SUPPLEMENTAL MATERIAL

Table S1. **PubMed search strategy for potassium supplementation and blood pressure levels in experimental studies.**

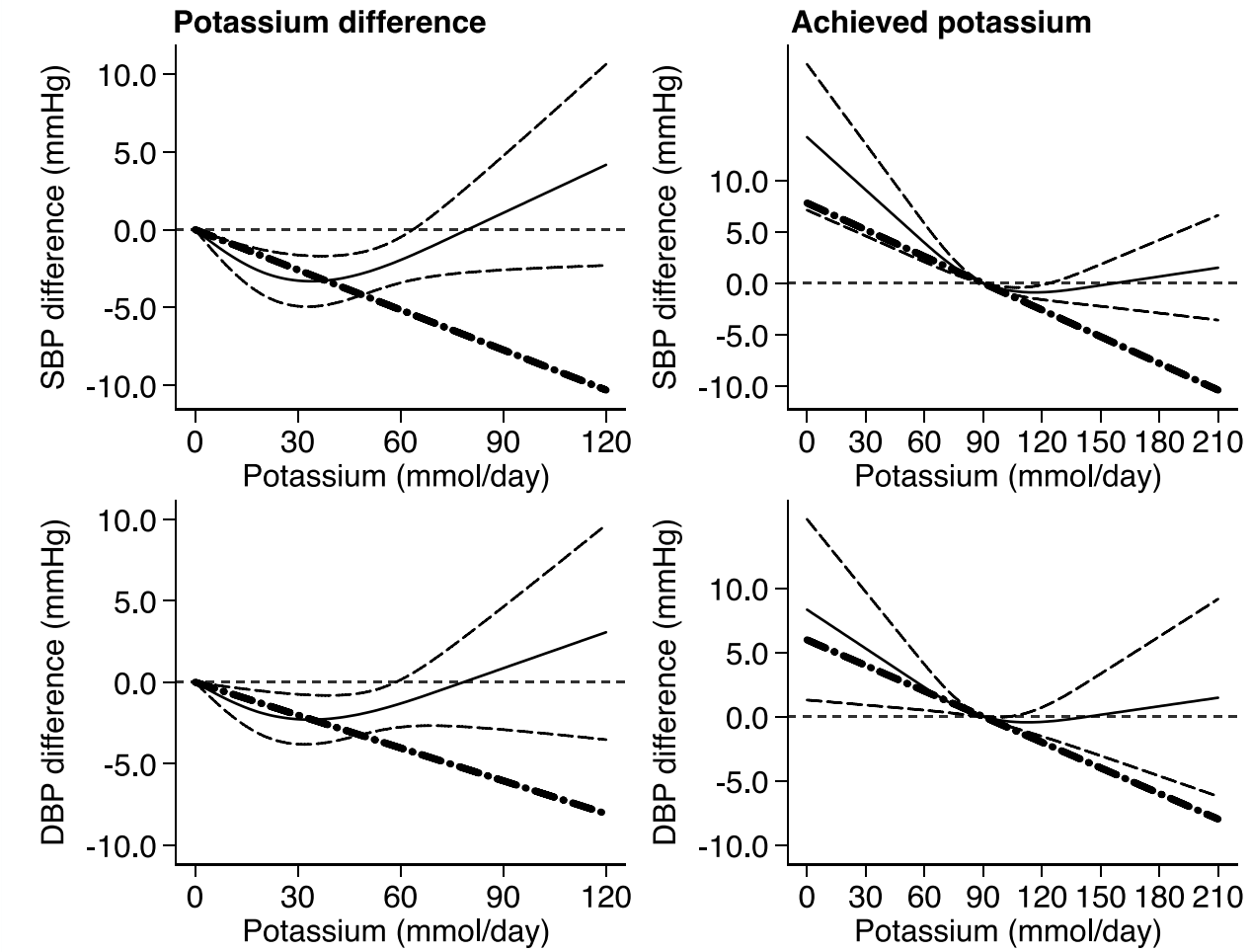
Database	Search strategy
PubMed	((“blood pressure”[MeSH Term] OR “blood pressure determination”[MeSH Term] OR “arterial pressure”[MeSH Term]) OR “hypertension”[MeSH Term] OR “blood pressure”[tiab] OR “hypertension”[tiab]) AND (“potassium, dietary”[MeSH Term] OR “potassium”[MeSH Term] OR “potassium chloride”[MeSH Term] OR “potassium”[tiab] OR “potassium chloride”[tiab]) AND (“dietary supplements”[MeSH Term] OR “supplement”[tiab]) NOT (“animals”[MeSH Term] NOT “humans”[MeSH Term])

Table S2. Risk of bias of included studies.

References	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domani 6	Overall RoB
Barden 1986[40]	Some Concerns	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Berry 2010[39]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Braschi 2008[38]	Low	Low	Low	Low	Low	Low	Low
Bulpitt 1985[41]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Chalmers 1986[42]	Some Concerns	Low	Low	Low	Low	Low	Some Concerns
Forrester 1988[43]	High	Low	Low	Low	Some Concerns	Some Concerns	High
Fotherby 1992[44]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Franzoni 2005[45]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Gijsbers 2015[46]	Low	Low	Low	Low	Low	Some Concerns	Some Concerns
Graham 2014[47]	Low	Low	Low	Low	Low	Low	Low
Grimm 1988[48]	Low	Low	Low	Low	Low	Low	Low
Grobbee 1987[49]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Gu 2001[50]	Low	Low	Low	Low	Some Concerns	Low	Low
He 2010[94]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Kaplan 1985[51]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Kawano 1998[52]	Some Concerns	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
MacGregor 1982[53]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Matlou 1986[54]	Some Concerns	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Matthensen 2012[55]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Miller 1987[56]	High	Low	Low	Low	Some Concerns	Low	High
Overlack 1985[57]	Some Concerns	Some Concerns	Low	Low	Some Concerns	Some Concerns	Some Concerns
Overlack 1991[58]	Some Concerns	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Overlack 1995[59]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Patki 1990[60]	Low	Low	Low	Low	Some Concerns	Low	Low
Richards 1984[61]	Some Concerns	Low	Some Concerns	Low	Some Concerns	Some Concerns	Some Concerns
Siani 1987[62]	Low	Low	Low	Low	Some Concerns	Low	Low
Skrabal 1984[63]	Some Concerns	Low	Low	Some Concerns	Some Concerns	Some Concerns	Some Concerns
Smith 1985[64]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Sundar 1985[65]	Some Concerns	Low	Low	Low	Some Concerns	Low	Some Concerns
Valdes 1991[66]	Some Concerns	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Vongpatanasin 2016[67]	Low	Low	Low	Low	Some Concerns	Some Concerns	Some Concerns
Whelton 1995[68, 69]	Low	Low	Low	Low	Some Concerns	Low	Low

Domains are: 1) randomization process errors; (2) deviations from the intended interventions; (3) missing outcome data; (4) systematic errors in measurement of the outcome; (5) bias in selection of the reported result; (6) use of a wash-out period in cross-over study design.

Figure S1. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials, and to achieved potassium excretion levels between arms at the end of the trials.



Spline curve (solid line) with 95% confidence limits (long dashed lines), and background dash-dotted line using a linear function in a dose-response meta-analysis.

Figure S2. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels between potassium treated and non-treated groups considering overall studies.

