## B.4 Massage

*Overview of the PICO structure*

| **Definition of the intervention** | |
|---|---|
| Massage is the manual manipulation of soft body tissues to enhance health and well-being. Practised globally, there are more than 80 different forms of massage, many developed in the last 30 years. While massage may be used for a variety of specific indications (e.g., relaxation, comfort at the end of life, relieving pain, enhancing athletic performance), it is undertaken with the general goal of helping the body achieve or increase health and well-being. In the evidence review for this guideline, massage was broadly defined and included any soft-tissue manipulation using hands or another mechanical device and traditional, complementary and integrative (TCI) medicine massage. Massage could be applied to any body part, to the lumbar region only, or to the whole body. | |
| **PICO question** | |
| **Population and subgroups** | Community-dwelling adults (aged 20 years and over) experiencing chronic primary low back pain, with or without leg pain, including older people (aged 60 years and older).<br><br>Subgroups:<br>• Age (all adults and those aged 60 years and over)<br>• Gender and/or sex<br>• Presence of leg pain (radicular, non-radicular, mixed)<br>• Race/ethnicity - studies of populations who were historically marginalized compared with studies of those who were not<br>• Regional economic development - studies carried out in high-income countries compared with studies in low- to middle-income countries |
| **Comparators** | a) Placebo/sham<br>b) No or minimal intervention, or where the effect of the intervention can be isolated<br>c) Usual care (described as usual care in the trial)<br>d) Adjuvant therapy, i.e. where the additional effect of an intervention could be isolated |

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| | |
|---|---|
| **Outcomes** | Critical outcomes constructs (all adults) Critical outcomes constructs (older adults, aged ≥ 60 years)<br>• Pain<br>• Back-specific function/disability<br>• General function/disability<br>• Health-related quality of life<br>• Psychosocial function<br>• Social participation<br>• Adverse events (as reported in trials) Pain<br>• Back-specific function/disability<br>• General function/disability<br>• Health-related quality of life<br>• Psychosocial function<br>• Adverse events (as reported in trials)<br>• Change in the use of medications<br>• Falls |

*Other Evidence-to-Decision (EtD) considerations*

| **Summary of *values and preferences*** | |
|---|---|
| **All adults** | **Older people** |
| No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members | No evidence identified |

| **Summary of *resource considerations*** | |
|---|---|
| **All adults** | **Older people** |

| | |
|---|---|
| No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members | No evidence identified |

| **Summary of *equity and human rights considerations*** | |
|---|---|
| **All adults** | **Older people** |
| No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members | No evidence identified |

| **Summary of *acceptability considerations*** | |
|---|---|
| **All adults** | **Older people** |
| No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members | No evidence identified |

| **Summary of *feasibility considerations*** | |
|---|---|
| **All adults** | **Older people** |
| No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members | No evidence identified |

*Summary of judgements*

| **Domain** | **All adults** | **Older people** |
|---|---|---|
| **Benefits** | Small; trivial; uncertain; varies | Small; trivial; uncertain |
| **Harms** | Uncertain | Uncertain |

**Web Annex D.B4: ETD summary for WHO Guideline on non-surgical management of chronic primary low back pain in adults**

| | | |
|---|---|---|
| **Balance benefits to harms** | Probably favours massage; probably does not favour massage; uncertain | Probably favours massage; probably does not favour massage; uncertain |
| **Overall certainty** | Low; very low | Low; very low |
| **Values and preferences** | Probably important uncertainty or variability; possibly important uncertainty or variability | Probably important uncertainty or variability; possibly important uncertainty or variability |
| **Resource considerations** | Moderate costs; uncertain; varies | Moderate costs; varies |
| **Equity and human rights** | No impact; probably reduced (traction especially); varies | No impact; probably reduced (traction especially); uncertain; varies |
| **Acceptability** | Yes; probably yes; probably no; uncertain; varies | Yes; probably yes; probably no; uncertain; varies |
| **Feasibility** | Yes; probably yes; varies | Yes; probably yes; varies |

