Online Supplement

Review

The Effects of Aerobic Exercise on Prognosis, Quality of Life, and Psychological Outcomes of Patients With Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-Analysis

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Supplement 1

Search strategy:

For PubMed

("chronic obstructive pulmonary disease" OR “COPD”) [title, abstract, keywords] AND

("aerobic" OR " aerobic exercise" OR "aerobic training") [title, abstract, keywords] AND

(“clinical trial” OR "randomized controlled trial" OR "RCT") [title, abstract, keywords]

For Scopus

("chronic obstructive pulmonary disease" OR “COPD”) [title, abstract, keywords] AND

("aerobic" OR " aerobic exercise" OR "aerobic training") [title, abstract, keywords] AND

(“clinical trial” OR "randomized controlled trial" OR "RCT") [title, abstract, keywords]

For Web of Science

("chronic obstructive pulmonary disease" OR “COPD”) [title, abstract, keywords] AND

("aerobic" OR " aerobic exercise" OR "aerobic training") [title, abstract, keywords] AND

(“clinical trial” OR "randomized controlled trial" OR "RCT") [title, abstract, keywords]

For the Cochrane Library

("chronic obstructive pulmonary disease" OR “COPD”) [title, abstract, keywords] AND

("aerobic" OR " aerobic exercise" OR "aerobic training") [title, abstract, keywords] AND

(“clinical trial” OR "randomized controlled trial" OR "RCT") [title, abstract, keywords]

Supplement 2

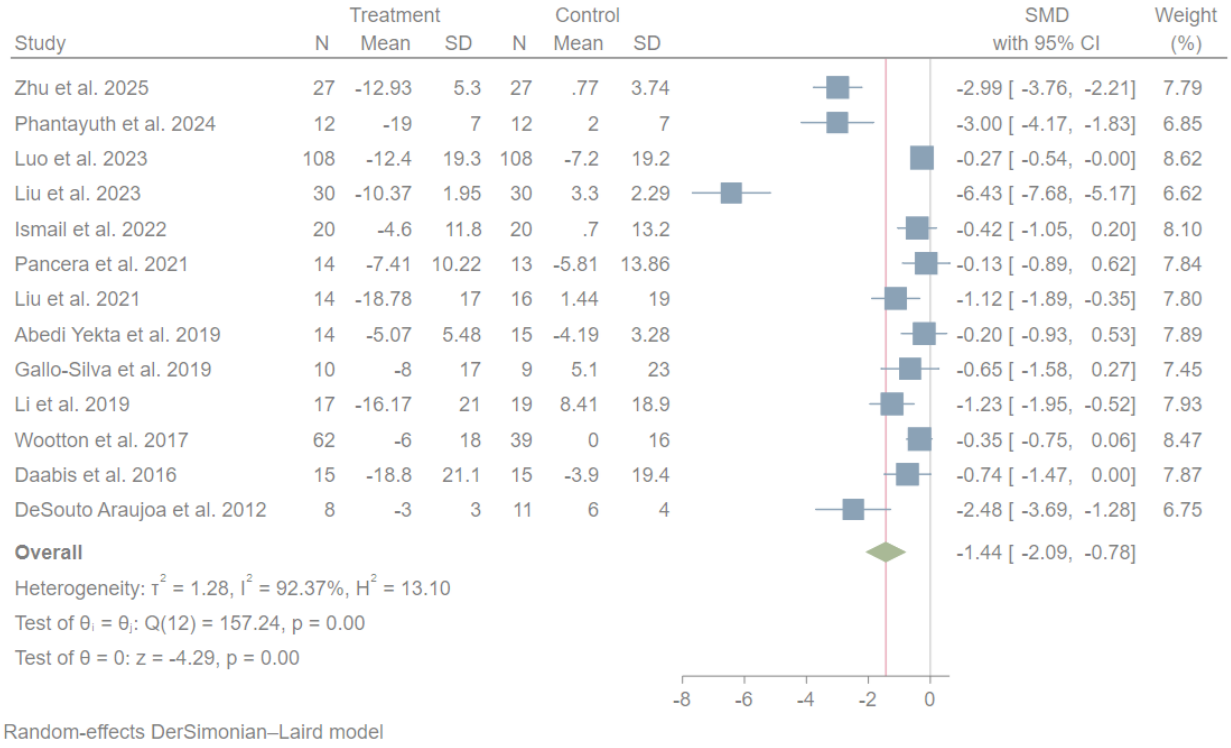
Risk of bias assessment based on the RoB2 tool.

