| **Study** | **Participants** | **Intervention(s)** | **Intake Status Ascertainment** | **Findings - Outcomes and Comparison** |
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| Nestel, 199317  Location: NR  Setting: Community  Design: Randomized, parallel  Number of Sites: multiple  Study Years: unclear | Study of: Adults N: 66  Participants: % Male: 54.5 Mean Age/Range/Age at Baseline: Women: mean 65 (SD 3); Men: mean 66 (SD 5) Race: NR Systolic BP: Women: 120; Men: 129 Diastolic BP: Women: 68; Men: 77 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: Women: 24; Men 25 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: Normotensive men and women, aged 60-79, free of clinical cardiac, renal, hepatic and endocrine disorders. Not taking any drugs that might affect blood pressure. | Intervention Type(s):  Intervention 1: Other: No added salt Description: NR Form of Administration: Other: low salt diet Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Comparator: Other: Added Salt Description: NR Form of Administration: Other: low salt diet + added salt Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Duration: 2.5 months Exposure to Follow Up Time: NR | Sodium measure: Single 24-hour urine analysis with validation Best sodium measure recorded: 6 times separated by 2 weeks Sodium, Method of Validation: Compliance with urine collection assessed from the within-individual variation in 24-h creatinine excretion between visits, Single 24-hour urine analysis with validation Sodium Status Intervention 1: Women: 77 mmol/day; Men: 106 mmol/day Best potassium measure recorded: 6 times separated by 2 weeks Potassium, Method of Validation: Compliance with urine collection assessed from the within-individual variation in 24-h creatinine excretion between visits Potassium Status Intervention 1: Women: 78 mmol/day; Men: 83 mmol/da  How was blood pressure measured? Subjects either had fasted overnight, or had not eating in the 2 hours prior to measurement. After sitting quietly, for 5 min, BP was taken using a Dinamao automated sphygmomanometer fitted with an appropriate arm cuff. After the first reading was discarded, 4 measures were taken and averaged. | Subgroup: Women Diastolic BP-sitting Follow-Up Time: 6 weeks Comparison: Intervention 1 vs Comparator MD -5.00 (95% CI: -11.44 - 1.44) Systolic BP-sitting Follow-Up Time: 6 weeks Comparison: Intervention 1 vs Comparator MD -7.00 (95% CI: -16.73 - 2.73)  Subgroup: Men Diastolic BP-sitting Follow-Up Time: 6 weeks Comparison: Intervention 1 vs Comparator MD 0.00 (95% CI: -4.95 - 4.95) Systolic BP-sitting Follow-Up Time: 6 weeks Comparison: Intervention 1 vs Comparator MD -3.00 (95% CI: -9.54 - 3.54) |
| Nowson, 200318  Location: Australia  Setting: Community  Design: Randomized Cross-over individual  Number of Sites: 1  Crossover: Length of washout period: NR days  Study Years: NR | Study of: Adults N: 108  Participants: % Male: 41 Mean Age/Range/Age at Baseline: 47 Race: NR Systolic BP: 126.4+/-18.6 Diastolic BP: 79.2+/-11.9 Magnesium: NR Calcium: NR Other Minerals: sodium: 138.7+/-53.9; potassium: 78.6+/-23.7 Mean BMI: 26.1+/-4.2 % with Hypertension: 15 % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: Twin pairs 30 years or older Exclusion: currently undergoing treatment for cancer or renal disease; requiring insulin treatment for diabetes | Intervention Type(s):  Intervention 1: Dietary/lifestyle counseling (single or multiple sessions, including dietary advice) to reduce sodium intake Description: Low sodium/high potassium diet to achieve 50 mmol sodium and 80 mmol potassium Form of Administration: Dietary Modification: Low sodium, high potassium diet and placebo sodium pills Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Comparator: Dietary/lifestyle counseling (single or multiple sessions, including dietary advice) to reduce sodium intake Description: Low sodium/high potassium diet to achieve sodium mmol and 80 mmol potassium and sodium supplementation with slow sodium tablets to achieve 130 mmol/d sodium Form of Administration: Dietary Modification: Low sodium, high potassium diet Sodium supplement Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Duration: 4 weeks Exposure to Follow Up Time: 0 months | Sodium measure: Multiple 24-hour urine analysis with validation Best sodium measure recorded: 24-hour urine 3 times, 1 week apart during each 4-week phase Sodium, Method of Validation: creatinine, Multiple 24-hour urine analysis with validation Sodium Status Intervention 1: 89.4+/-4.2 mmol/d Best potassium measure recorded: 24-hour urine 3 times, 1 week apart during each 4-week phase Potassium, Method of Validation: NR Potassium Status Intervention 1: 87.1+/-2.1 mmol/d  How was blood pressure measured? mercury sphygmomanometer (model ALPK2; Stethoscope and Sphygmomanometer Specialists, Melbourne, Australia) while seated | Subgroup: Women Home measured BP, diastolic Follow-Up Time: 4 weeks Comparison: Intervention 1 vs Comparator MD -2.10 (95% CI: -7.98 - 3.78) Home measured BP, systolic Follow-Up Time: 4 weeks Comparison: Intervention 1 vs Comparator MD -2.40 (95% CI: -8.28 - 3.48) |