**Web Annex D.B4: ETD summary for WHO Guideline on non-surgical management of chronic primary low back pain in adults**

GRADE Table 1. ***What are the benefits and harms of massage in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with sham massage?***

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| **Pain intensity (higher scores mean more pain)** | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in immediate term (1 month)** | | | | | | | | | | | | |
| 5[1] | randomized trials | serious[a] | not serious | serious[b] | very serious[c] | none | 102 | 103 | - | MD **3.07 lower** (7.34 lower to 1.21 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2 and 3 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 4: regional economic development** | | | | | | | | | | | | |
| Low income 1[2] | randomized trials | serious[a] | not serious | serious[b] | very serious[c] | none | 26 | 25 | - | MD 0.7 **higher** (4.20 lower to 5.60 higher) | ⨁◯◯◯ Very low | |
| High income 4[3] | randomized trials | serious[a] | not serious | serious[b] | very serious[c] | none | 76 | 78 | - | MD 7.6 **lower** (13.76 lower to 1.48 lower) | ⨁◯◯◯ Very low | |
| **Population subgroup 4: Older adults (over 60 years of age)** | | | | | | | | | | | | |
| Older adults[2] | randomized trials | serious[a] | serious | serious[b] | very serious[c] | none | 26 | 25 | - | MD **0.70 lower** (4.20 lower to 5.60 higher) | ⨁◯◯◯ Very low | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| **Pain intensity (higher scores mean more pain) - Pain in short term (1-3 months)** | | | | | | | | | | | | |
| 3[4] | randomized trials | serious[a] | not serious | serious[b] | very serious[d] | none | 60 | 60 | - | MD **14.25 lower** (20.28 lower to 8.22 lower) | ⨁◯◯◯ Very low | |
| **Population subgroup 1: gender and/or sex** | | | | | | | | | | | | |
| Women[5] | randomized trials | serious[a] | not serious | serious[b] | very serious[d] | none | 26 | 25 | - | MD **13.30 lower** (20.91 lower to 5.69 lower) | ⨁◯◯◯ Very low | |
| Men[6] | randomized trials | serious[a] | not serious | serious[b] | very serious[d] | none | 34 | 35 | - | MD **15.85 lower** (25.71 lower to 5.98 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 2 and 3 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 4: regional economic development** | | | | | | | | | | | | |
| Low income[7] | randomized trials | serious[a] | not serious | serious[b] | very serious[d] | none | 26 | 25 | - | MD **13.30 lower** (20.91 lower to 5.69 lower) | ⨁◯◯◯ Very low | |
| High income[8] | randomized trials | serious[a] | not serious | serious[b] | very serious[d] | none | 34 | 35 | - | MD **15.85 lower** (25.71 lower to 5.96 lower) | ⨁◯◯◯ Very low | |
| **Population subgroup 5: Older adults** | | | | | | | | | | | | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| Older adults[2] | randomized trials | serious[a] | serious | serious[b] | very serious[c] | none | 26 | 25 | - | MD 13.30 lower (20.91 lower to 5.69 higher) | ⨁◯◯◯ Very low | |
| **Pain intensity (higher scores mean more pain) - Pain in intermediate term (3-6 months)** | | | | | | | | | | | | |
| 1[9] | randomized trials | serious[e] | serious[f] | serious[g] | very serious[f] | none | 7 | 8 | - | MD **10 lower** (16.58 lower to 3.42 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2 and 3 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 4: regional economic development - not reported** (no subgroup analysis was performed, only 1 study included) | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Functioning (higher scores mean more disability) - Functioning in immediate term (1 month)** | | | | | | | | | | | | |
| 4[10] | randomized trials | serious[a] | not serious | serious[h] | very serious[c] | none | 76 | 78 | - | SMD **0.5 lower** (0.96 lower to 0.04 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **'Functioning (higher scores mean more disability) - Functioning in short term (1-3 months)** | | | | | | | | | | | | |
| 4[11] | randomized trials | serious[e] | not serious | serious[i] | very serious[c] | none | 98 | 96 | - | SMD **0.4 lower** (0.68 lower to 0.11 lower) | ⨁◯◯◯ Very low | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| **Population subgroup 1: gender and/or sex** | | | | | | | | | | | | |
| Only women[12] | randomized trials | serious[e] | not serious | serious[i] | very serious[c] | none | 26 | 25 | - | SMD **1.33 lower** (4.90 lower to 2.24 higher) | ⨁◯◯◯ Very low | |
| Men & Women[13] | randomized trials | serious[e] | not serious | serious[i] | very serious[c] | none | 72 | 71 | - | SMD **2.44 lower** (4.57 lower to 0.31 lower) | ⨁◯◯◯ Very low | |
| **Population subgroup 2 and 3 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 4: regional economic development** | | | | | | | | | | | | |
| Low income[14] | randomized trials | serious[e] | not serious | serious[i] | very serious[c] | none | 38 | 36 | - | SMD **0.49 lower** (0.95 lower to 0.03 lower) | ⨁◯◯◯ Very low | |
| High income[15] | randomized trials | serious[e] | not serious | serious[i] | very serious[c] | none | 60 | 60 | - | SMD **0.34 lower** (0.70 lower to 0.02 higher) | ⨁◯◯◯ Very low | |
| **Population subgroup 5: Older adults (over 60 years of age)** | | | | | | | | | | | | |
| Older adults[2] | randomized trials | serious[a] | serious | serious[b] | very serious[c] | none | 26 | 25 | - | MD 0.20 lower (0.75 lower to 0.35 higher) | ⨁◯◯◯ Very low | |
| **Functioning (higher scores mean more disability) - Functioning in intermediate term (3-6 months)** | | | | | | | | | | | | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| 2[16] | randomized trials | serious[e] | not serious | serious[g] | very serious[d] | none | 45 | 44 | - | SMD **0.35 lower** (0.76 lower to 0.07 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Quality of Life (higher scores mean better QoL)** | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in immediate term (1 month)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Quality of Life (higher scores mean better QoL) - QoL in short term (1-3 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Quality of Life (higher scores mean better QoL) - QoL in intermediate term (3-6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Quality of Life (higher scores mean better QoL) - QoL in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Fear avoidance belief (higher scores mean more fear avoidance) - Fear avoidance in immediate term (1 month)** | | | | | | | | | | | | |
| 2[17] | randomized trials | not serious | not serious | not serious | very serious[d] | none | 45 | 45 | - | MD **14 lower** (22.84 lower to 5.15 lower) | ⨁⨁◯◯ Low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Fear avoidance belief (higher scores mean more fear avoidance) - Fear avoidance in short term (1-3 months)** | | | | | | | | | | | | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Sham | Relative (95% CI) | Absolute (95% CI) | | |
| 2[18] | randomized trials | not serious | not serious | not serious | very serious[d] | none | 45 | 45 | - | MD **13.5 lower** (22.86 lower to 4.14 lower) | ⨁⨁◯◯ Low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Fear avoidance belief (higher scores mean more fear avoidance) - Fear avoidance in intermediate term (3-6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Fear avoidance belief (higher scores mean more fear avoidance) - Fear avoidance in long term (> 6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |