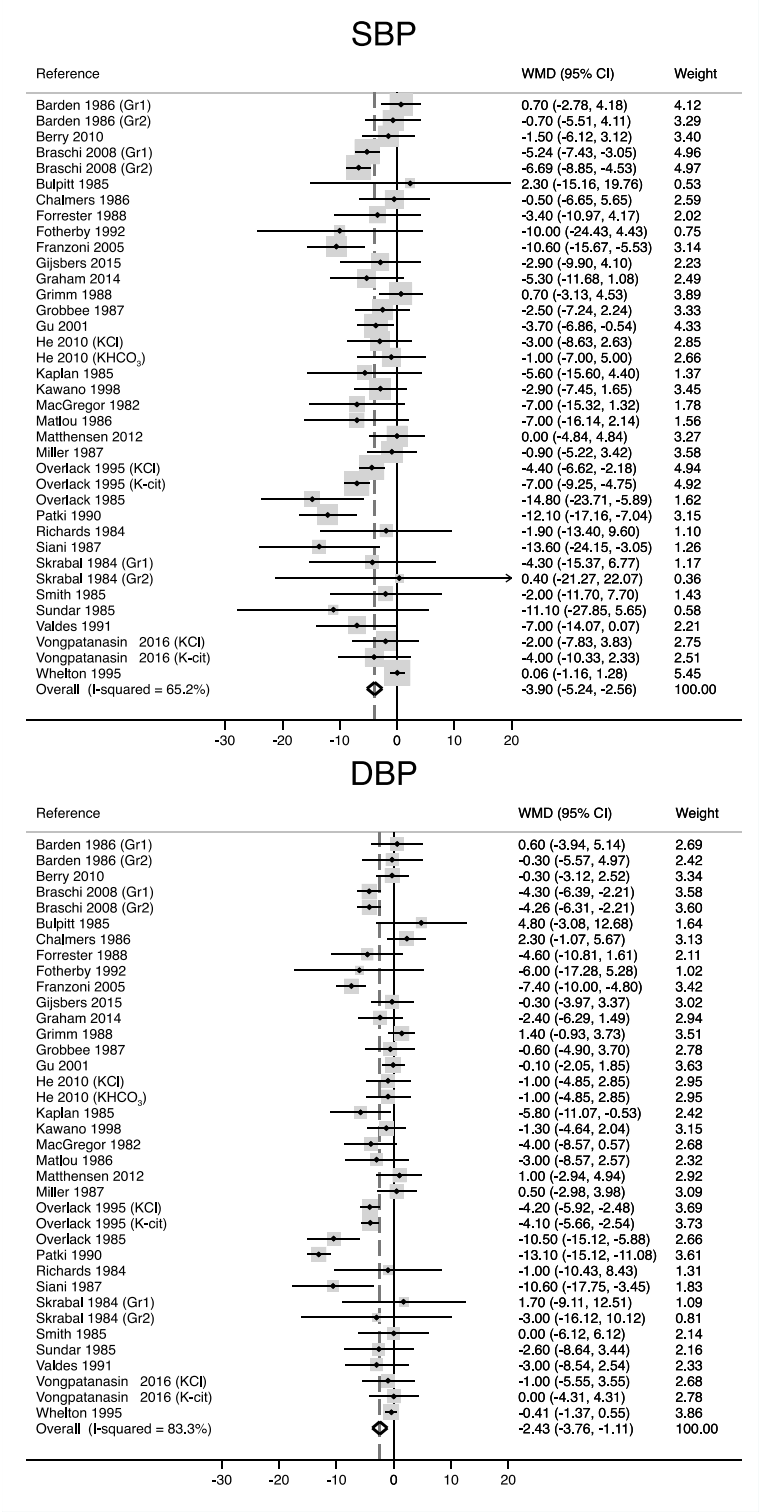
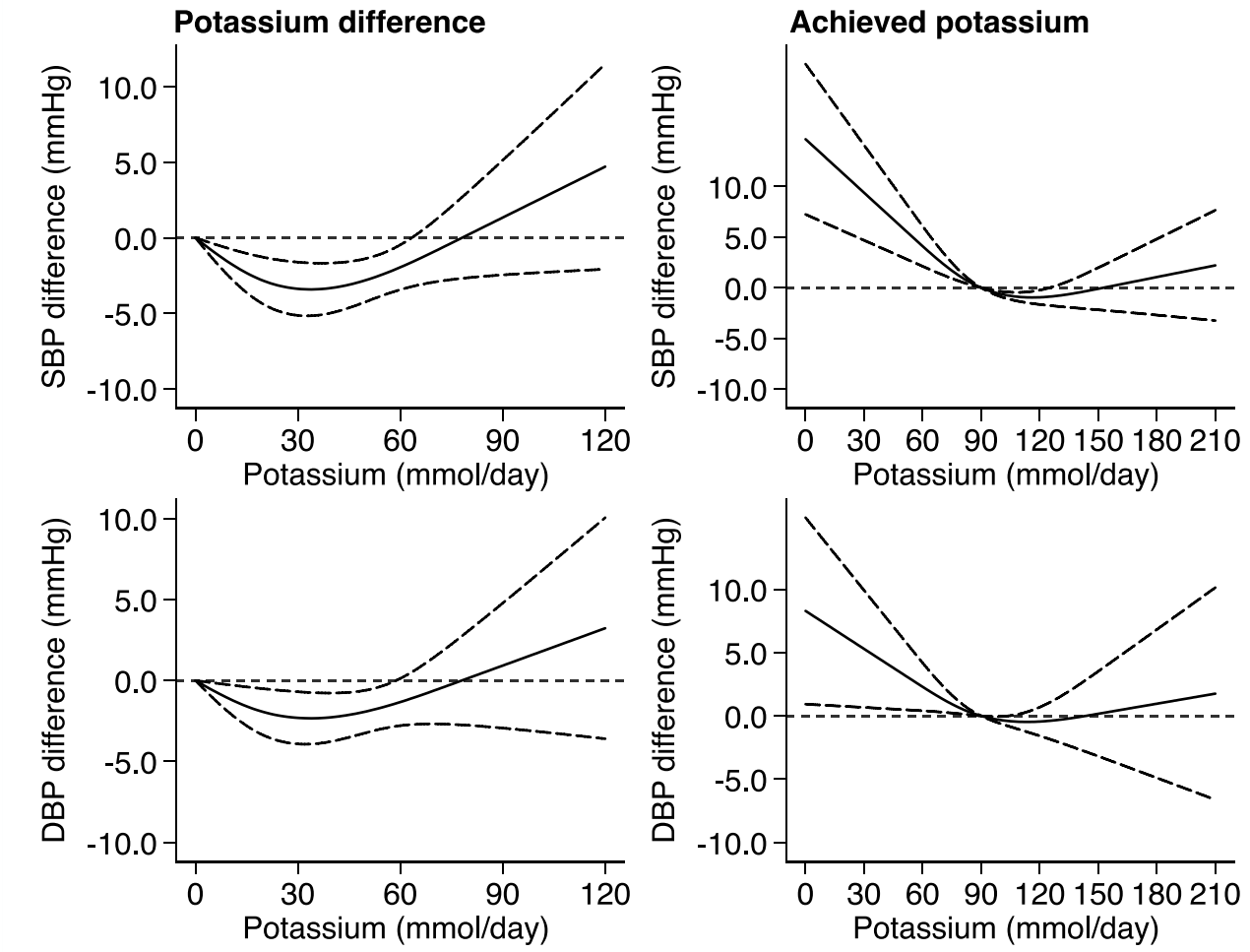


Figure S3. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) after excluding the two trials at high risk of bias according to differences in potassium excretion between the treatment arms at the end of the trials, and to achieved potassium excretion levels between arms at the end of the trials (N=30).



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S4. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after excluding the two studies at high risk of bias (N=30).

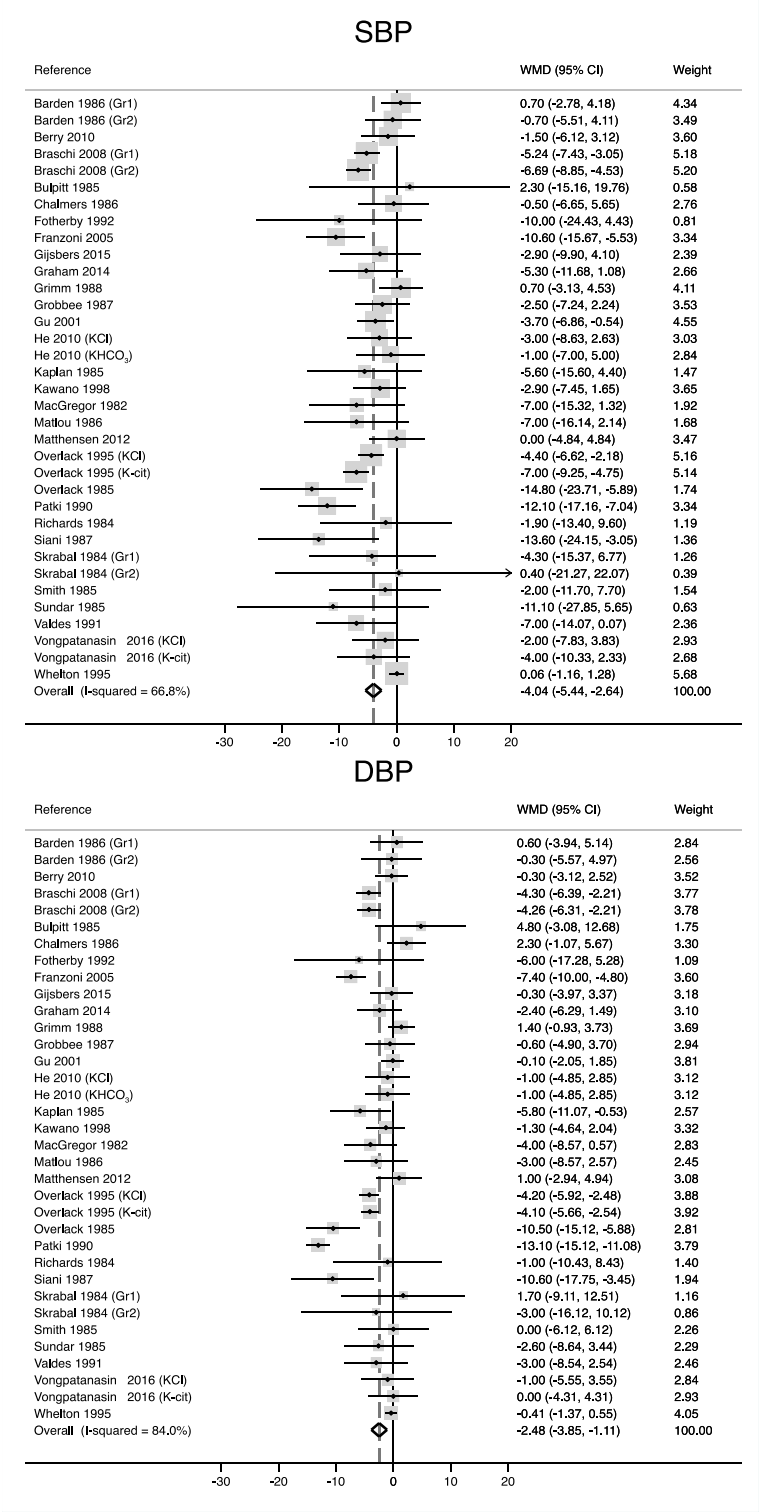
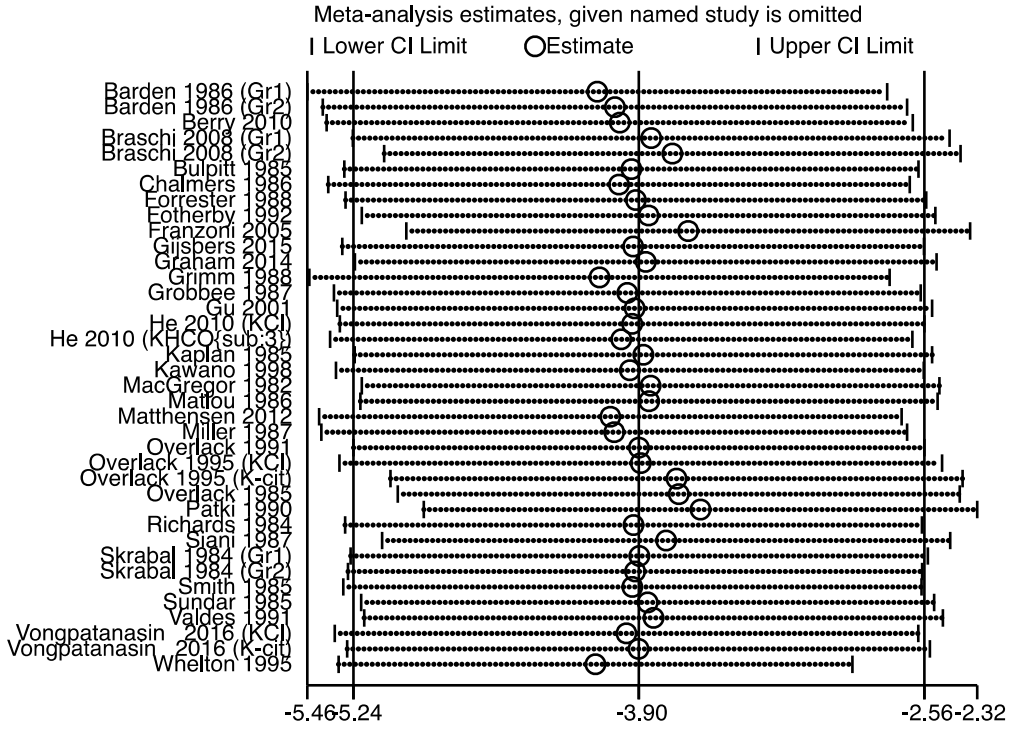
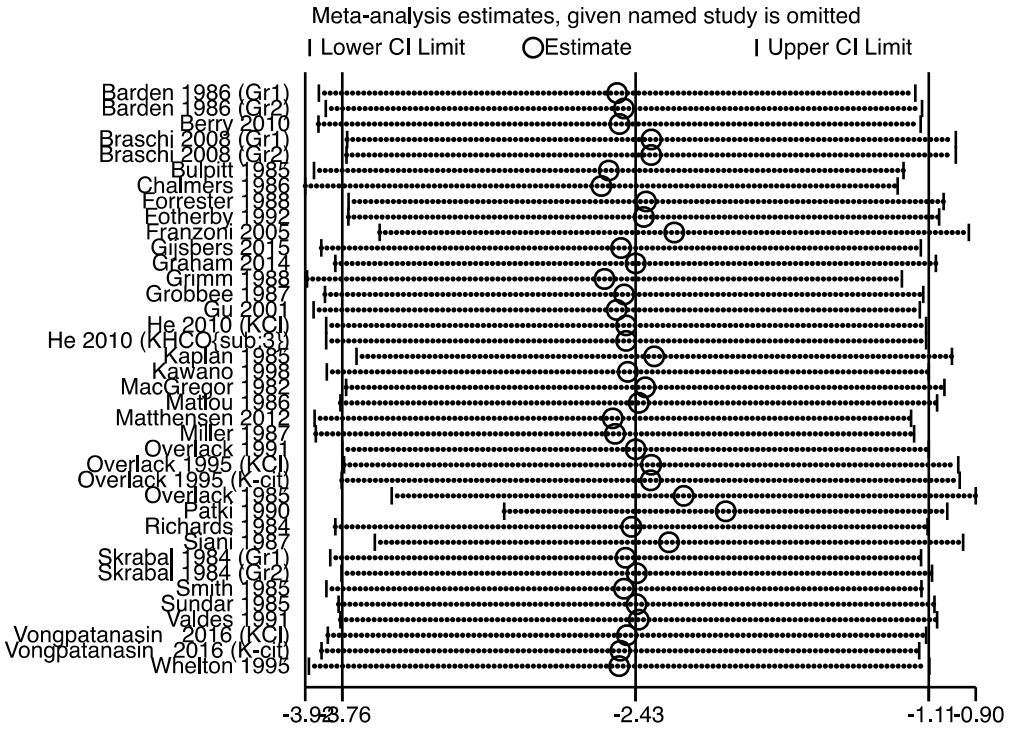