| Sacks, 200110  Vollmer, 200111; Svetkey, 200412; Harsha, 200413; Akita, 200314  Location: US  Setting: Community  Design: Randomized Cross-over individual  Study Name: DASH-Sodium  Number of Sites: multiple  Crossover: Length of washout period: <5 days  Study Years: NR | Study of: Adults N: 79  Mean Age/Range/Age at Baseline: 49(10) Race: 56% black; 40% NH white; 5% Asian/other Systolic BP: 135(10) Diastolic BP: 86(4) Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: 30(5) % with Hypertension: 41 % with history of CVD: 0 % with Type 2 diabetes: 0 % with Kidney disease: 0 % with history of Kidney stones: 0  Mean Age/Range/Age at Baseline: 47+/-10 Race: 57% black; 40% NH white; 3% Asian/other Systolic BP: 134+/-10 Diastolic BP: 86+/-5 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: 29+/-5 % with Hypertension: 41 % with history of CVD: 0 % with Type 2 diabetes: 0 % with Kidney disease: 0 % with history of Kidney stones: 0  Comparator: % Male: NR Mean Age/Range/Age at Baseline: NR Race: NR Systolic BP: NR Diastolic BP: NR Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: NR % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: 22 years old or more, average systolic blood pressure 120 to 159 mm Hg (over 3 visits) and average diastolic blood pressure 80 to 95 mm Hg Exclusion: heart disease, renal insufficiency, poorly controlled hyperlipidemia or diabetes mellitus, diabetes requiring insulin, special dietary requirements, more than 14 alcoholic drinks per week, or use of antihypertensive drugs or other medications that would affect blood pressure or nutrient metabolism | Intervention Type:  Intervention 1: Prescribed or synthetic diet (all food provided) with sodium quantified Description: Control High Sodium: To replicate typical diet with high sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to achieve high sodium intake Dose: 150 mmol sodium/d in control diet Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Intervention 2: Prescribed or synthetic diet (all food provided) with sodium quantified Description: Control Intermediate Sodium: To replicate typical diet with intermediate sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to achieve intermediate sodium intake Dose: 100 mmol sodium/d in control diet Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Comparator: Prescribed or synthetic diet (all food provided) with sodium quantified Description: Control Low Sodium: To replicate typical diet with low sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to achieve low sodium intake Dose: 50 mmol/d Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Intervention 3: NR Description: DASH High Sodium: To impose DASH diet with high sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to follow DASH with high sodium intake Dose: 150 mmol sodium/d in DASH diet Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Intervention 4: Prescribed or synthetic diet (all food provided) with sodium quantified Description: DASH intermediate Sodium: To impose DASH diet with intermediate sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to follow DASH with intermediate sodium intake Dose: 100 mmol/d Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR   Comparator: Prescribed or synthetic diet (all food provided) with sodium quantified Description: DASH Low Sodium: To achieve DASH diet with low sodium content Form of Administration: Dietary Modification: All foods provided, menu designed to follow DASH with low sodium intake Dose: 50 mmol/d Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Duration: 4 periods of 30 days each, including run-in Exposure to Follow Up Time: 0 months | Sodium measure: Chemical analysis of diet with intervention/exposure adherence measure, Single 24-hour urinary analysis without reported quality control measure Best sodium measure recorded: Single 24-hour urine analysis without validation measured at least 4 times, 4 weeks apart; chemical analysis of diet; Food diaries completed daily without validation; Sodium, Method of Validation: NR, Chemical analysis of diet with intervention/exposure adherence measure Sodium Status Intervention 1: 141+/-55 mmol/d Sodium Status Intervention 2: 106+/-44 mmol/d Sodium Status Comparator: 64+/-37mmol/d Sodium Status Intervention 3: 144+/-58 mmol/d Sodium Status Intervention 4: 107+/-52 mmol/d Potassium measure: Single 24-hour urine analysis without validation Best potassium measure recorded: Single 24-hour