**CI:** confidence interval; **MD:** mean difference; **SMD:** standardized mean difference

**Explanations**

a. Downgraded for selection bias (unclear treatment allocation), performance bias (unclear co-interventions and compliance), and selective outcome reporting bias.
b. Downgraded because Kim 2021 only included participants >65 years of age and only women (and responsible for >50% of the weight in the meta-analysis); in 4 out of 5 studies (80% of the weight) massage of the spine was used, while Quinn 2008 (17% of the weight) used a different form of massage (reflexology - foot massage representative of the points in the spine).
c. Downgraded by one level because there were very few participants (ca. 200), and downgraded by one level based on a relatively broad 95% CI.
d. Downgraded by one level because there were very few participants (ca. 100), and downgraded by one level based on a relatively broad 95% CI.
e. Downgraded by for selection bias (unclear treatment allocation) and performance bias (unclear co-interventions).
f. Downgraded by because just one small study examined this treatment comparison.
g. Downgraded by because Quinn 2008 used a different form of massage (reflexology - foot massage representative of the points in the spine).
h. Downgraded by because all the studies were single-centre; high income; and intervention is different for one study (Quinn 2008 (15% of the weight)).
i. Downgraded by because all the studies were single-centre; some low, some high income; and the intervention was different across the studies (myofascial release, foot reflexology, acupressure).