Figure S5. Sensitivity analysis of mean difference for changes in systolic (SBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after removal of single study result (leave-one-out analysis).



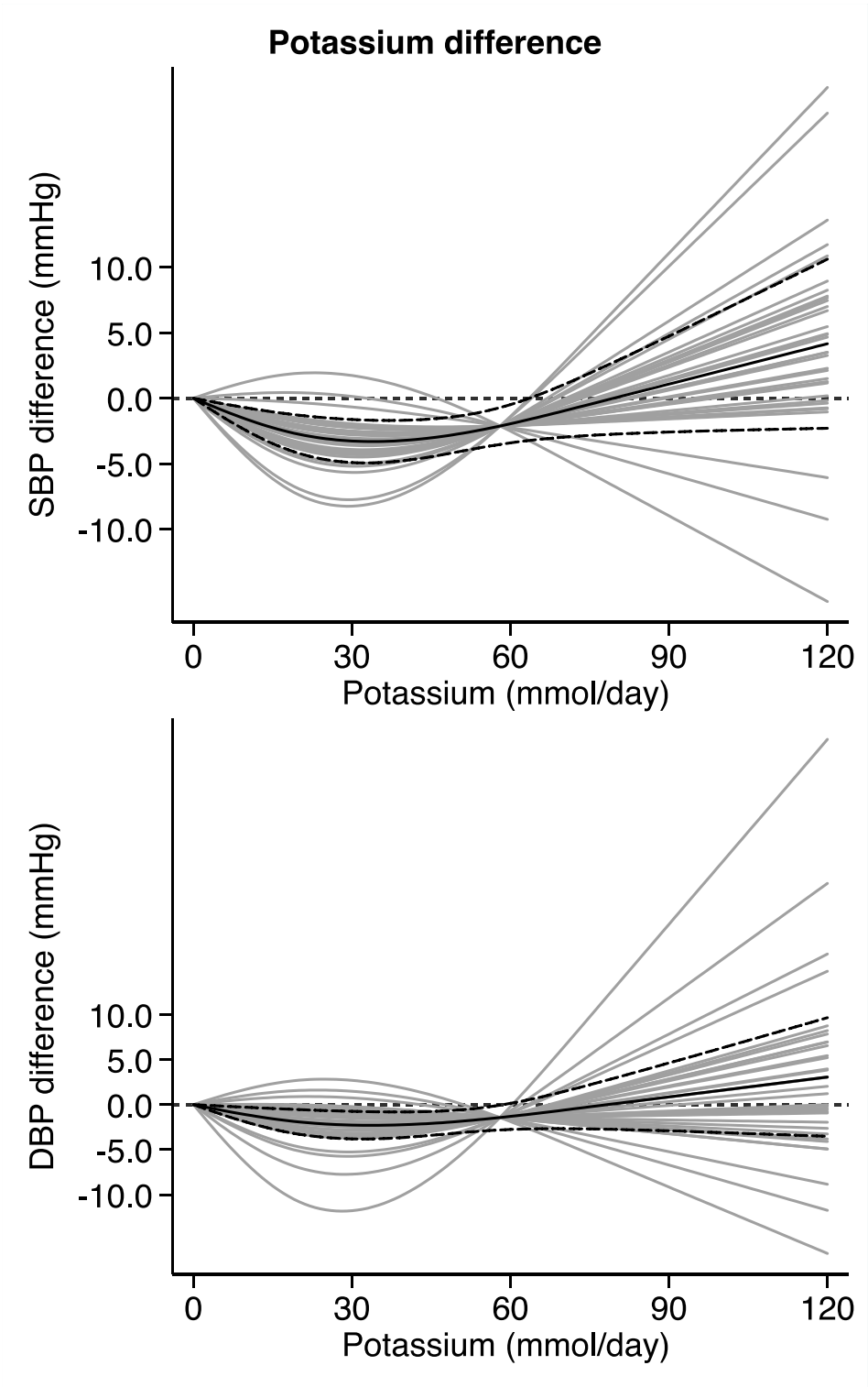
Each given named study is omitted when computing the overall meta-analysis summary estimate.

Figure S6. Sensitivity analysis of mean difference for changes in diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after removal of single study result (leave-one-out analysis).



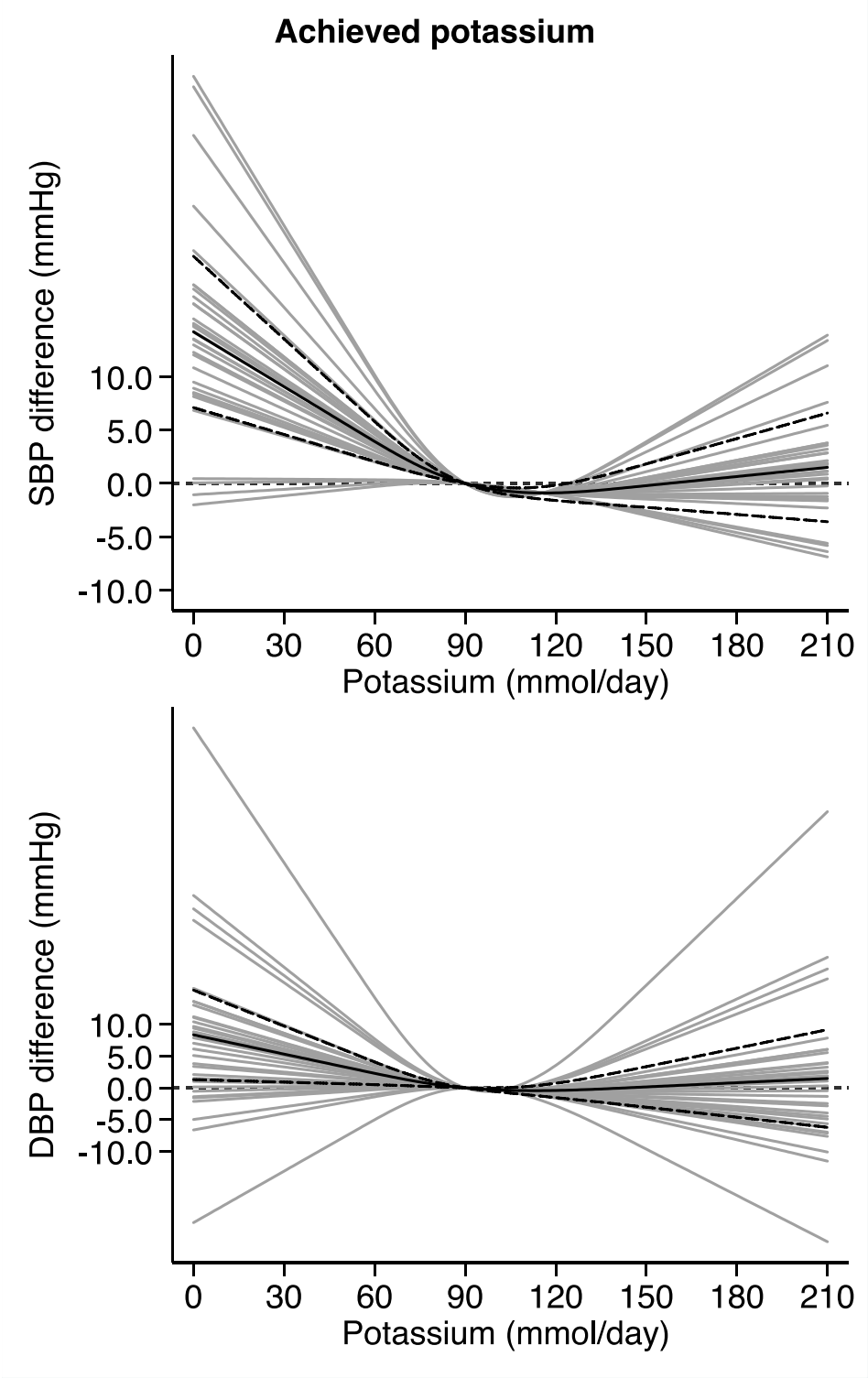
Each given named study is omitted when computing the overall meta-analysis summary estimate.

Figure S7. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms (potassium supplemented and control group) at the end of the trials.



All studies included (N=32). Sensitivity analysis of overall spline curve (black solid line) with 95% confidence limits (black dashed lines) and the study-specific trends showing the influence of variation across studies (gray solid lines).

