 4.10, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 5.00 and 5.30, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 4.20, 4.60, and 4.80, respectively | Cupping vs. usual care at 18 days was 0.10 (−0.90; 1.20). Cupping vs. shame at 18 days and 6 months were 0.60 (−0.60; 1.70) and −0.00 (1.00; −1.00), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in function at short-term follow-up**  **(Assessed with FIQ total score)** | The overall pain mean in the shame group at the baseline and after 18 days were 61.80 and, 58.30, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 61.40 and 61.50, respectively | The overall mean of in the number of tender points in the study group at the baseline, after 18 days, and at flow up were 55.70, 53.20, and 56.90, respectively | Cupping vs. usual care at 18 days was −2.50 (−6.0; 1.1). Cupping vs. shame at 18 days and 6 months were 0.50 (−3.70; 4.80) and 0.40 (−4.20; 5.00), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in physical component scores at short-term follow-up (assessed with SF-36 survey)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 31.70, 32.40, and 32.70, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 31.20 and 32.90, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 31.60, 34.00, and 34.30, respectively | Cupping vs. usual care at 18 days was 0.80 (−1.30; 2.90). Cupping vs. shame at 18 days and 6 months were 1.80 (−0.6; 4.1) and 1.70 (−0.90; 4.30), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in mental component scores at short-term follow-up (assessed with SF-36 survey)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 37.60, 40.20, and 37.20, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 40.10 and 39.60, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 41.10, 43.90, and 39.90, respectively | Cupping vs. usual care at 18 days was 3.40 (0.80; 5.90). Cupping vs. shame at 18 days and 6 months were 0.90 (−2.20; 3.90) and −0.10 (−3.40; 3.30), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in general fatigue at short-term follow-up**  **(Assessed with MFI)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 15.60, 15.10, and 15.30, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 16.00 and 15.90, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 15.20, 14.90, and 14.70, respectively | Cupping vs. usual care at 18 days was −0.30 (−1.30; 0.60). Cupping vs. shame at 18 days and 6 months were 0.10 (−1.00; 1.10) and −0.50 (−1.60; 0.70), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in physical fatigue at short-term follow-up**  **(Assessed by MFI)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 14.80, 14.10, and 14.90, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 15.20 and 14.90, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 14.60, 14.40, and 14.60, respectively | Cupping vs. usual care at 18 days was −0.10 (−1.20; 1.00). Cupping vs. shame at 18 days and 6 months were 0.30 (−0.80; 1.30) and −0.20 (−1.30; 0.90), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in mental fatigue at short-term follow-up**  **(Assessed with MFI)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 13.70, 13.40, and 13.50, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 13.20 and 13.20, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 12.70, 12.60, and 13.20, respectively | Cupping vs. usual care at 18 days was −0.30 (−1.30; 0.70). Cupping vs. shame 18 days and at 6 months were −0.00 (−0.90; 0.90) and −0.30 (−0.80; 1.40), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Overall clinical improvement in global sleep quality at short-term follow-up**  **(Assessed with PSQI score)** | The overall pain mean in the shame group at the baseline, after 18 days, and at flow up were 10.80, 11.30, and 10.90, respectively | The overall pain mean in the usual care group at the baseline and after 18 days were 10.8 0 and 11.2 0, respectively | The overall pain mean in the study group at the baseline, after 18 days, and at flow up were 10.30, 10.30, and 10.3, respectively | Cupping vs. usual care at 18 days was −0.80 (−1.70; 0.10). Cupping vs. shame at 18 days and 6 months were 0.90 (−0.10; 1.80) and 0.30 (−0.70; 1.20), respectively. | 141 | **Lowa, b** | The difference between cupping therapy and other groups is small. |
| **Adverse events** | Minor adverse effects | |  | - | 141 | **Lowa, b** | two patients reported severely increased pain after cupping, one patient had an accident with bruised rips and one patient had the flu. All events were resolved without intervention. A fifth patient suffered from acute torticollis which radiated into the arm but was resolved without treatment within days. In shame cupping, two serious adverse events were reported: one patient with a torn meniscus and one patient with persistent pain after a spinal operation |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI).  ROM: range of motion | | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | | |

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| **Supplementary Table 21: Summary of findings for the effect of wet cupping therapy on knee osteoarthritis** | | | | | | | |
| **Study:** Teut et al. [33]  **Patient or population:** Knee osteoarthritis  **Settings:** Charité Universitätsmediz in in Berlin, Germany  **Study**: Four weeks  **Comparison: C**ontrol group **(**no intervention) | | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **Shame cupping** | **Dry cupping** | |
| **Overall clinical improvement in pain level with**  **pain at short-term follow-up**  **(Assessed with 0 to100 Visual analogueue scale)** | The overall pain mean in the shame group at the baseline, after 4 weeks, and at follow-up were 57.90, 55.00, and 57.20, respectively | The overall pain mean in the usual care group at the baseline and after 4 weeks were 60.20, 38.40 and  41.0, respectively | | - | 40 | **Very lowa, b** | The authors did not mention within groups analyses and baseline similarities. |
| **Overall clinical improvement in WOMAC Global Score at short-term follow-up**  **(Assessed with WOMAC Global Score)** | The overall mean of affective pain perception in the shame group at the baseline, after 4 weeks, and at follow-up were 41.70, 42.20, and 40.80, respectively | The overall mean of affective pain perception in the usual care group at the baseline and after 4 weeks were 39.10, 27.70, and 31.00, respectively | | - | 40 | **Very low** | The authors did not mention within-group analyses and baseline similarities. |
| **Overall clinical improvement in WOMAC Pain Sub score at short-term follow-up**  **(Assessed with WOMAC Global Score)** | The overall mean of sensory pain perception in the shame group at the baseline, after 4 weeks, and at follow-up were 40.20, 40.20, and 40.50, respectively | The overall mean of sensory pain perception in the usual care group at the baseline, 4 weeks, and at follow-up were 37.40, 25.8, and 30.4, respectively | | - | 40 | **Lowa, b** | The authors did not mention within-group analyses and baseline similarities. |