Risk of bias domains
D1
D2
D3
D4
D5
Overall
Study
Zhu et al. 2025
Shen et al. 2024
Phantayuth et al. 2024
Luo et al. 2023
Liu et al. 2023
Ismail et al. 2022
Pancera et al. 2021
Moy et al. 2021
Liu et al. 2021
Mirza et al. 2020
Abedi Yekta et al. 2019
Gallo-Silva et al. 2019
Li et al. 2019
Wu et al. 2018
Wootton et al. 2017
Daabis et al. 2016
DeSouto Araujoa et al. 2012
Leung et al. 2012
Marrara et al. 2012
McNamara et al. 2012
Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.
Judgement
High
Some concerns
Low

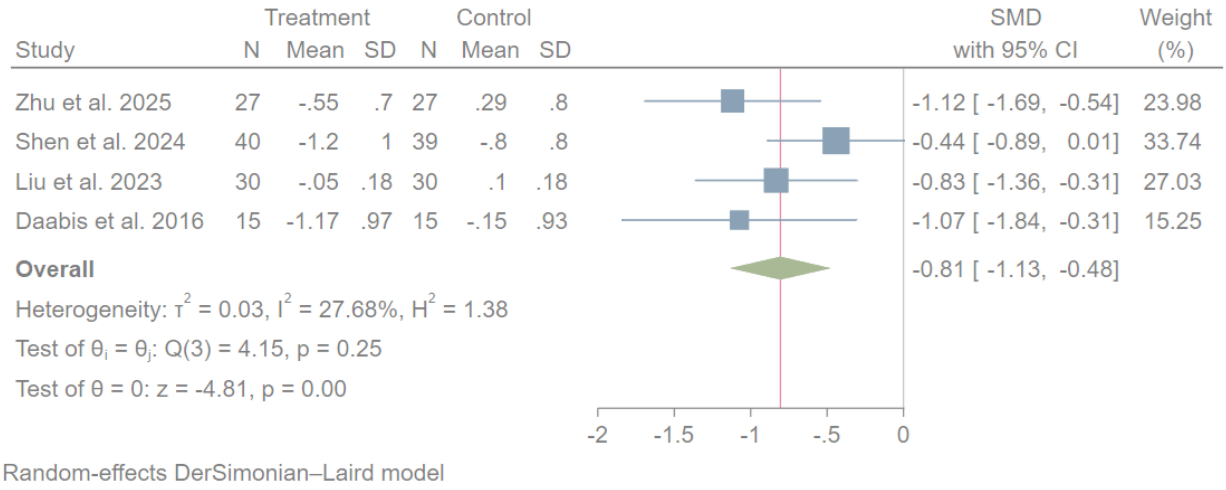
Bias arising from the randomization process
Bias due to deviations from intended interventions
Bias due to missing outcome data
Bias in measurement of the outcome
Bias in selection of the reported result
Overall risk of bias
0%
25%
50%
75%
100%
Low risk
Some concerns
High risk