Figure S8. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to achieved potassium excretion levels between arms (potassium supplemented and control group) at the end of the trials.



All studies included (N=32). Sensitivity analysis of overall spline curve (black solid line) with 95% confidence limits (black dashed lines) and the study-specific trends showing the influence of variation across studies (gray solid lines).

Figure S9. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups in participants with hypertension and with no hypertension.

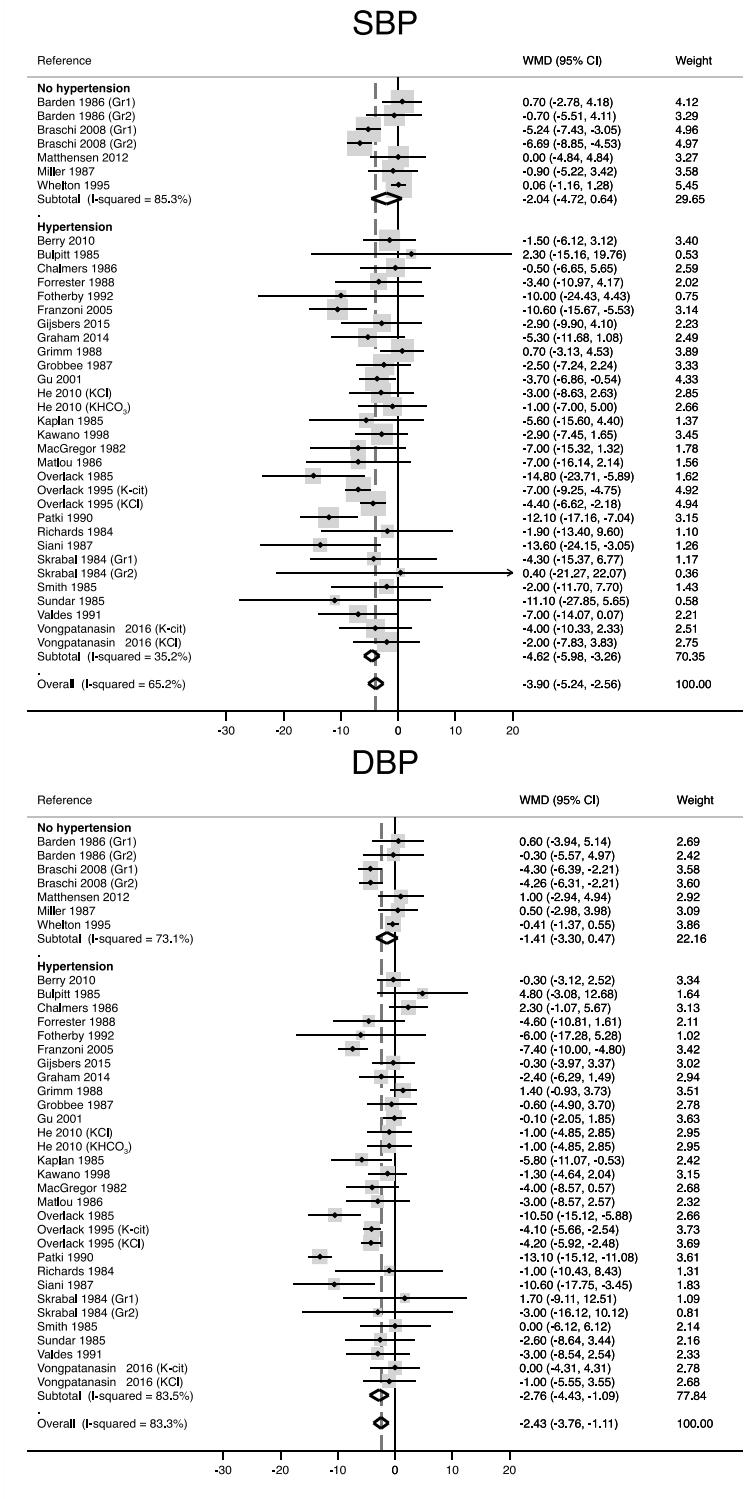


Figure S10. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups in participants with hypertension by use of anti-hypertensive medications.

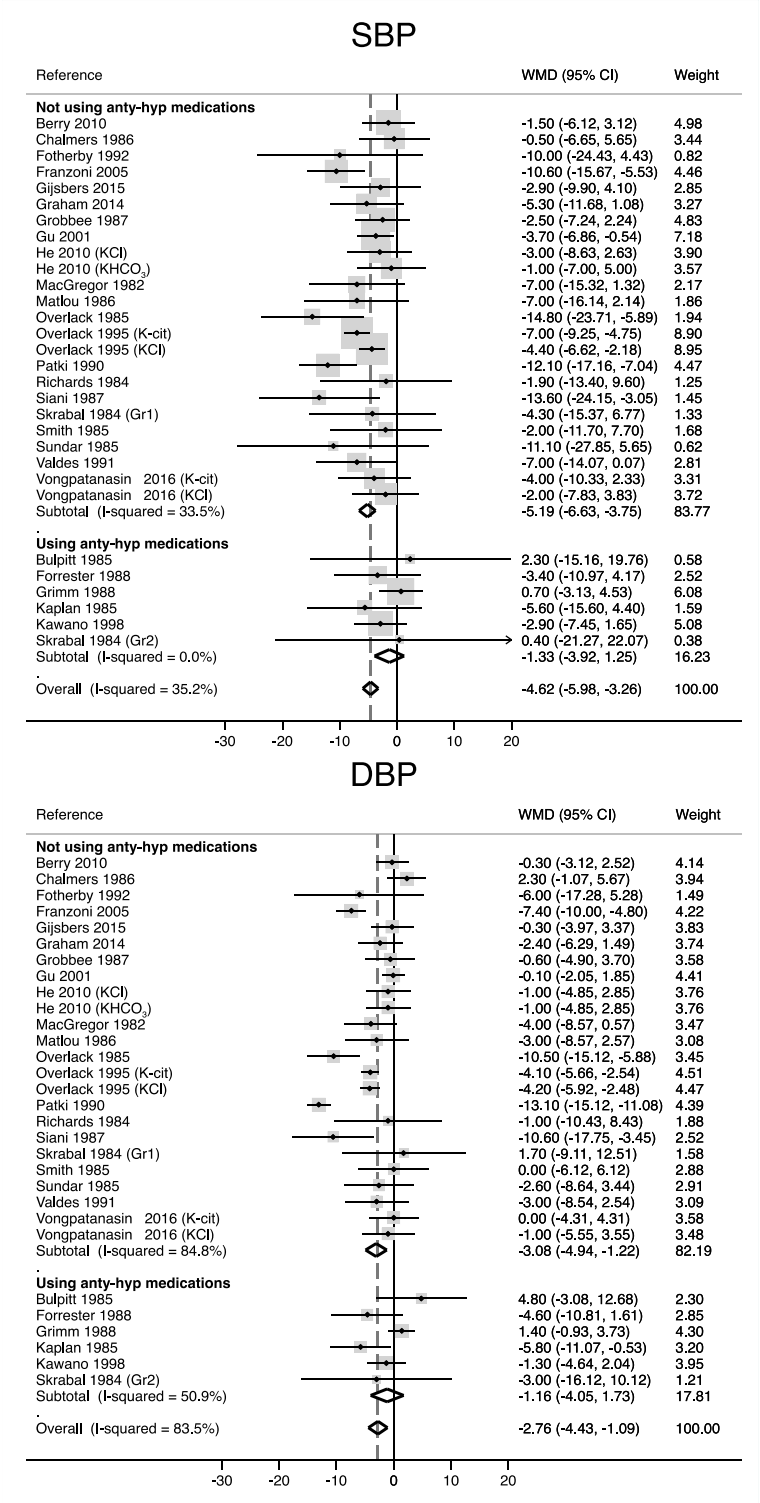
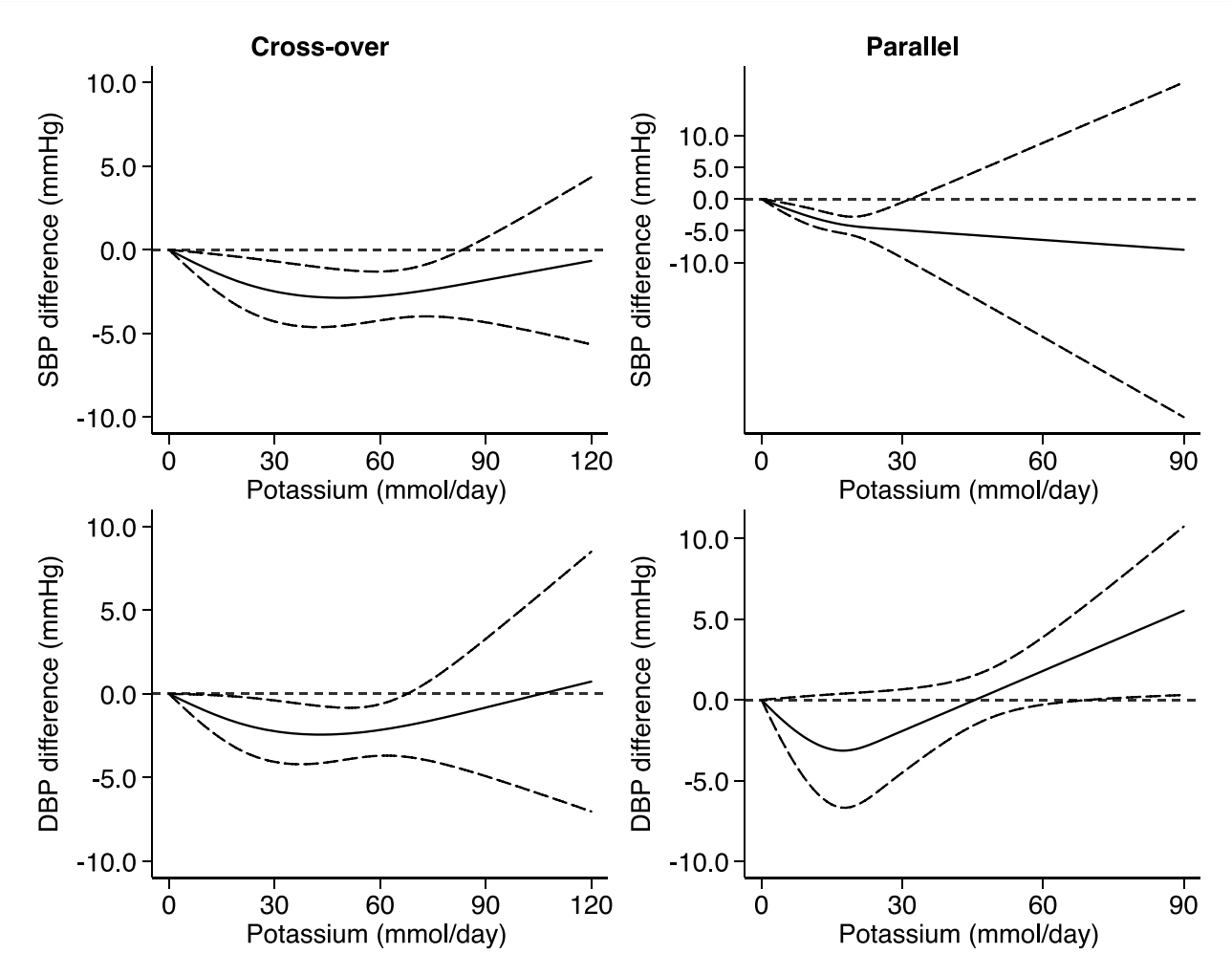
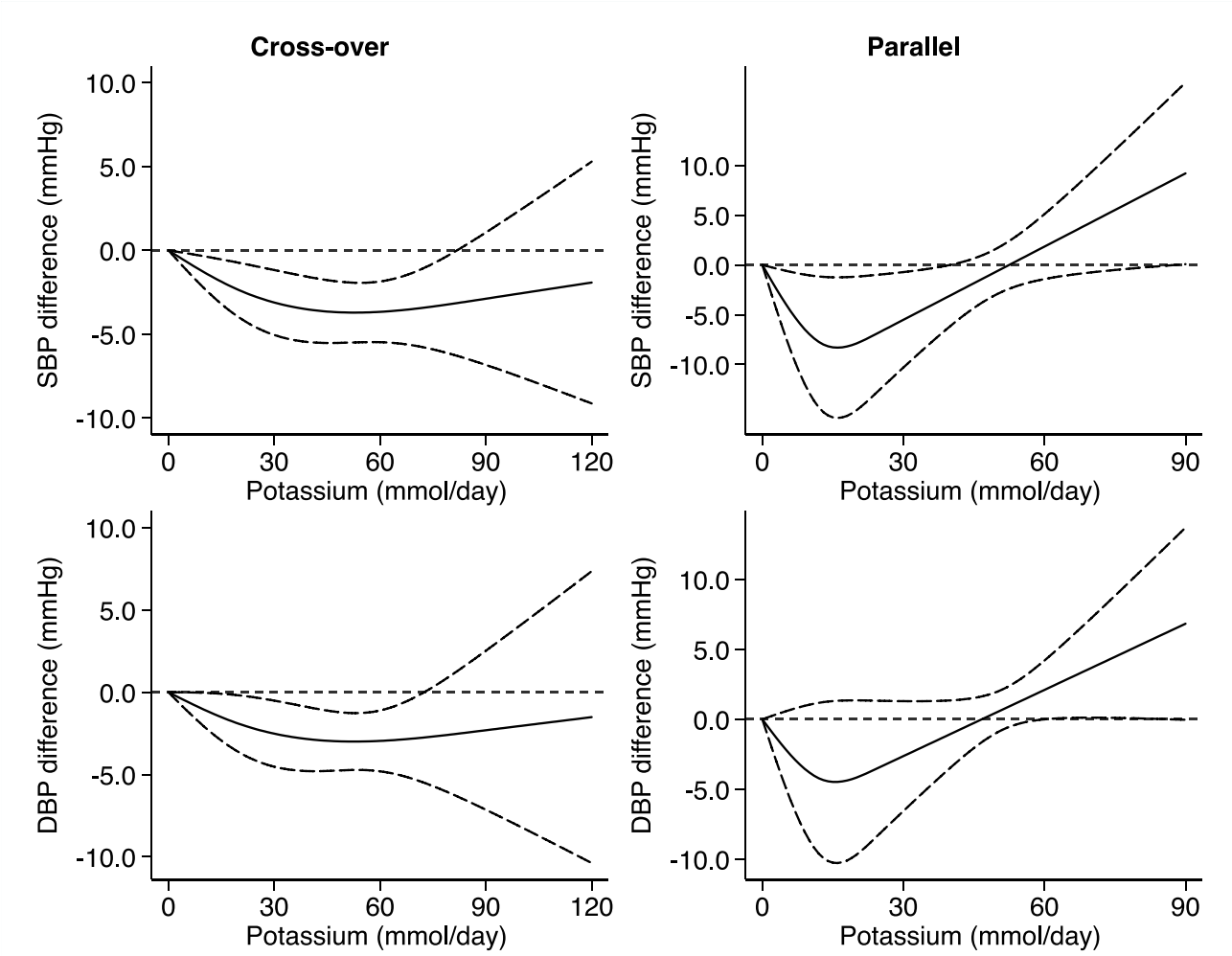


