**Supplementary Appendix．**

**Appendix**

**Search Strategy**

Search included: Pubmed, Embase, the Cochrane Library Central Register of Controlled Trials: till 2nd May, 2019

**Table A1. Search strategy for PubMed (Publication date to 2019/05/02) result 107**

|  |
| --- |
| 1. "Breast Neoplasms"[Mesh]
 |
| 1. (breast OR mammary) [Title]
 |
| 1. (cancer\* OR tumor\* OR tumour\* OR carcinom\* OR neoplas\* OR malignan\* OR adenocarcinoma) [Title]
 |
| 1. 2 AND 3
 |
| 1. 1 OR 4
 |
| 1. "Lymphedema"[Mesh]
 |
| 1. (lymphoedema OR lymphedema OR oedema OR edema OR swelling OR elephantias\* OR ‘lymphatic edema’) [Title]
 |
| 1. 6 OR 7
 |
| 1. "Physical Therapy Modalities"[Mesh]
 |
| 1. "Drainage"[Mesh]
 |
| 1. (‘manual lymph\*’ drainage OR physiotherapy OR ‘sequential pneumatic compression’ OR ‘complex decongestive therapy’ OR ‘decongestive lymphatic therapy’ OR ‘Foldi method’ OR ‘Vodder method’) [Title]
 |
| 1. 9 OR 10 OR 11
 |
| 1. randomised controlled trial.pt
 |
| 1. randomized controlled trial.pt.
 |
| 1. controlled clinical trial.pt.
 |
| 1. (randomized OR randomized OR placebo OR randomly OR trial) [Title]
 |
| 1. 13 OR 14 OR 15 OR 16
 |
| 1. 5 AND 8 AND 12 AND 17
 |

**Table A2. Search strategy for Embase (Publication date to 2019/05/02) result 138**

|  |
| --- |
| 1. 'breast tumor'/exp |
| 2. ('breast'/exp OR breast OR mammary):ab,ti |
| 3. (cancer\* OR tumor\* OR tumour\* OR carcinom\* OR neoplas\* OR malignan\* OR adenocarcinoma):ab,ti |
| 4. #2 AND #3 |
| 5. #1 OR #4 |
| 6. 'lymphedema'/exp |
| 7. (lymphoedema OR lymphedema OR oedema OR edema OR swelling OR elephantias\* OR 'lymphatic edema'):ab,ti |
| 8. #6 OR #7 |
| 9. 'physiotherapy'/exp |
| 10. 'drainage'/exp |
| 11. ('manual lymph\*' AND drainage OR physiotherapy OR 'sequential pneumatic compression' OR 'complex decongestive therapy' OR 'decongestive lymphatic therapy' OR 'foldi method' OR 'vodder method'):ab,ti |
| 12. #9 OR #10 OR #11 |
| 13. 'randomized controlled trial'/exp |
| 14. (randomized OR placebo OR randomly OR trial):ab,ti |
| 15. #13 OR #14 |
| 16. #5 AND #8 AND #12 AND #16 |

**Table A3. Search strategy for Cochrane Library (Publication date to 2019/05/02)**

**result 209**

|  |
| --- |
| 1. MeSH descriptor: [Breast Neoplasms] explode all trees |
| 2. Breast OR Mammary:ti,ab,kw |
| 3. cancer\* OR tumor\* OR Tumour\* OR Carcinom\* OR Neoplas\* OR Malignan\* OR Adenocarcinoma:ti,ab,kw |
| 4. #2 and #3 |
| 5. #1 or #4 |
| 6. MeSH descriptor: [Lymphedema] explode all trees |
| 7. lymphoedema OR lymphedema OR oedema OR edema OR swelling OR elephantias\* OR 'lymphatic edema':ti,ab,kw |
| 8. #6 or #7 |
| 9. MeSH descriptor: [Manual Lymphatic Drainage] explode all trees |
| 10. MeSH descriptor: [Physical Therapy Modalities] explode all trees |
| 11. 'manual lymph\* drainage' OR physiotherapy OR 'sequential pneumatic compression' OR 'complex decongestive therapy' OR 'decongestive lymphatic therapy' OR 'foldi method' OR 'vodder method':ti,ab,kw |
| 12. #9 or #10 or #11 |
| 13. MeSH descriptor: [Randomized Controlled Trial] explode all trees |
| 14. MeSH descriptor: [Controlled Clinical Trial] explode all trees |
| 15. randomized OR placebo OR randomly OR trial:ti,ab,kw |
| 16. #13 or #14 or #15 |
| 17. #5 and #8 and #12 and #16 |