| **Overall clinical improvement in WOMAC Stiffness Sub score at short-term follow-up**  **(Assessed with WOMAC Global Score)** | The overall mean of function in the shame group at the baseline, 4 weeks, and follow-up were 50.30, 50.20, and 47.80, respectively | The overall mean of function in the usual care group at the baseline and after 4 weeks were 43.10, 37.20, and 36.3, respectively | | - | 40 | **Lowa, b** | The authors did not mention within-group analyses and baseline similarities. |
| **Overall clinical improvement in WOMAC Physical Function Sub score at short-term follow-up**  **(Assessed with WOMAC Global Score)** | The overall mean of function in the shame group at the baseline, after 4 weeks, and at follow-up were 41.10, 42.10, and 40.3, respectively | The overall mean of function in the usual care group at the baseline and after 4 weeks were 39.10, 27.00, and 30.4, respectively | | - | 40 | **Lowa, b** | The authors did not mention within-group analyses and baseline similarities. |
| **Overall clinical improvement in physical component scores at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of the physical component in the shame group at the baseline, after 4 weeks, and at follow-up were 32.20, 31.90, and 30.20, respectively | The overall mean of the physical component in the usual care group at the baseline and after 4 weeks were 30.6 0, 36.00, and  36.30, respectively | | - | 40 | **Lowa, b** | The authors did not mention within-group analyses and baseline similarities. |
| **Overall clinical improvement in mental component scores**  **at short-term follow-up**  **(Assessed with SF-36 survey)** | The overall mean of the mental component in the shame group at the baseline, after 4 weeks, and at follow-up were 58.20, 56.00, and 53.20, respectively | The overall mean of the mental component in the usual care group at the baseline and after 4 weeks were 51.10, and 52.60, respectively | | - | 40 | **Lowa, b** | The authors did not mention within-group analyses and baseline similarities. |
| **Adverse events** | Minor adverse effects |  |  | **-** | 40 | **low** | Mild hematomas in three patients at the skin location where cupping took place, self-limiting light tingling sensations for a few minutes in the legs after cupping the knee in two patients, and an increase of chronic lower back pain in one patient. |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | | |

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| **Supplementary Table 22: Summary of findings for the effect of wet cupping therapy on knee osteoarthritis** | | | | | | | |
| **Study:** Khan et al. [22]  **Patient or population:** Knee osteoarthritis  **Settings:** Institute of Unani Medicine (LRIUM), Jamia Hamdard, New Delhi, India  **Study**: 14 days  **Comparison: C**ontrol group **(**no intervention) | | | | | | | |
| **Outcome** | **Anticipated absolute effects\* (95% CI)** | | | **Relative effect**  **(95% CI)** | **Number of participants**  **(studies)** | **Certainty of**  **the evidence**  **(GRADE)** | **Comments** |
| **No intervention** | **Dry cupping** | |
| **Overall clinical improvement in pain level with**  **pain at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall pain mean at the baseline after 15 days were 3.60 and 2.05, respectively | The overall pain mean at the baseline after 15 days were 3.45 and 1.85, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in morning stiffness at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of morning stiffness at the baseline, after 15 days were 2.60 and 1.50, respectively | The overall mean of morning stiffness at the baseline, after 15 days were 2.75 and 1.40, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in tenderness at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of tenderness at the baseline after 15 days were 1.55 and 1.30, respectively | The overall mean of tenderness at the baseline after 15 days were 2.65 and 1.60, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in crepitations at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of crepitations at the baseline after 15 days were 1.80 and 1.350, respectively | The overall mean of crepitations at the baseline after 15 days were 1.90 and 1.20, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in edema at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of edema at the baseline after 15 days were 2.00 and 1.35, respectively | The overall mean of edema at the baseline after 15 days were 1.950 and 1.20, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in disability at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of disability at the baseline after 15 days were 1.65 and 1.50, respectively | The overall mean of disability at the baseline after 15 days were 2.35 and 1.40, respectively. | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Overall clinical improvement in nocturnal pain**  **at short-term follow-up**  **(Assessed with 0 to 5 self-developed scale)** | The overall mean of nocturnal pain level at the baseline after 15 days were 1.30 and 1.15, respectively | The overall mean of nocturnal pain level at the baseline after 15 days were 1.15 and 1.05, respectively | | - | 60 | **Very low** | The authors mentioned only the P-value without the mean difference. in addition, the authors did not use validated and reliable scales or measures. |
| **Adverse events** | Minor adverse effects |  |  | **-** | 60 | **low** | Five patients had blisters, six patients had Ecchymosis, and eight patients had GI  Symptoms. |
| \*The risk in the study group (and its 95% CI) is dependent on the predicted risk in the comparison group and the relative effect of the study (and its 95% CI). | | | | | | | |
| **GRADE Working Group grades of evidence**  **High certainty:** we are very confident that the true effect lies close to that of the estimate of the effect  **Moderate certainty:** we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different  **Low certainty:** our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect  **Very low certainty:** we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect | | | | | | | |
| - aWe lowered the evidence once for imprecision; the information size is inadequate (substantially less than 40 participants).  - bWe lowered the evidence twice for risk of bias; the participants knew whether they were receiving cupping and the blinding of outcome assessment was unclear. Additionally, the risk of selection bias was high as the trial used block randomization and, in the absence of blinding, there was a high risk of future assignments being predictable. | | | | | | | |