Figure S11. **Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials and by study design (cross-over N=23 vs. parallel N=9).**



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S12. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials and by study design (cross-over N=23 vs. parallel N=9), in subjects with hypertension only.



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S13. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups in all participants after stratification by study design (cross-over vs. parallel).

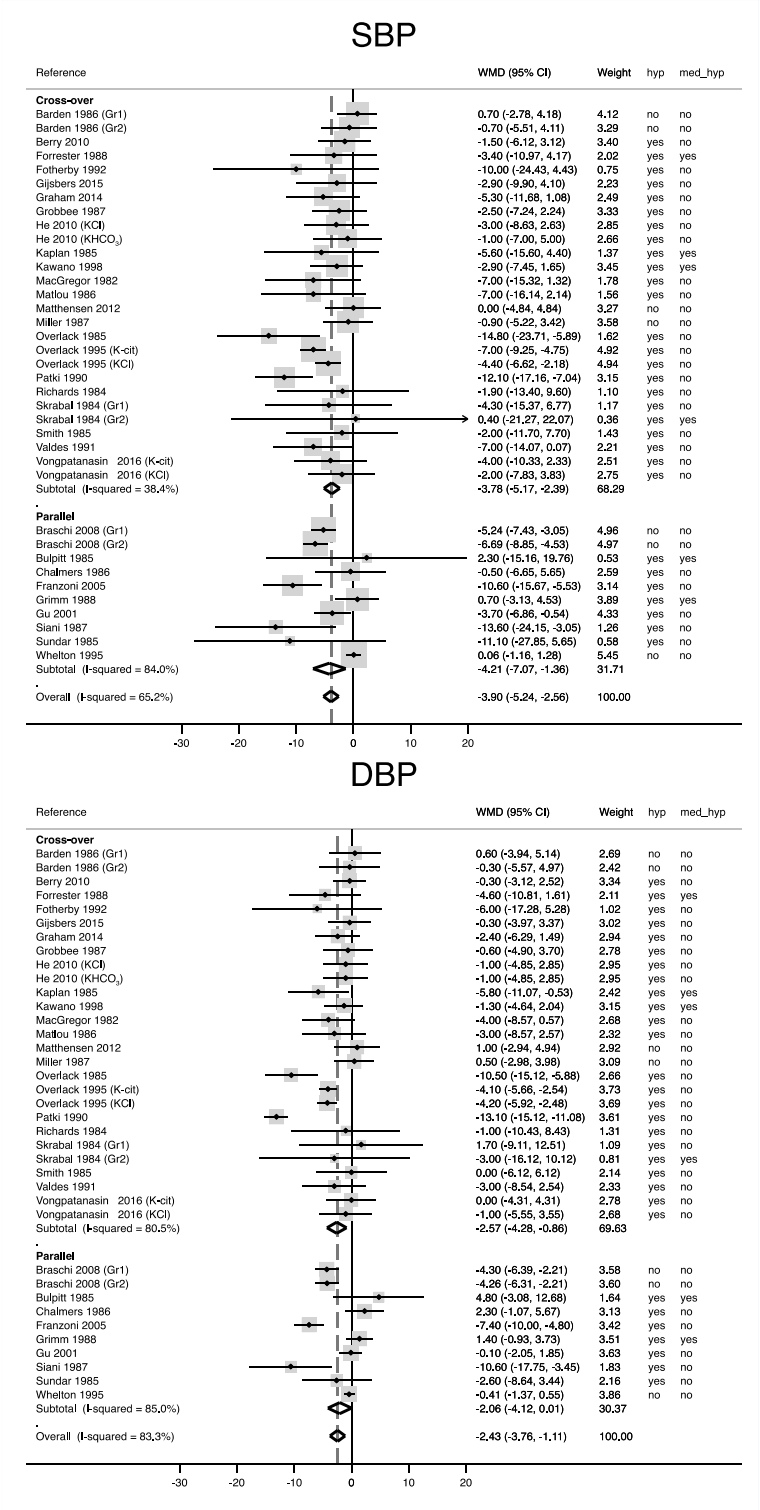


Figure S14. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after stratification by study design (cross-over vs. parallel) in subjects with hypertension only.