Supplement 3

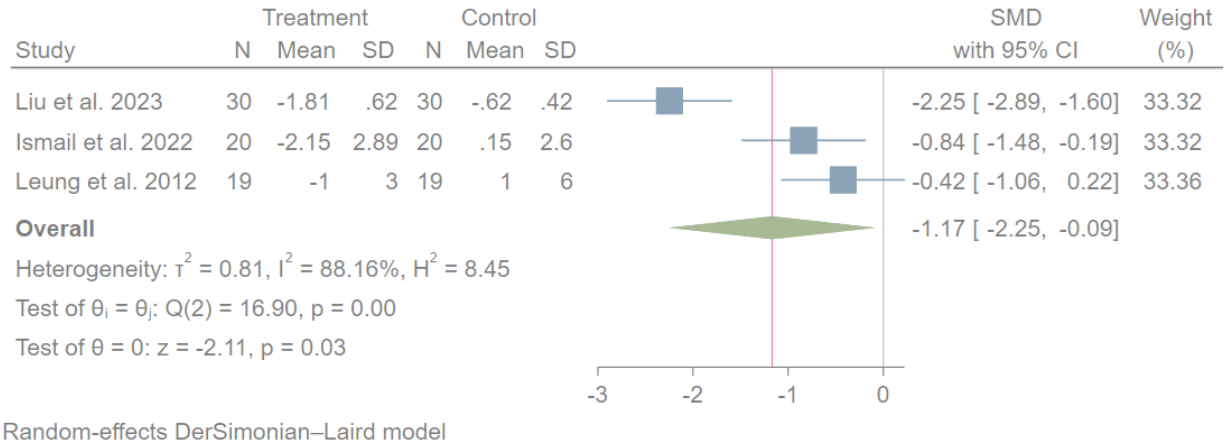
The effect of aerobic exercise on the SGRQ total score among patients with COPD.



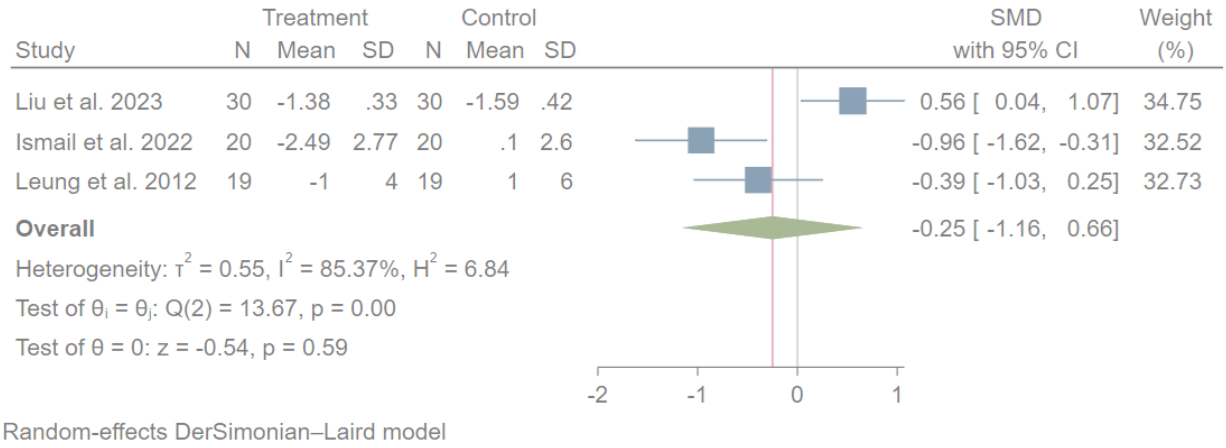
The effect of aerobic exercise on the mMRC score for dyspnea among patients with COPD.



The effect of aerobic exercise on the HADS-anxiety score among patients with COPD.