urine analysis without validation measured at least 4 times, 4 weeks apart; chemical analysis of diet; Food diaries completed daily without validation; Potassium, Method of Validation: Adherence checks via food diaries, supervised meals Potassium Status Intervention 1: 40+/-14 mmol/d Potassium Status Intervention 2: 41+/-14 mmol/d Potassium Status Comparator: 42+/-14 mmol/d Potassium Status Intervention 3: 75+/-27 mmol/d Potassium Status Intervention 4: 81+/-31 mmol/d  How was blood pressure measured? Random-zero sphygmomanometers, seated, 3 times during screening, weekly during 1st 3 weeks of intervention periods, and 5 times during last 9 days of intervention periods | Subgroup: Male Diastolic BP Follow-Up Time: 30 days Comparison: Intervention 3 vs Intervention 5 MD -1.60 (95% CI: -2.70 - -0.50) Comparison: Intervention 1 vs Comparator MD -3.20 (95% CI: -4.30 - -2.20) Systolic BP Follow-Up Time: 30 days Comparison: Intervention 3 vs Intervention 5 MD -1.70 (95% CI: -3.40 - 0.00) Comparison: Intervention 1 vs Comparator MD -5.70 (95% CI: -7.30 - -4.10)  Subgroup: Female Diastolic BP Follow-Up Time: 30 days Comparison: Intervention 3 vs Intervention 5 MD -1.70 (95% CI: -2.60 - -0.80) Comparison: Intervention 1 vs Comparator MD -3.70 (95% CI: -4.70 - -2.70) Systolic BP Follow-Up Time: 30 days Comparison: Intervention 3 vs Intervention 5 MD -4.00 (95% CI: -5.40 - -2.50) Comparison: Intervention 1 vs Comparator MD -7.50 (95% CI: -9.00 - -6.00) |
| Seals, 200119  Location: NR  Setting: Community  Design: Randomized, parallel  Number of Sites: multiple  Study Years: unclear | Study of: Adults N: 39  Intervention 1: % Male: 0 Mean Age/Range/Age at Baseline: mean 65 (SD 10) Race: NR Systolic BP: NR Diastolic BP: NR Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: 28.1 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Comparator: % Male: 0 Mean Age/Range/Age at Baseline: mean 62 (SD 9) Race: NR Systolic BP: NR Diastolic BP: NR Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: 28.1 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: postmenopausal status (amenorrheic for at least two years and follicle stimulating hormone plasma concentrations .40 IU/l); >50 years of age, during sitting rest: SBP 130 to 159 mm Hg with diastolic BPDBP<=99 mm Hg. No antihypertensive medications taken in the last two months; and a body mass index (BMI) < 35 Exclusion: Other chronic disease, on a low-sodium diet, performed regular exercise during the preceding two years, smoking | Intervention Type(s):  Intervention 1: Prescribed or synthetic diet (all food provided) with sodium quantified Description: Reduce sodium intake to <100 mmol/day Form of Administration: Dietary Modification: low sodium Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Comparator: Other: Exercise Description: Exercise arm, no diet changes Form of Administration: Other: Exercise arm Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Duration: 3 months Exposure to Follow Up Time: NR | Sodium measure: Chemical analysis of diet with intervention/exposure adherence measure, Single 24-hour urinary analysis without reported quality control measure Best sodium measure recorded: 2 times, 3 months apart Sodium Status Intervention 1: 86 mmol/day  How was blood pressure measured? BP measured at rest in the upright seated position between 7 and 11 AM after an overnight fast. Recordings were obtained in triplicate in three separate sessions at least one week apart in order to establish the stable readings | Subgroup: Women Diastolic BP-24H AMB Follow-Up Time: 13 weeks Comparison: Intervention 1 vs Comparator MD -2.11 (95% CI: -4.99 - 0.77) Systolic BP-24H AMB Follow-Up Time: 13 weeks Comparison: Intervention 1 vs Comparator MD -7.11 (95% CI: -11.82 - -2.40) |
| The Trials of Hypertension Prevention Collaborative Research Group, 199220; Erratum, 199221; Satterfield, 199122; Whelton, 199223; Whelton, 199724; He, 199925; Kumanyika, 199326; Whelton, 199427; Cook, 200728; Cook, 199829; Yamamoto, 199530; Cook, 201631  Location: US  Setting: Community  Design: Randomized, parallel  Study Name: The Trials of Hypertension Prevention, phase 1 (TOHP-1)  Number of Sites: 10  Study Years: 1987-1995 | Study of: Adults N: 744  Intervention 1: % Male: 70.9 Mean Age/Range/Age at Baseline: mean 43.4 (SD 6.6) Race: 78 Systolic BP: 124.8 Diastolic BP: 83.7 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: weight, kg mean 82.7 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Intervention 2: % Male: 69.7 Mean Age/Range/Age at Baseline: mean 43.1 (SD 6.6) Race: 84 Systolic BP: 122.6 Diastolic BP: 81.1 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: weight, kg mean 83.6 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Intervention 3: % Male: 74.7 Mean Age/Range/Age at