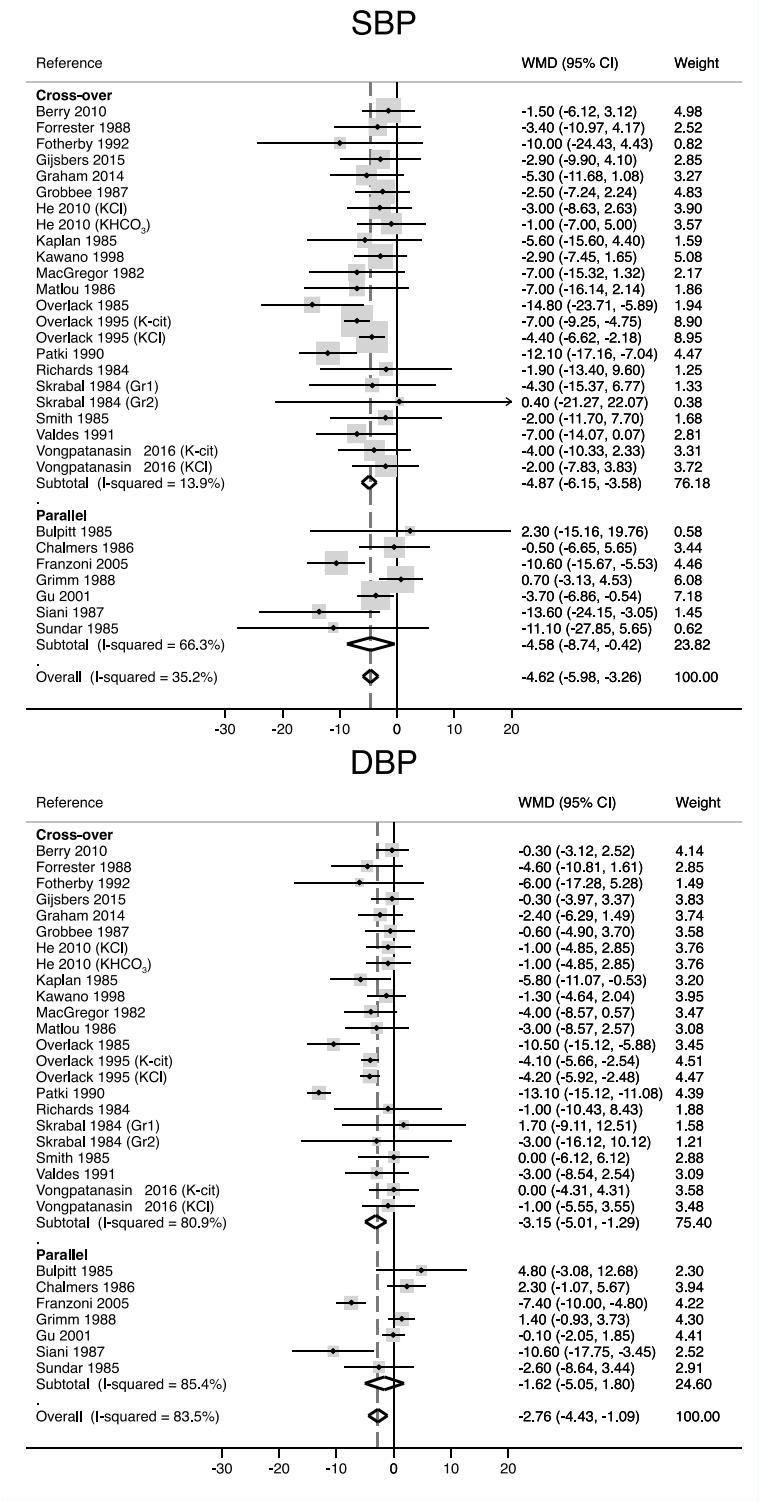
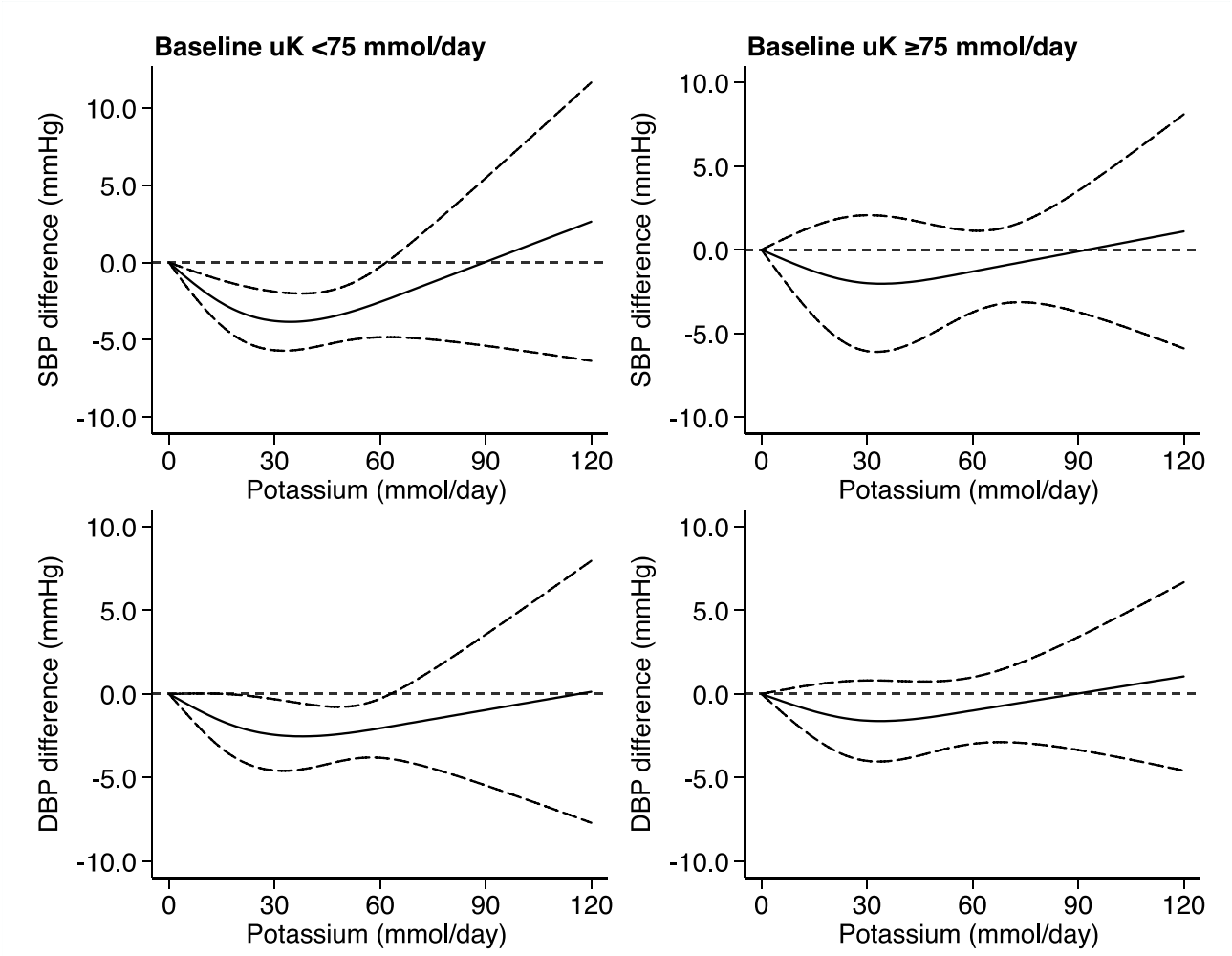


Figure S15. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials in studies with baseline potassium excretion (uK) below 75 mmol/day (N=26), and equal or above 75 mmol/day (N=8).



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S16. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after stratification by baseline potassium (uK <75 mmol/day, and ≥75 mmol/day).

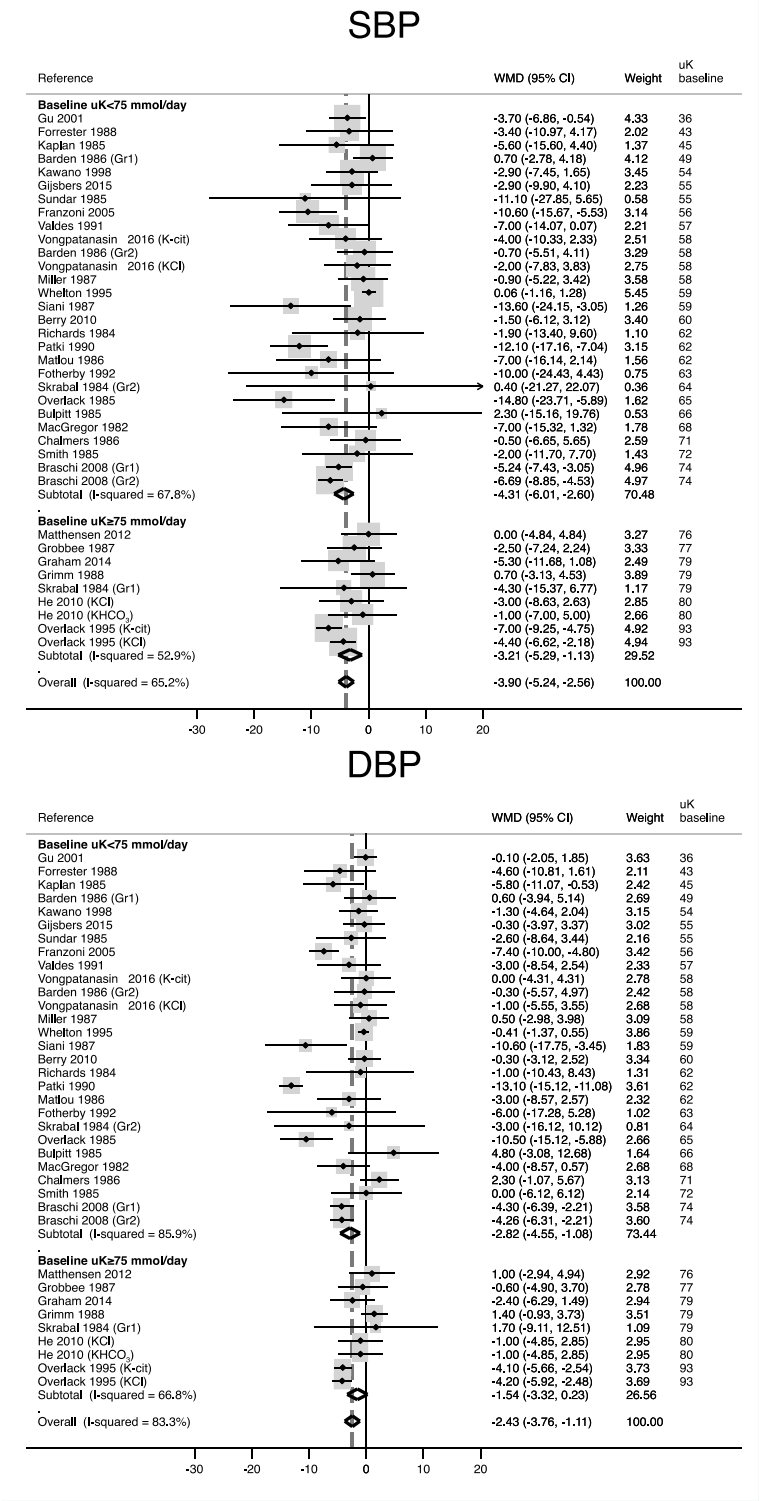


Figure S17. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups after stratification by baseline sodium (uNa <3 g/day, 3-4 g/day, and ≥4 g/day).