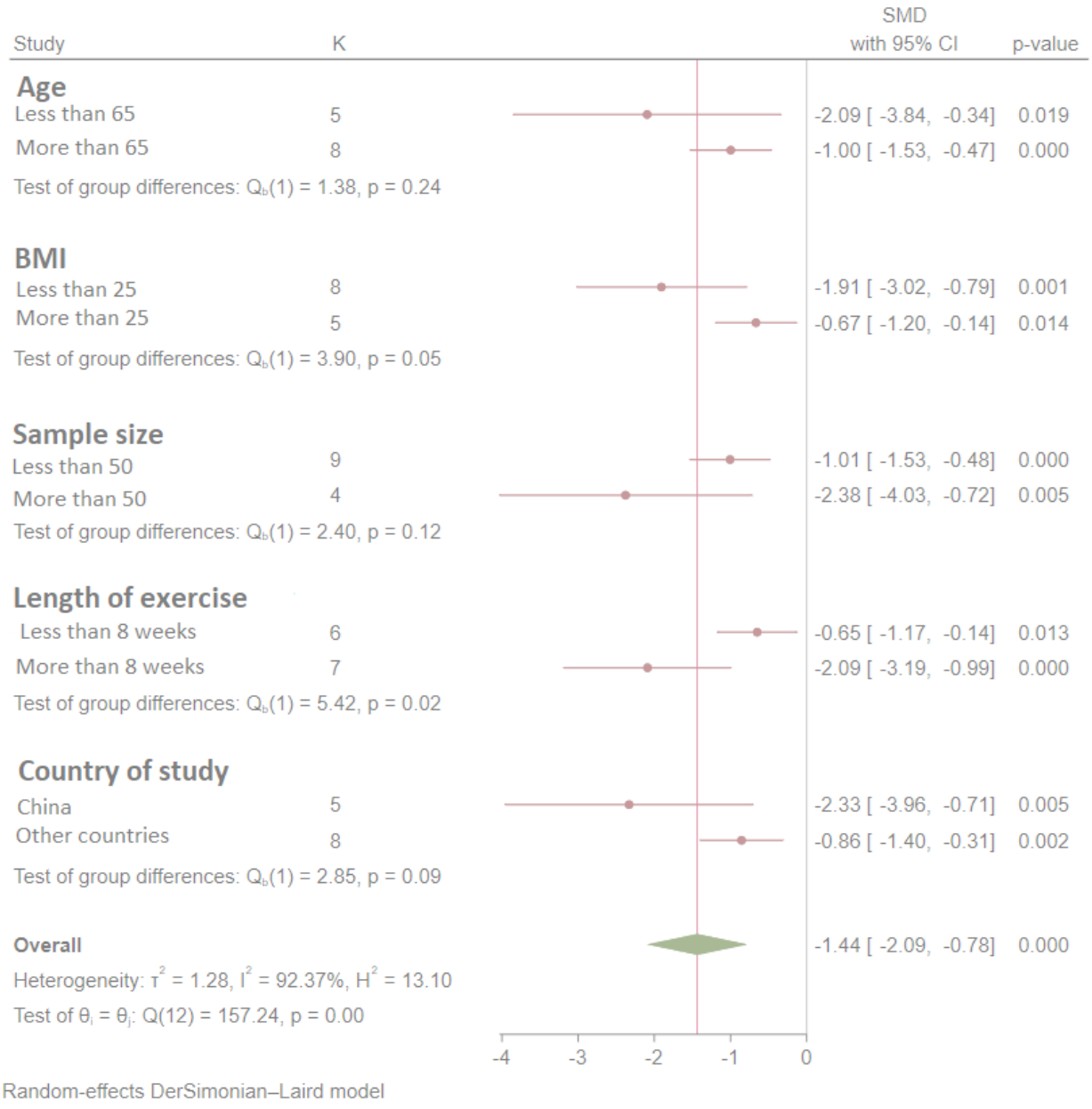


The effect of aerobic exercise on the HADS-depression score among patients with COPD.