**References**


1. Arguisuela 2017, Arguisuela 2019, Geisser 2015, Kim 2021, Quinn 2008
2. Kim 2021
3. Arguisuela 2017, Arguisuela 2019, Geisser 2015, Quinn 2008
4. Arguisela 2017, Kim 2021, Quinn 2008
5. Kim 2021

6. Arguisela 2017, Quinn 2008
7. Kim 2021
8. Arguisuela 2017, Quinn 2008
9. Quinn 2008
10. Arguisuela 2017, Arguisuela 2019, Geisser 2015, Quinn 2008
11. Ajimsha 2014, Arguisuela 2017, Kim 2021, Quinn 2008
12. Kim 2021
13. Ajimsha 2014, Arguisuela 2017, Quinn 2008
14. Ajimsha 2014
15. Arguisuela 2017, Kim 2021, Quinn 2008
16. Arguisuela 2017, Quinn 2008
17. Arguisuela 2017, Arguisuela 2019
18. Arguisuela 2017, Arguisuela 2019

GRADE Table 2. ***What are the benefits and harms of massage in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with no intervention?***

No trials

GRADE Table 3. ***What are the benefits and harms of massage in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with usual care?***

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Usual care | Relative (95% CI) | Absolute (95% CI) | | |
| **Pain intensity (higher scores mean more pain)** | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in immediate term (1 month)** | | | | | | | | | | | | |
| 1[1] | randomized trials | serious[a] | serious[b] | serious[c] | very serious[b] | none | 30 | 24 | - | MD **5 lower** (16.44 lower to 6.44 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in short term (1-3 months)** | | | | | | | | | | | | |
| 2[2] | randomized trials | serious[d] | not serious | serious[c] | very serious[e] | none | 95 | 69 | - | MD **12.19 lower** (20.16 lower to 4.22 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in intermediate term (3-6 months)** | | | | | | | | | | | | |
| 1[3] | randomized trials | serious[d] | serious[b] | serious[c] | very serious[b] | none | 57 | 45 | - | MD **2.9 lower** (14.16 lower to 8.36 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Functioning (higher scores mean more disability)** | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in immediate term (1 month)** | | | | | | | | | | | | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Usual care | Relative (95% CI) | Absolute (95% CI) | | |
| 1[4] | randomized trials | serious[a] | serious[b] | serious[c] | very serious[b] | none | 30 | 24 | - | SMD **0.06 lower** (0.6 lower to 0.48 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in short term (1-3 months)** | | | | | | | | | | | | |
| 3[5] | randomized trials | serious[f] | not serious | not serious | very serious[g] | none | 363 | 202 | - | SMD **0.51 lower** (0.72 lower to 0.3 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1 and 2 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 3: presence of radicular leg pain** | | | | | | | | | | | | |
| Radicular pain[6] | randomized trials | serious[f] | not serious | not serious | very serious[g] | none | 363 | 202 | - | SMD **0.59 lower** (0.80 lower to 0.37 lower) | ⨁◯◯◯ Very low | |
| Radicular pain not presented[7] | randomized trials | serious[f] | not serious | not serious | very serious[g] | none | 363 | 202 | - | SMD **0.37 lower** (0.69 lower to 0.06 lower) | ⨁◯◯◯ Very low | |
| **Population subgroup 4: regional economic development - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in intermediate term (3-6 months)** | | | | | | | | | | | | |
| 2[8] | randomized trials | serious[f] | not serious | not serious | very serious[g] | none | 325 | 178 | - | SMD **0.34 lower** (0.52 lower to 0.15 lower) | ⨁◯◯◯ Very low | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Usual care | Relative (95% CI) | Absolute (95% CI) | | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in long term (>6 months)** | | | | | | | | | | | | |
| 1[9] | randomized trials | serious[b] | serious[b] | not serious | very serious[b] | none | 268 | 132 | - | SMD **0.18 lower** (0.46 lower to 0.09 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL)** | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in immediate term (1 month)** | | | | | | | | | | | | |
| 1[10] | randomized trials | serious[f] | serious[b] | serious[c] | very serious[b] | none | 30 | 24 | - | SMD **0.99 lower** (1.56 lower to 0.42 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in short term (1-3 months)** | | | | | | | | | | | | |
| 1[11] | randomized trials | serious[f] | serious[b] | serious[c] | very serious[c] | none | 57 | 45 | - | SMD **0.33 lower** (0.72 lower to 0.07 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in intermediate term (3-6 months)** | | | | | | | | | | | | |
| 1[12] | randomized trials | serious[f] | serious[b] | serious[c] | very serious[c] | none | 57 | 45 | - | SMD **0.12 lower** (0.51 lower to 0.27 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |

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| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage | Usual care | Relative (95% CI) | Absolute (95% CI) | | |
| **Quality of Life (higher scores mean better QoL) - QoL in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Depression (higher scores mean more depression)** | | | | | | | | | | | | |
| **Depression (higher scores mean more depression) - Depression in immediate term (1 month)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | |
| **Depression (higher scores mean more depression) - Depression in short term (1-3 months)** | | | | | | | | | | | | |
| 1[13] | randomized trials | serious[f] | serious[b] | serious[c] | very serious[c] | none | 57 | 45 | - | MD **3.4 lower** (7.45 lower to 0.65 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Depression (higher scores mean more depression) - Depression in intermediate term (3-6 months)** | | | | | | | | | | | | |
| 1[14] | randomized trials | serious[f] | serious[b] | serious[c] | very serious[c] | none | 57 | 45 | - | MD **1.2 lower** (5.1 lower to 2.7 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Depression (higher scores mean more depression) - Depression in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |

**CI:** confidence interval; **MD:** mean difference; **SMD:** standardized mean difference

**Explanations**

a. Downgraded due to high risk of performance bias (patients and clinicians were not blinded to the intervention).
b. Downgraded because just one study examined this comparison.
c. Downgraded because single-center study with few participants.
d. Downgraded by two levels due to high risk of selection bias (treatment allocation), performance bias (patients and clinicians were not blinded to the intervention), and unclear risk for selective outcome reporting bias.
e. Downgraded because relatively few participants were included (ca. 200).

f. Downgraded due to high risk of selection bias (treatment allocation), and high risk of performance bias (patients and clinicians were not blinded to the intervention),
g. Downgraded because few participants were included (ca. 550).

**References**

1. Kobayashi 2019
2. Kobayashi 2019, Poole 2017
3. Poole 2017
4. Kobayashi 2019
5. Cherkin 2011, Kobayashi 2019, Poole 2007
6. Cherkin 2011
7. Kobayashi 2019, Poole 2007
8. Cherkin 2011, Poole 2007
9. Cherkin 2011
10. Kobayashi, 2019
11. Poole 2007
12. Poole 2007
13. Poole 2007
14. Poole 2007

GRADE Table 4. ***What are the benefits and harms of massage as an adjuvant therapy in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain)?***

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage as Adjuvant therapy | placebo | Relative (95% CI) | Absolute (95% CI) | | |
| **Pain intensity (higher scores mean more pain)** | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in immediate term (1 month)** | | | | | | | | | | | | |
| 4[1] | randomized trials | serious[a] | serious[b] | not serious | very serious[c] | none | 123 | 123 | - | MD **2.35 lower** (10.54 lower to 5.83 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Pain intensity (higher scores mean more pain) - Pain in short term (1-3 months)** | | | | | | | | | | | | |
| 4[2] | randomized trials | serious[d] | serious[b] | not serious | very serious[c] | none | 108 | 109 | - | MD **8.13 lower** (13.93 lower to 2.33 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 5: Older adults (over 60 years of age)** | | | | | | | | | | | | |
| Older adults[7] | randomized trials | serious[a] | serious[b] | serious[b] | very serious[c] | none | 22 | 23 | | MD 13.40 lower (21.84 lower to 4.96 lower) | ⨁◯◯◯ Very low | |
| **Pain intensity (higher scores mean more pain) - Pain in intermediate term (3-6 months)** | | | | | | | | | | | | |

