**Supplementary Table 1 Checklist of Items to Include When Reporting a Systematic Review (With or Without Meta-Analysis)**

|  |  |  |  |
| --- | --- | --- | --- |
| Section/Topic | # | Checklist Item | Reported on Page # |
| TITLE |  |  |  |
| Title | 1 | Identify the report as a systematic review, meta-analysis, or both. | 1 |
| ABSTRACT |  |  |  |
| Structured summary | 2 | Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number. | 3 |
| INTRODUCTION |  |  |  |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. | 5-6 |
| Objectives | 4 | Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS). | 6-7 |
| METHODS |  |  |  |
| Protocol and registration | 5 | Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. | 7 |
| Eligibility criteria | 6 | Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. | 8-9 |
| Information sources | 7 | Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched. | 8 |
| Search | 8 | Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated. | Supplementary 2 |
| Study selection | 9 | State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis). | 8-10 |
| Data collection process | 10 | Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators. | 10 |
| Data items | 11 | List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made. | 10 |
| Risk of bias in individual studies | 12 | Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis. | 11 |
| Summary measures | 13 | State the principal summary measures (e.g., risk ratio, difference in means). | 12 |
| Synthesis of results | 14 | Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I2) for each meta-analysis. | 12 |
| Risk of bias across studies | 15 | Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies). | 11 |
| Additional analyses | 16 | Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified. | 13 |
| RESULTS |  |  |  |
| Study selection | 17 | Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram. | 13, Figure1 |
| Study characteristics | 18 | For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations. | 13-14, Table1,2 |
| Risk of bias within studies | 19 | Present data on risk of bias of each study and, if available, any outcome-level assessment (see Item 12). | 14  Figure2A, 2B |
| Results of individual studies | 20 | For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group and (b) effect estimates and confidence intervals, ideally with a forest plot. | Table3,4  Figure3,4 |
| Synthesis of results | 21 | Present results of each meta-analysis done, including confidence intervals and measures of consistency. | 15-18 |
| Risk of bias across studies | 22 | Present results of any assessment of risk of bias across studies (see Item 15). | 15-18  Table3,4 |
| Additional analysis | 23 | Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]). | 16,17  Figure5A,5B  Figure6A,6B |
| DISCUSSION |  |  |  |
| Summary of evidence | 24 | Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., health care providers, users, and policy makers). | 18-21 |
| Limitations | 25 | Discuss limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias). | 22 |
| Conclusions | 26 | Provide a general interpretation of the results in the context of other evidence, and implications for future research. | 22 |
| FUNDING |  |  |  |
| Funding | 27 | Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. | 23 |

**Supplementary 2. Database Search Strategies**

**Pubmed**

(((("Low Back Pain"[Mesh]) OR (Lumbago or Lower Back Pain or Low Back Ache or Postural Low Back Pain or Low Back Pain, Posterior Compartment or Recurrent Low Back Pain or Mechanical Low Back Pain or dorsalgia or back disorders or sciatica or coccydynia or coccyx)) AND (("Exercise Therapy"[Mesh]) OR (Remedial Exercise or motor control exercise or Rehabilitation Exercise or kinesiotherapy))) AND (("Electric Stimulation Therapy"[Mesh]) OR (Electric Stimulation or Therapeutic Electrical Stimulation or Electrical Stimulation Therapy or Interferential Current Electrotherapy or Electrotherapy))) AND (("Randomized Controlled Trials as Topic"[Mesh]) OR (Randomized Controlled Trial[Publication Type]))

**EMBASE：**

#31. #30 AND ('controlled clinical trial'/de OR'controlled study'/de OR 'randomized controlled trial'/de OR 'randomized controlled trial topic'/de)