**Table A4.** Selection procedure of included and excluded studies

|  |  |
| --- | --- |
|  | **Reference list no.** |
| Studies included in the meta-analysis (n = 17) | 1-17 |
| Studies excluded from meta-analysis, and reasons are listed below (n = 10) | 18-27 |
| **Reason for exclusion** |  |
| No relevent outcomes recorded (n =3)  | 18-20 |
| Letters, comments, reviews or meta-analyses (n =2)  | 21,22 |
| Ineligible comparison (n =5)  | 23-27 |

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Table A5: Subgroup analyses of the effect of MLD treatment of lymphedema in 8 RCTs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variables | SMD | 95% CI | Degree of heterogeneity (I2 statistics; %) | *P* | No. of included Studies | *Pa* |
| Total | -0.09 | -0.85 to 0.67  | 91.3 | <0.001 | 8 |  |
| Region |  |  |  |  |  | <0.001 |
| European | -0.65 | -1.54 to 0.24 | 89.9 | <0.001 | 5 |  |
| America | -0.02 | -0.41 to 0.37 | 0 | 0.069 | 2 |  |
| Publication year |  |  |  |  |  | <0.001 |
| >2010 | -0.01 | -0.35 to 0.34 | 0 | 0.693 | 2 |  |
| 2000-2010 | -0.16 | -1.88 to 1.56 | 95.7 | <0.001 | 4 |  |
| <2000 | 0.07 | -0.44 to 0.58 | 0 | 0.383 | 2 |  |
| Sample size |  |  |  |  |  | <0.001 |
| Between 20 to 30 | -0.56 | -1.59 to 0.47 | 88.6 | <0.001 | 3 |  |
| Less than 20 | 0.32 | -1.38 to 2.02 | 95.0 | <0.001 | 4 |  |
| Surgery type |  |  |  |  |  | <0.001 |
| Mastectomy  | -0.54 | -1.69 to 0.60 | 92.4 | <0.001 | 3 |  |
| Mastectomy + axillary clearance | 3.00 | 1.90 to 4.11 | 84.2 | - | 1 |  |
| Data analysis |  |  |  |  |  | <0.001 |
| ITT | -0.56 | -1.53 to 0.42 | 89.2 | <0.001 | 3 |  |
| PP | 0.25 | -1.00 to 1.50 | 93.5 | <0.001 | 5 |  |
| Mean age |  |  |  |  |  | <0.001 |
| More than 60 | 0.87 | -0.44 to 2.18 | 92.4 | <0.001 | 3 |  |
| Less than 60 | -1.77 | -2.23 to -1.31 | 0 | 0.952 | 2 |  |
| Time |  |  |  |  |  | <0.001 |
| 3 months | -1.77 | -2.23 to -1.30 | 0 | 0.952 | 2 |  |
| 4 weeks | 0.11 | -0.22 to 0.44 | 0 | 0.816 | 3 |  |
| <4 weeks | 0.85 | -0.67 to 2.37 | 92.5 | <0.001 | 3 |  |



Figure A2 Stratiﬁed Analyses for the Association Between manual lymph drainage (MLD) Treatment and Risk of post-mastectomy lymphedema in 4 randomized controlled trial (RCTs)