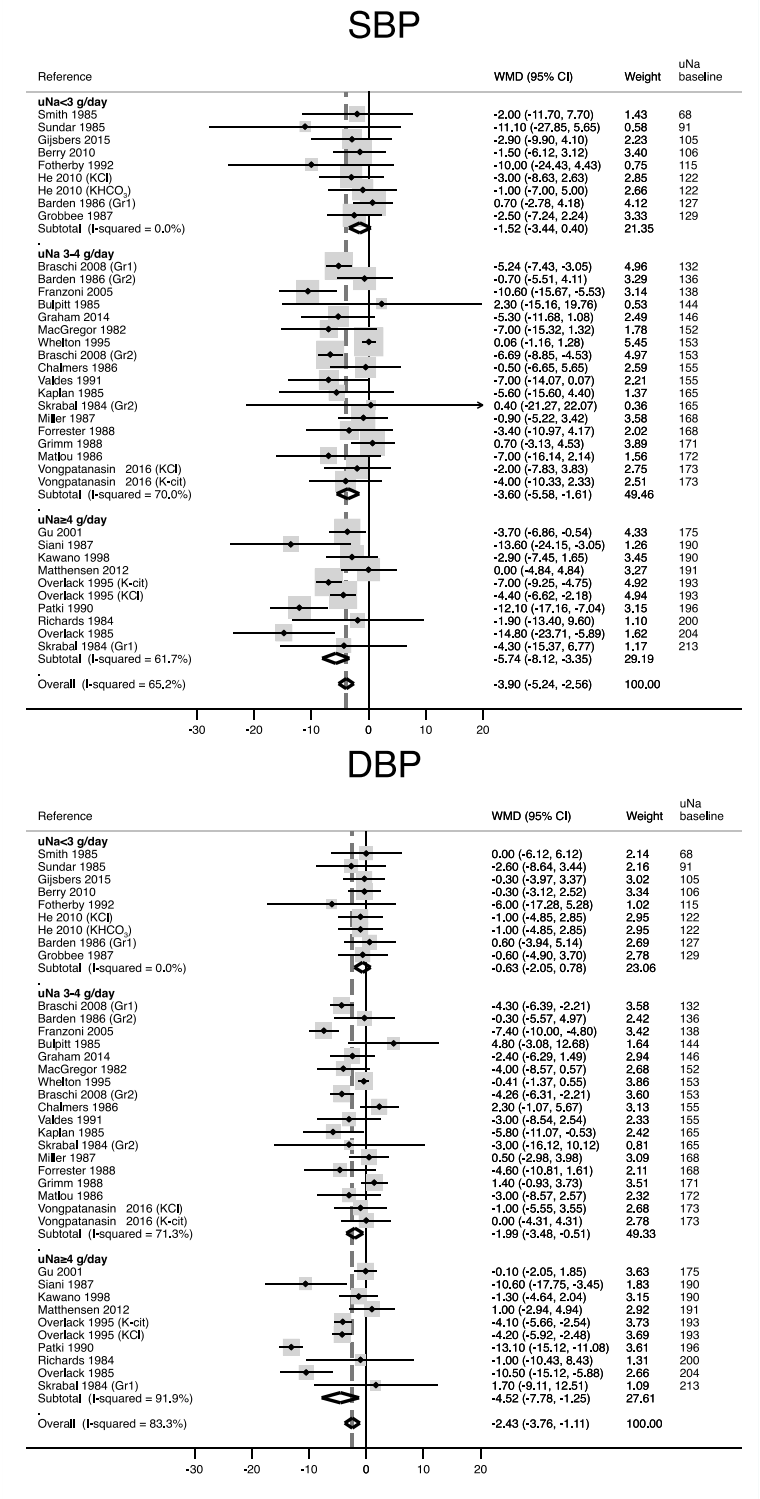


Figure S18. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups by position of BP measurement (supine, standing, seated, or other).

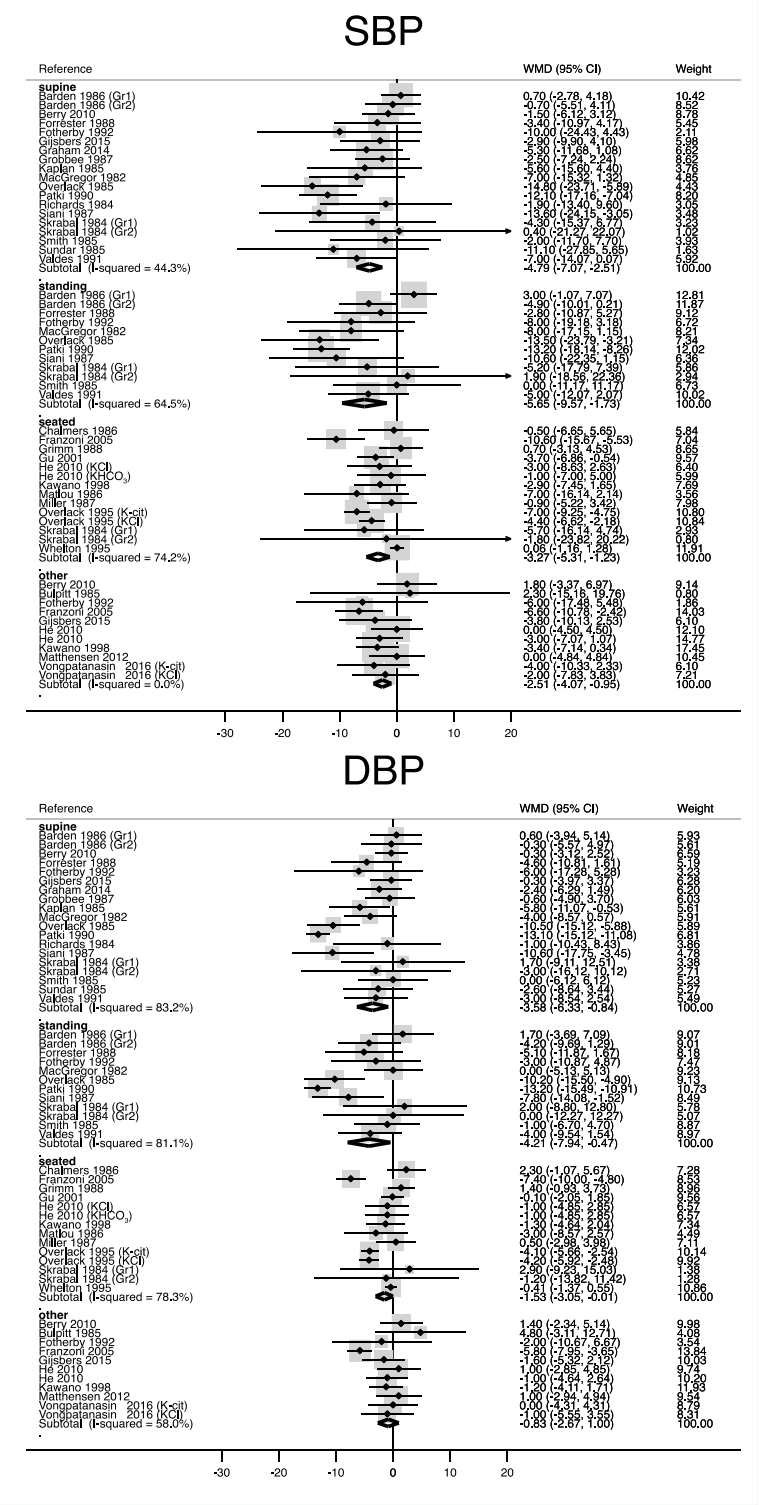


Figure S19. Meta-analysis of mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) between potassium treated and non-treated groups by blood pressure measurement modality (automatic vs. manual).