#30. #7 AND #14 AND #29

#29. #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28

#28. 'coccyx':ti,ab,kw

#27. 'coccydynia':ti,ab,kw

#26. 'sciatica':ti,ab,kw

#25. 'back disorder$':ti,ab,kw

#24. 'dorsalgia':ti,ab,kw

#23. 'low back pain, mechanical':ti,ab,kw

#22. 'low back pain, recurrent':ti,ab,kw

#21. 'low back pain, posterior compartment':ti,ab,kw

#20. 'low back pain, postural':ti,ab,kw

#19. 'low backache$':ti,ab,kw

#18. 'low back ache$':ti,ab,kw

#17. 'lumbago':ti,ab,kw

#16. 'low$ back pain$':ti,ab,kw

#15. 'low back pain'/exp

#14. #8 OR #9 OR #10 OR #11 OR #12 OR #13

#13. 'rehabilitation exercise$':ti,ab,kw

#12. 'therap$, exercise':ti,ab,kw

#11. 'remedial exercise$':ti,ab,kw

#10. 'motor control exercise':ti,ab,kw

#9. 'exercise therapy':ti,ab,kw

#8. 'kinesiotherapy'/exp

#7. #1 OR #2 OR #3 OR #4 OR #5 OR #6

#6. 'interferential current electrotherapy':ti,ab,kw

#5. 'electrical stimulation therapy':ti,ab,kw

#4. 'therapeutic electrical stimulation':ti,ab,kw

#3. 'electric stimulation therapy':ti,ab,kw

#2. 'electronic stimulation':ti,ab,kw

#1. 'electrotherapy'/exp

**Web of science**

TS=(low back pain or Lumbago or Lower Back Pain or Low Back Ache or Postural Low Back Pain or Low Back Pain, Posterior Compartment or Recurrent Low Back Pain or Mechanical Low Back Pain or dorsalis or back disorders or sciatica or coccydynia or coccyx )AND TS=(Electric Stimulation therapy or Electric Stimulation or Therapeutic Electrical Stimulation or Electrical Stimulation Therapy or Interferential Current Electrotherapy or Electrotherapy )AND TS=(Exercise Therapy or motor controlled exercises or Remedial Exercise or Rehabilitation Exercise or kinesiotherapy )AND TS=( Randomized Controlled Trial or random )

**CENTRAL**

#1 Low\* Back Pain\* or Lumbago or Low Back Ache\* or Low Backache\* or Low Back Pain, Postural or Low Back Pain, Posterior Compartment or Low Back Pain, Recurrent or Low Back Pain, Mechanical or Dorsalgia or Back Disorder\* or sciatica or coccydynia or coccyx:ti,ab,kw

#2 MeSH descriptor: [Low Back Pain] explode all trees

#3 #1 or#2

#4 MeSH descriptor: [Electric Stimulation Therapy] explode all trees

#5 electronic stimulation or Electric Stimulation therapy or Therapeutic Electrical Stimulation or Electrotherapy or Interferential Current Electrotherapy:ti,ab,kw

#6 #4 or #5

¬#7 MeSH descriptor: [Exercise Therapy] explode all trees

#8 motor control exercise or Remedial Exercise\* or Therap\*, Exercise or Rehabilitation Exercise\* or kinesiotherapy:ti,ab,kw

#9 #7 or #8

#10 #3 and #6 and #9 in Trials

**CINAHL**

S33 (S13 AND S21 AND S29 AND S32)

S32 (S30 OR S31)

S31 “randomi?ed controlled trial\*”

S30 (MH “Clinical Trials+”)

S29 (S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28)

S28 “Interferential Current Electrotherapy”

S27 "Electrical Stimulation Therapy"

S26 "Therapeutic Electrical Stimulation"

S25 "Electric Stimulation therapy"

S24 "electronic stimulation"

S23 (MH “Electrotherapy”)

S22 (MH "Electrical Stimulation, Neuromuscular")

S21 (S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20)

S20 "kinesiotherapy"

S19 "Rehabilitation Exercise\*"

S18 "Therap\*, Exercise"

S17 "Remedial Exercise\*"

S16 "motor control exercise"

S15 "Exercise Therapy"

S14 (MH "Therapeutic Exercise")

S13 (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12)

S12 "coccyx"

S11 "coccydynia"

S10 "sciatica"

S9 "Back Disorder\*"

S8 "Dorsalgia"

S7 "Low Back Pain, Recurrent"

S6 "Low Back Pain, Postural"

S5 "Low Backache\*"

S4 "Low Back Ache\*"

S3 "Lumbago"

S2 "Low\* Back Pain\*"

S1 (MH "Low Back Pain")

**Supplementary Table 2A**

**Supplementary Table 2A Quality assessment of a body of RCT evidence in the GRADE approach**

|  |  |
| --- | --- |
| Limitations in the design and implementation of available studies suggesting high likelihood of bias. | downgraded if > 25% of the participants were from studies with a high risk of bias. |
| Indirectness of evidence (indirect population, intervention, control, outcomes) | Downgraded if significant heterogeneity was presented by I² > 50% |
| Unexplained heterogeneity or inconsistency of results (including problems with subgroup analyses). | downgraded if > 50% of the participants were outside the target group |
| Imprecision of results (wide confidence intervals) | downgraded if fewer than 400 participants were/included in the comparison for continuous data and there were fewer than 300 events for dichotomous data |
| Other | publication bias |
| RCT: Randomized Controlled Trial/a RCT is recommended as ‘High’ quality | |

**Supplementary Tble2B**

**Supplementary Table 2B Recommendation of Each Level of Quality**

|  |  |
| --- | --- |
| High | We are very confident that the true effect lies close to that of the estimate of the effect |
| Moderate | 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 | The true effect may be substantially different from the estimate of the effect |
| Very low | The true effect is likely to be substantially different from the estimate of effect. |