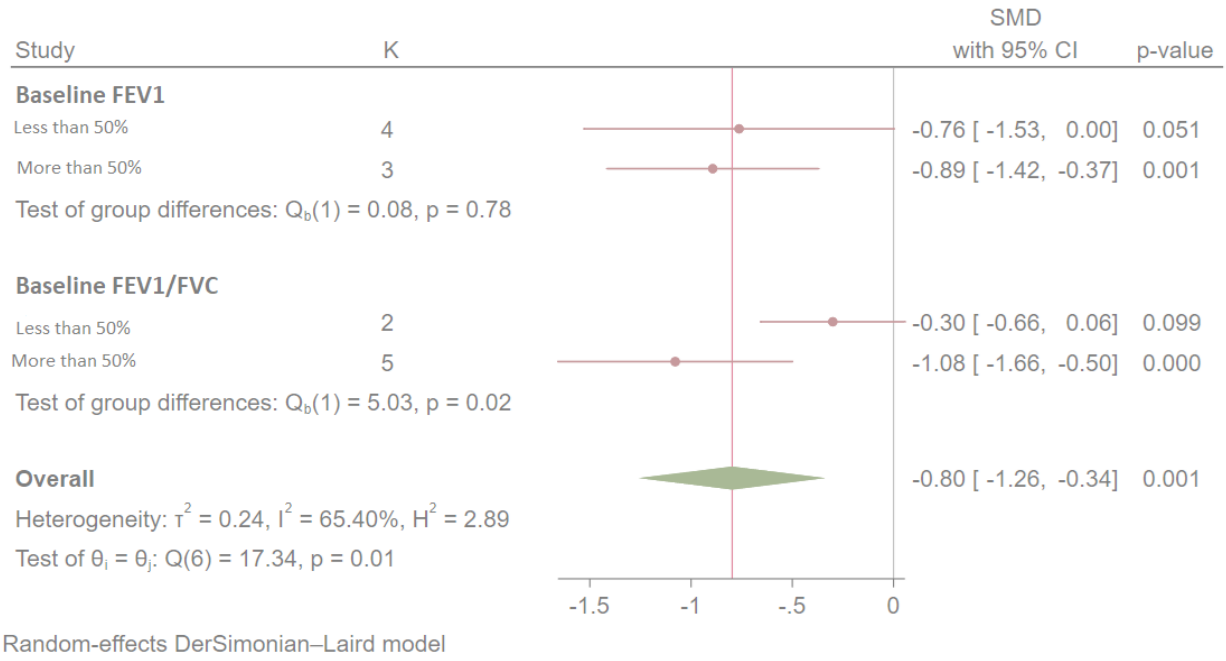


Supplement 4

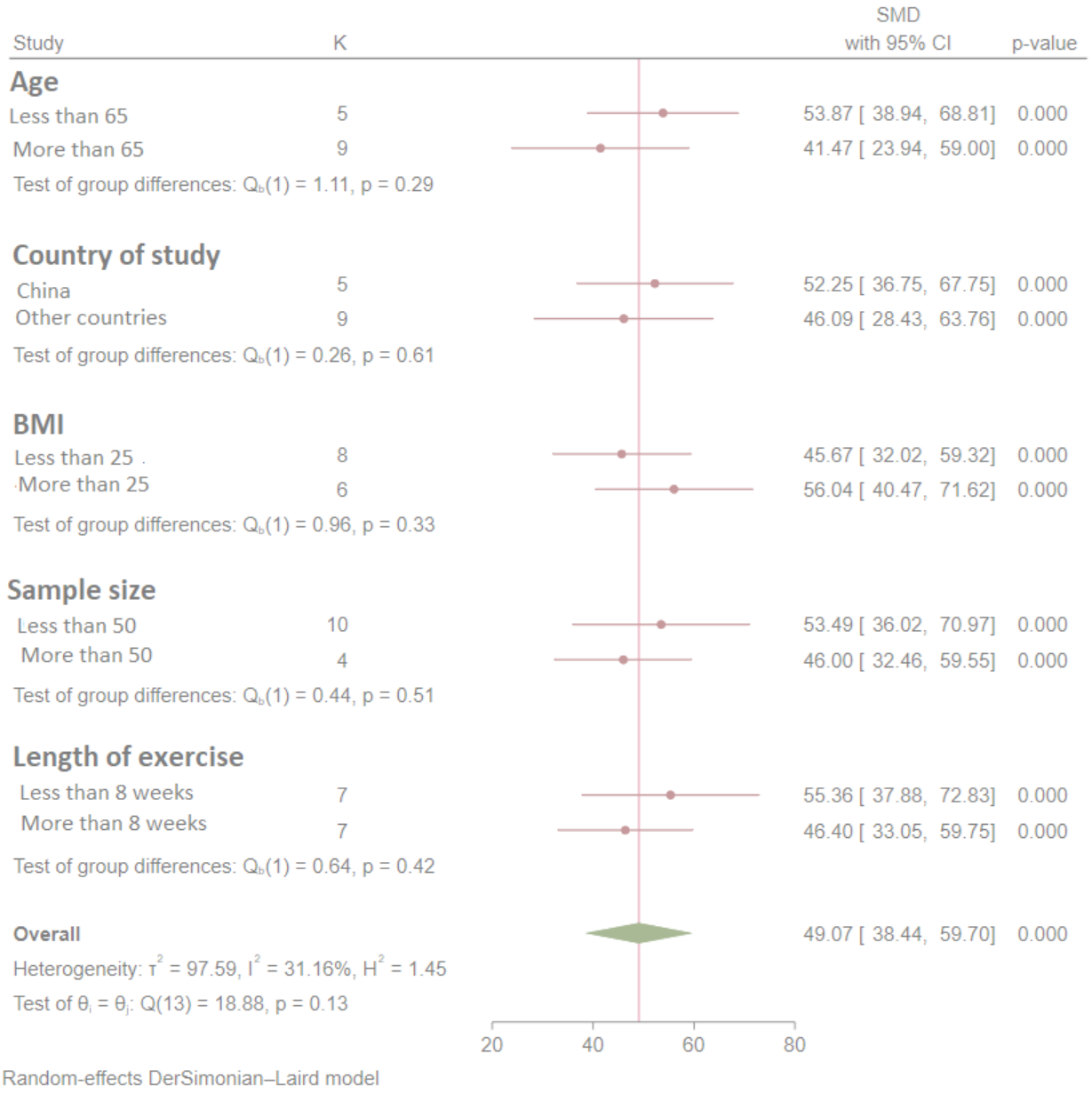
Subgroup analysis for the SGRQ score.



