| **Study** | **Participants** | **Exposure** | **IntakeStatus Ascertainment** | **Results** |
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| Singer, 2015150Location: USSetting: a union- sponsored, worksite hypertension programDesign: Prospective Cohort study. | Study of: AdultsN: 3505% Male: 64Mean Age/Range/Age at Baseline: mean 52 (SD 10)Race: Q1 black 30.2% white 31.7% Hispanic 33.7% other 4.4%; Q2 black 30.5% white 33.7% Hispanic 34.8% other 2.1%; Q4 black 30.5% white 31.7% Hispanic 35.7% other 2.1%; Q4 black 28.6% white 29.3% Hispanic 38.3% other 3.8%Systolic BP: mean (SD) Q1 146.4 (18.5) Q2 145.3 (17.7) Q3 145.2 (16.5) Q4 145.8 (16.3)Diastolic BP: mean (SD) Q1 93.6 (10.0) Q2 93.9 (9.7) Q3 94.1 (9.4) Q5 (95.1 (9.6)Magnesium: NRCalcium: NROther Minerals: NRMean BMI: mean (SD) Q1 27.4 (4.1) Q2 27.8 (4.1) Q3 28.9 (4.5) Q4 30.0 (4.9)% with Hypertension: drug use Q1 37.0% Q2 39.9% Q3 40.2% Q4 35.2%% with history of CVD: MI Q1 1.1% Q2 0.5% Q3 1.0% Q4 1.5%; Stroke Q1 0.9% Q2 0.6% Q3 0.9% Q4 0.7%% with Type 2 diabetes: Q1 4%; Q2 6.3% Q3 5.6% Q4 6.0%% with Kidney disease: Q1 1.5%; Q2 1.4%; Q3 1.2%; Q4 2.2%% with history of Kidney stones: NRInclusion: Participants with an SBP >= 140 mm Hg (>= 160mm Hg before Joint National Committee 5), DBP >= 90 mmHg (>= 95 Hg before Joint National Committee 5), or being on antihypertensive medication at the time of screening were included.Exclusion: not report | Exposure Type: Urine sodiumExposure Unit: mmol/24 hDuration: NRExposure to Follow Up Time: in-pregram 6.5 years, follow-up from initial intake to death or last known alive 18.6 yearsAll cardiovascular mortality (Coronary artery disease, including MI, ischemic heart disease, heart failure, and hypertensive heart disease: ICD-9: 402.9, 410–414.9, 427.5, 429.2;ICD-10: I10–11.9, I13–I13.2, I20–I25.9, I46–I46.9;stroke: ICD-9: 434–434.9, 436–438.9; ICD-10: I61–I64.9; o), Limited cardiovascular mortality (Only MI, ischemic or hypertensive heart disease, and heart failure)Dose format: mean (SD)Q1, Dose: 55 (20)Q2, Dose: 102 (17)Q3, Dose: 143 (20)Q4, Dose: 221 (56)All-cause mortalityDose format: mean (SD)Q2, Dose: 102 (17)Q3, Dose: 143 (20)Q4, Dose: 221 (56) | Sodium measure: Single 24-hour urinary analysis without reported quality control measureBest sodium measure recorded: once at baselineHow was blood pressure measured? not reportedMortality Outcomes-Method of Ascertainment: National Death Index Plus and the Social Security Administration Death Master File | All cardiovascular mortality (Coronary artery disease, including MI, ischemic heart disease, heart failure, and hypertensive heart disease: ICD-9: 402.9, 410–414.9, 427.5, 429.2;ICD-10: I10–11.9, I13–I13.2, I20–I25.9, I46–I46.9;stroke: ICD-9: 434–434.9, 436–438.9; ICD-10: I61–I64.9; o) (mmol/24 h/Outcome):Mean 18.6 years FUQ1 cases: 128, total: 890, Q2 cases: 97, total: 876, Q3 cases: 96, total: 865, Q4 cases: 78, total: 874Adjustment: Age, sex, race, BMI, SBP, eGFR, urine potassium, hematocrit, plasma renin activity, HxDM, Hx smoking, history of baseline left ventricular hypertrophyNo significant association between urinary sodium excretion and cardiovascular death was observedAll-cause mortality ( /Outcome):Q2 cases: 276, total: 876, Q3 cases: 234, total: 865, Q4 cases: 216, total: 874Limited cardiovascular mortality (Only MI, ischemic or hypertensive heart disease, and heart failure) (mmol/24 h/Outcome):Mean 18.6 years FUQ1 cases: NR, total: 890, Q2 cases: NR, total: 876, Q3 cases: NR, total: 865, Q4 cases: NR, total: 874Adjustment: Age, sex, race, BMI, SBP, urine creatinine, plasma renin activity, HxDM, Hx smoking, history of baseline left ventricular hypertrophyNo significant association between urinary sodium excretion and limited cardiovascular mortality. |