**Web Annex D.B4: ETD summary for WHO Guideline on non-surgical management of chronic primary low back pain in adults**

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage as Adjuvant therapy | placebo | Relative (95% CI) | Absolute (95% CI) | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Pain intensity (higher scores mean more pain) - Pain in long term (> 6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Functioning (higher scores mean more disability)** | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in immediate term (1 month)** | | | | | | | | | | | | |
| 4[3] | randomized trials | serious[a] | not serious | not serious | very serious[c] | none | 123 | 123 | - | SMD **0.38 lower** (0.63 lower to 0.13 lower) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in short term (1-3 months)** | | | | | | | | | | | | |
| 2[4] | randomized trials | serious[a] | serious[e] | not serious | very serious[e] | none | 56 | 56 | - | SMD **0.86 lower** (1.90 lower to 0.17 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Functioning (higher scores mean more disability) - Functioning in intermediate term (3-6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Functioning (higher scores mean more disability) - Functioning in long term (>6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |

**Web Annex D.B4: ETD summary for WHO Guideline on non-surgical management of chronic primary low back pain in adults**

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage as Adjuvant therapy | placebo | Relative (95% CI) | Absolute (95% CI) | | |
| **Quality of Life (higher scores mean better QoL)** | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in immediate term (1 month)** | | | | | | | | | | | | |
| 1[5] | randomized trials | serious[a] | serious[e] | not serious | very serious[e] | none | 56 | 56 | - | MD **1.00 higher** (-8.24 lower to 10.24 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Quality of Life (higher scores mean better QoL) - QoL in short term (1-3 months)** | | | | | | | | | | | | |
| 2[6] | randomized trials | serious[a] | serious[e] | not serious | very serious[e] | none | 56 | 56 | - | MD **1.48 lower** (-7.12 lower to 4.26 higher) | ⨁◯◯◯ Very low | |
| **Population subgroups 1, 2, 3 and 4 - not reported** (no subgroup analysis was performed) | | | | | | | | | | | | |
| **Population subgroup 5: Older adults (over 60 years of age)** | | | | | | | | | | | | |
| Older adults[7] | randomized trials | serious[a] | serious[b] | serious[b] | very serious[c] | none | | 22 | 23 | MD 3.52 lower (10.74 lower to 3.7 higher) | ⨁◯◯◯ Very low | |
| **Quality of Life (higher scores mean better QoL) - QoL in intermediate term (3-6 months)** | | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Quality of Life (higher scores mean better QoL) - QoL in long term (>6 months)** | | | | | | | | | | | | |

## Web Annex D.B4: ETD summary for WHO Guideline on non-surgical management of chronic primary low back pain in adults

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Massage as Adjuvant therapy | placebo | Relative (95% CI) | Absolute (95% CI) | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - |

**CI:** confidence interval; **MD:** mean difference; **SMD:** standardized mean difference

**Explanations**

a. Downgraded for high risk of bias (performance bias (patients and clinicians were not blinded to the intervention)).
b. Downgraded for substantial statistical heterogeneity (I-squared>75%).
c. Downgraded because there were very few participants (ca. 200).
d. Downgraded for selection bias (because the treatment allocation was unclear for >50% weight of studies), and high risk of performance bias.
e. Downgraded by one level because just one study with a small number of participants examined this comparison, and downgraded by one level based on a relatively broad 95%CI

**References**


1. Ali-Khorsand 2019, Bellido-Fernandez 2021, Boff 2020, Shu 2021
2. Ali-Khorsand 2019, Boff 2020, Ozsoy 2019, Zheng 2012
3. Ali-Khorsand 2019, Bellido-Fernandez 2021, Boff 2020, Shu 2021
4. Ali-Khorsand 2019, Boff 2020
5. Boff 2020
6. Boff 2020, Ozsoy 2019
7. Ozsoy 2019