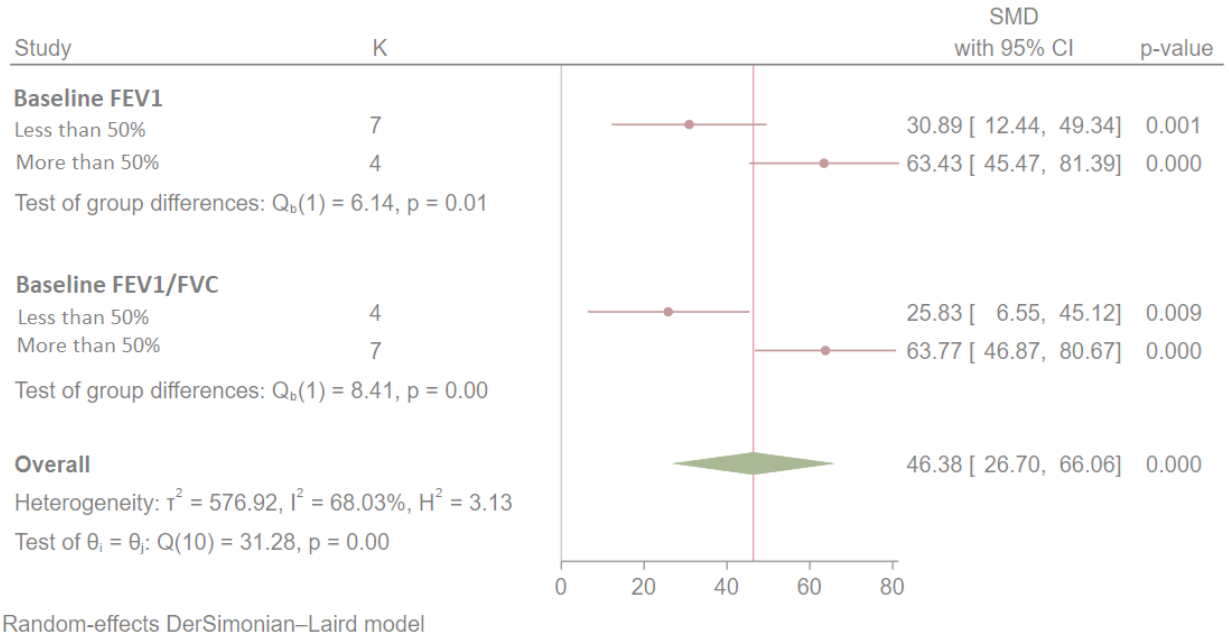
Subgroup analysis for the SGRQ score (continued).



Subgroup analysis for 6MWT.