| Yang, 2011146; Cohen, 2008147Location: USSetting: CommunityDesign: Prospective Cohort studyStudy Name:NHANES III. | Study of: AdultsN: NR% Male: 48.1%Mean Age/Range/Age at Baseline: ranged 25-74 yearsRace: NRSystolic BP: NRDiastolic BP: NRMagnesium: NRCalcium: NROther Minerals: NRMean BMI: NR% with Hypertension: NR% with history of CVD: NR% with Type 2 diabetes: NR% with Kidney disease: NR% with history of Kidney stones: NRInclusion: Included non pregnant adults ages 20 and older, those who completed a physical examination, and who had mortality follow-up information.Exclusion: Excluded survey participants with incomplete data on one or more 24-hour dietary recalls. Excluded those partaking a reduced salt diet for hypertension and those with a history of heart attack, stroke, or congestive heart failure. | Exposure Type: Sodium-Potassium RatioExposure Unit: mg/mgExposure Type: Usual Potassium IntakesExposure Unit: mg/dExposure Type: Usual Sodium IntakesExposure Unit: mg/dDuration: NRExposure to Follow Up Time: NRAll-cause mortality (ICD-10 codes I00-I78)Dose format: medianQ1, Dose: 0.9Q1, Dose: 1790Q1, Dose: 2018Q2, Dose: 1.06Q2, Dose: 2483Q2, Dose: 2875Q3, Dose: 1.18Q3, Dose: 3123Q3, Dose: 3705Q4, Dose: 1.33Q4, Dose: 4095Q4, Dose: 4974per 1000 mg/d, Dose: NR for HYPERTENSIVEper unit change, Dose: NR for HYPERTENSIVECVD mortality (ICD-10 codes I00-I78)Dose format: medianQ1, Dose: 0.9Q1, Dose: 1790Q1, Dose: 2018Q2, Dose: 1.06Q2, Dose: 2483Q2, Dose: 2875Q3, Dose: 1.18Q3, Dose: 3123Q3, Dose: 3705Q4, Dose: 1.33Q4, Dose: 4095Q4, Dose: 4974per 1000 mg/d, Dose: NRper unit change, Dose: NR | Sodium measure: 24-hour diet recallBest sodium measure recorded: single 24-hour dietary recallSodium, Method of Validation: a subgroup of 8% adults provided a second 24-hour dietary recall, 24-hour "diet recall"Best potassium measure recorded: single 24-hour dietary recallPotassium, Method of Validation: a subgroup of 8% adults provided a second 24-hour dietary recallMortality Outcomes-Method of Ascertainment: National death index | All-cause mortality (ICD-10 codes I00-I78) (mg/d/Outcome):Median 14.8 y FUQ1 cases: NR, total: NR, per 1000 mg/d cases: 1155, total: NR, person-years: 35640, per unit change cases: 1155, total: NR, person-years: 35640, Q2 cases: NR, total: NR, Q3 cases: NR, total: NR, Q4 cases: NR, total: NRAdjustment: Sex, race/ethnicity, educational attainment, body mass index, smoking status, alcohol intake, total cholesterol, high-density lipoprotein cholesterol, physical activity, family history of cardiovascular disease, and total calorie intakeIn multivariable analysis, higher sodium intake was associated with increased all-cause mortality.Significant association between higher sodium potassium ratio and all-cause mortality among those with hypertension.CVD mortality (ICD-10 codes I00-I78) (mg/d/Outcome):Median 14.8 y FUQ1 cases: NR, total: NR, per 1000 mg/d cases: 490, total: NR, person-years: 35640, per unit change cases: 490, total: NR, person-years: 35640, Q2 cases: NR, total: NR, Q3 cases: NR, total: NR, Q4 cases: NR, total: NRAdjustment: Sex, race/ethnicity, educational attainment, body mass index, smoking status, alcohol intake, total cholesterol, high-density lipoprotein cholesterol, physical activity, family history of cardiovascular disease, and total calorie intakeIn multivariable analysis, higher sodium intake was associated with increased all-cause mortality.Significant association between higher sodium potassium ratio and CVD mortality among those with hypertension.All-cause mortality (ICD-10 codes I00-I78) (mg/d/Outcome):Median 14.8 y FUQ1 cases: NR, total: NR, per 1000 mg/d cases: 1155, total: NR, person-years: 35640, Q2 cases: NR, total: NR, Q3 cases: NR, total: NR, Q4 cases: NR, total: NRAdjustment: Sex, race/ethnicity, educational attainment, body mass index, smoking status, alcohol intake, total cholesterol, high-density lipoprotein cholesterol, physical activity, family history of cardiovascular disease, and total calorie intakeAmong subgroups of Hispanic, non-Hispanic, hypertensive, non-hypertenseive participants, there is no evidence of significant interactions between potassium intake and risk of mortality.CVD mortality (ICD-10 codes I00-I78) (mg/d/Outcome):Median 14.8 y FUQ1 cases: NR, total: NR, per 1000 mg/d cases: 490, total: NR, person-years: 35640, Q2 cases: NR, total: NR, Q3 cases: NR, total: NR, Q4 cases: NR, total: NRAdjustment: Sex, race/ethnicity, educational attainment, body mass index, smoking status, alcohol intake, total cholesterol, high-density lipoprotein cholesterol, physical activity, family history of cardiovascular disease, and total calorie intakeAmong subgroups of Hispanic, non-Hispanic, hypertensive, non-hypertenseive participants, there is no evidence of significant interactions between potassium intake and risk of mortality. |