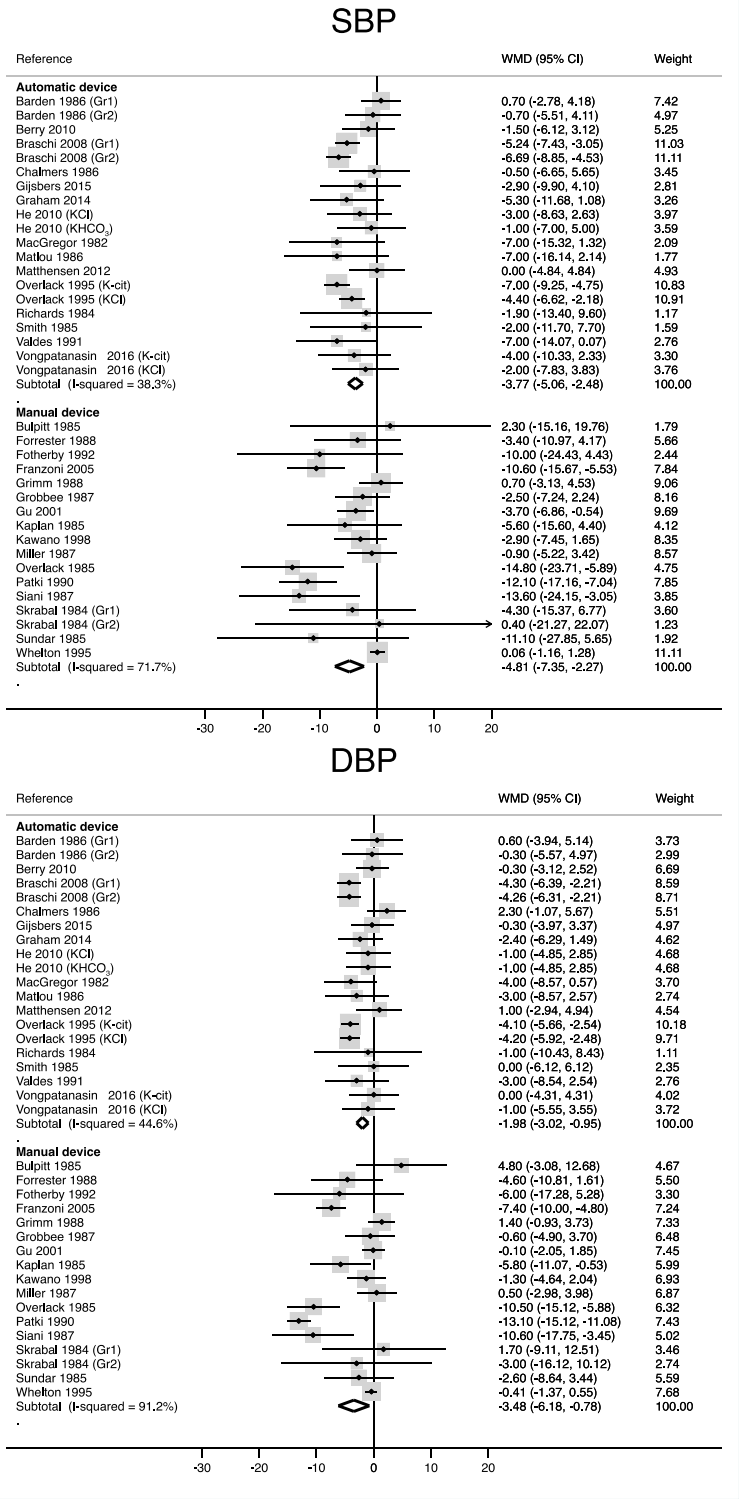
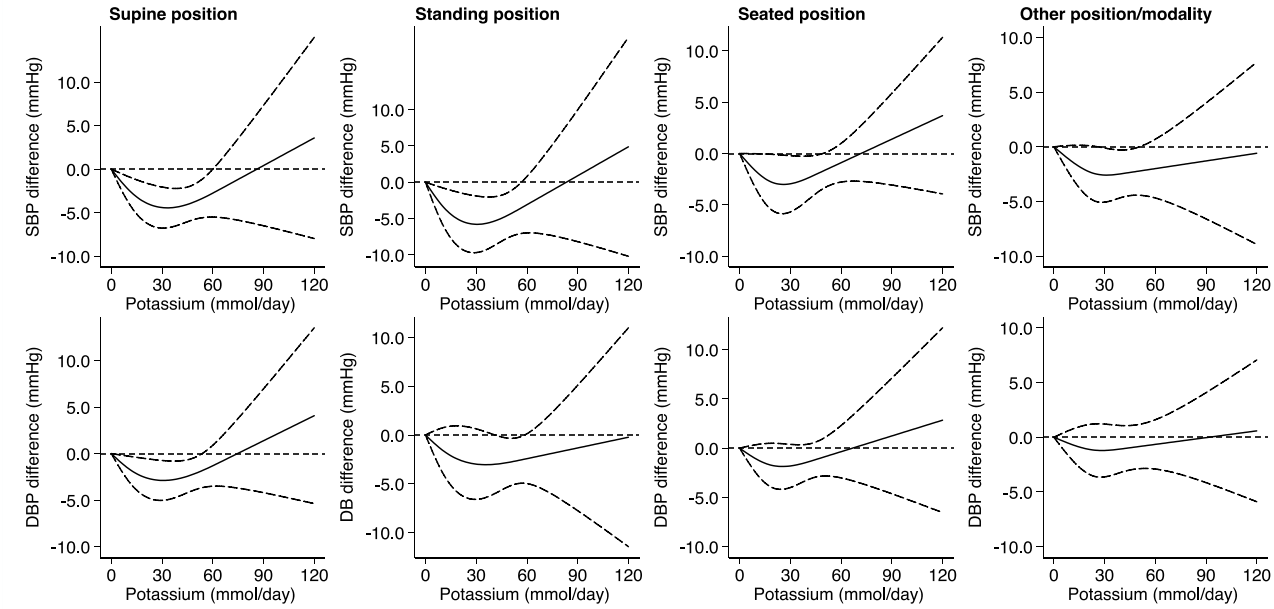
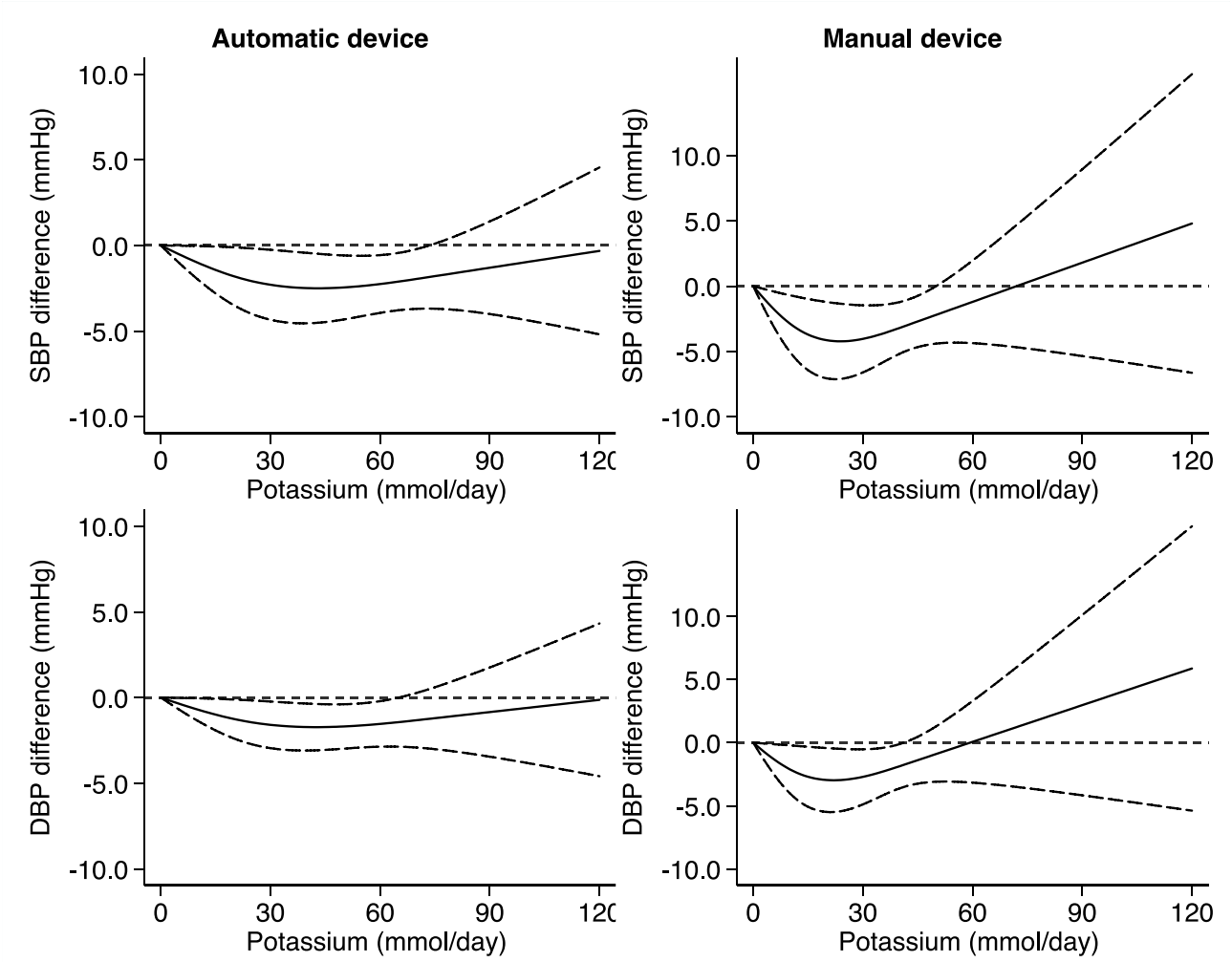


Figure S20. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials by position of BP measurement (supine N=19, standing N=11, seated N=11, or other N=9).



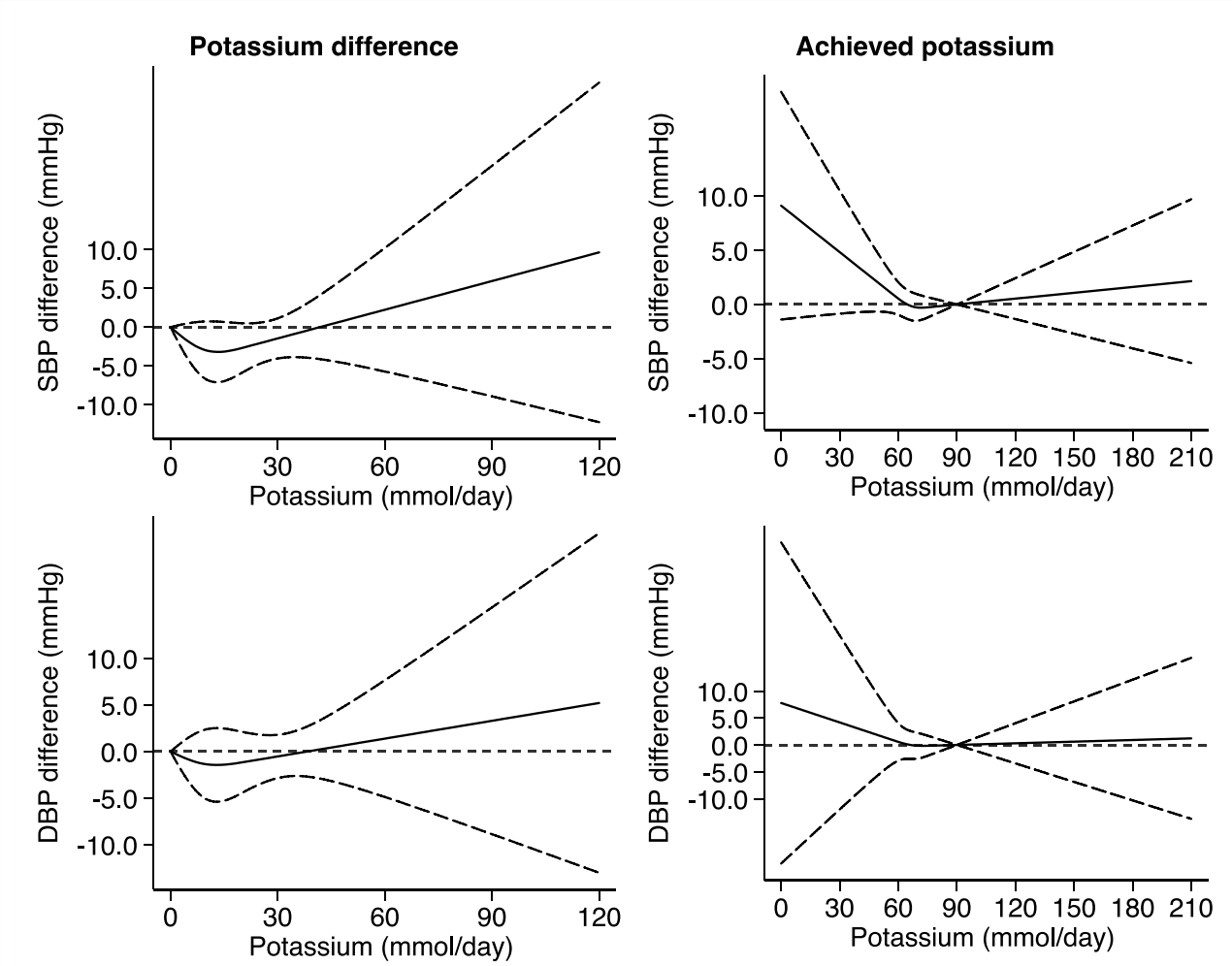
Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S21. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials by BP measurement modality (automatic N=15 vs. manual device N=17).



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S22. Dose-response meta-analysis of changes in systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels (as mmHg) according to differences in potassium excretion between the treatment arms at the end of the trials with duration ≥12 weeks (N=5).



Spline curve (solid line) with 95% confidence limits (long dashed lines).

Figure S23. Funnel plots for publication bias for mean difference for changes in systolic (SBP) and diastolic (DBP) blood pressure levels (as mmHg) and its standard error (SE).