Baseline: mean 42.8 (SD 6.5) Race: white 88.8% Systolic BP: 120.7 Diastolic BP: 80.8 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: weight, kg mean 81.6 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Comparator: % Male: 71.7 Mean Age/Range/Age at Baseline: mean 42.6 (SD 6.5) Race: white 76.5% Systolic BP: 125.1 Diastolic BP: 83.9 Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: weight, kg mean 82.8 % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: Healthy adults, ages 30-54 with high normal DBP, not taking antihypertensive drugs for the prior 2 months Exclusion: Clinical or lab evidence of cardiovascular or other disabling or life threatening diseases. Conditions that would contraindicate or require any of the interventions. Unwillingness or inability to comply with data collection or intervention procedures. | Intervention Type(s):  Intervention 1: Dietary/lifestyle counseling (single or multiple sessions, including dietary advice) to reduce sodium intake Description: NR Form of Administration: Dietary Modification: Life-style interventions, provided by psychologists, nutritionists, or other experienced counselors, mostly group educational sessions, with some individual counseling Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Intervention 2: Usual Diet Description: Participants asked not to change their usual diet Form of Administration: Other: placebo Dose: Placebo Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Intervention 3: Use of potassium supplement to increase potassium levels Description: NR Form of Administration: NR Dose: potassium chloride, 60 mmol/day Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Comparator: Usual Diet Description: Participants asked not to change their usual diet Form of Administration: Usual diet Dose: NR Na/K ratio: NR Magnesium: NR Calcium: NR Other Minerals: NR  Duration: Lifestyle intervention 18 months; Nutritional supplement 6 months Exposure to Follow Up Time: NR | Sodium measure: Multiple 24-hour urine analysis with validation, 24-hour diet recall Best sodium measure recorded: 0, 3, 6, months, 12 and 18 months for lifestyle groups Sodium, Method of Validation: Multiple 24-hour urine analysis with validation, 24-hour "diet recall" Sodium Status Intervention 1: 99.4 mmol/24 h Sodium Status Intervention 2: NR Sodium Status Intervention 3: NR Best potassium measure recorded: 0, 3, 6, months, 12 and 18 months for lifestyle groups Potassium Status Intervention 1: NR Potassium Status Intervention 2: Change from baseline -2.4 mmol/24 h Potassium Status Intervention 3: Change from baseline 37.4 mmol/24h  How was blood pressure measured? Collected at 0, 3, 6, months, 12 and 18 months for lifestyle groups. BP was measured with a Hawksley random-zero sphygmomanometer, after sitting at rest for 5 minutes . The average of three readings (first and fifth Korotkoffs sounds) were recorded at each visit. | Subgroup: Women Diastolic BP-sitting Follow-Up Time: 6 months Comparison: Intervention 1 vs Comparator MD -1.63 (95% CI: -3.52 - 0.27) Systolic BP-sitting Follow-Up Time: 6 months Comparison: Intervention 1 vs Comparator MD -0.68 (95% CI: -3.20 - 1.84)  Subgroup: Men Diastolic BP-sitting Follow-Up Time: 6 months Comparison: Intervention 1 vs Comparator MD -0.54 (95% CI: -1.56 - 0.48) Systolic BP-sitting Follow-Up Time: 6 months Comparison: Intervention 1 vs Comparator MD 0.07 (95% CI: -1.18 - 1.33) |
| Zhou, 201615; Zhou, 201316  Location: China  Setting: Community  Design: Cluster RCT Parallel  Number of Sites: multiple  Study Years: unclear | Study of: Both adults and children N: 462  Participants: % Male: NR Mean Age/Range/Age at Baseline: NR Race: NR Systolic BP: NR Diastolic BP: NR Magnesium: NR Calcium: NR Other Minerals: NR Mean BMI: NR % with Hypertension: NR % with history of CVD: NR % with Type 2 diabetes: NR % with Kidney disease: NR % with history of Kidney stones: NR  Inclusion: Families were at least one member was a hypertension patient; the participant had an estimated daily sodium intake of \_260 mmol per day; Individuals were at least 18 years of age and had no significant renal impairment or other indication for a potassium-sparing medication. Exclusion: Moving | Intervention Type(s): Duration: NR Exposure to Follow Up Time: NR |  | Subgroup: Male Diastolic BP-sitting Follow-Up Time: 36 months Comparison: Intervention 1 vs Comparator MD -1.93 (95% CI: -2.03 - -1.83) Systolic BP-sitting Follow-Up Time: 36 months Comparison: Intervention 1 vs Comparator MD -6.48 (95% CI: -11.74 - -1.22)  Subgroup: Female Diastolic BP-sitting Follow-Up Time: 36 months Comparison: Intervention 1 vs Comparator MD -3.83 (95% CI: -3.92 - -3.74) Systolic BP-sitting Follow-Up Time: 36 months Comparison: Intervention 1 vs Comparator MD -3.94 (95% CI: -6.85 - -1.03) |