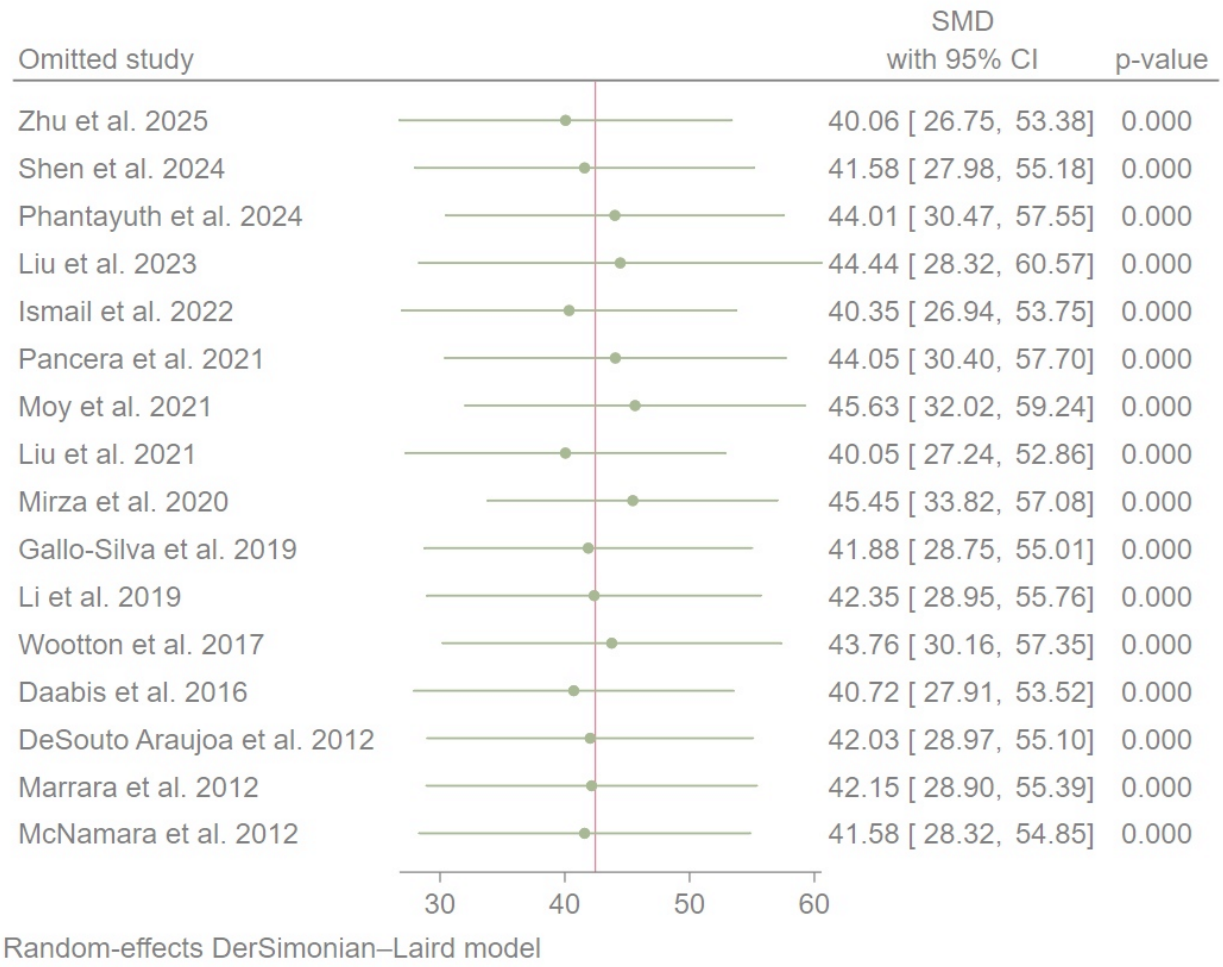


Subgroup analysis for 6MWT (continued).



Supplement 5

Sensitivity analysis for 6MWT using the leave-one-out test.



Sensitivity analysis for the SGRQ score using the leave-one-out test.