**Sup. Table 1**. Results of subgroup analyses of the association between OR’s of HTN and DII according to study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **OR (95% CI)** | **No. of studies** | **Group** |
| 55.6 | 0.005 |  | <0.001 | 1.15 (1.08, 1.23) | 12 | **Total** |
|  |  |  |  |  |  | **Continent** |
| 54.7 | 0.0.65 | 0.465 | 0.001 | 1.182 (1.071, 1.30) | 4 | *USA* |
| 0 | 0.001 |  | 0.140 | 1.088 (0.973, 1.217) | 4 | *Europe/ Australia* |
| 78.5 | 0.639 |  | 0.014 | 1.19 (1.037, 1.382) | 4 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 0 | 0.459 | 0.174 | 0.007 | 1.116 (1.031, 1.209) | 10 | FFQ |
| 60.9 | 0.003 |  | <0.001 | 1.231 (1.096, 1.382) | 2 | 24h-Recall |
|  |  |  |  |  |  | **Sample size** |
| 55.8 | 0.035 | 0.423 | 0.211 | 1.115 (0.94, 1.32) | 7 | 2000 < |
| 64.5 | 0.015 |  | 0.002 | 1.132 (1.045, 1.23) | 4 | 2000-10000 |
| 53.0 | 0.145 |  | 0.003 | 1.267 (1.082, 1.48) | 2 | >10000 |
|  |  |  |  |  |  | **Gender** |
| 0 | 0.829 | 0.840 | 0.085 | 1.145 (0.981, 1.336) | 3 | Male |
| 78.6 | 0.003 |  | 0.007 | 1.134 (1.036, 1.242) | 4 | Female |
| 58.2 | 0.019 |  | 0.005 | 1.187 (1.052, 1.339) | 8 | Both gender |

Studies eligible for inclusion in the systematic review and meta-analysis; \* The studies by Kim H, Sokol and Wirth et al (18, 45, 52) were carried out in both men and women and each was included as two separate studies.

**Sup. Table 2**. Results of subgroup analyses of the association between OR’s of hyperglycemia and DII according to study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **OR (95% CI)** | **No. of studies** | **Group** |
| 60.7 | 0.005 |  | 0.173 | 1.13 (0.948, 1.347) | 9 | **Total** |
|  |  |  |  |  |  | **Continent** |
| - | - | 0.046 | 0.028 | 2.03 (1.079, 3.82) | 1 | *USA* |
| 67.3 | 0.047 |  | 0.439 | 0.93 (0.774, 1.117) | 2 | *Europe/ Australia* |
| 54.8 | 0.04 |  | 0.177 | 1.086 (0.963, 1.225) | 6 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 60.9% | 0.006 | 0.119 | 0.130 | 1.085 (0.976, 1.206) | 8 | FFQ |
| - | - |  | 0.270 | 0.850 (0.637, 1.134) | 1 | 24h-Recall |
|  |  |  |  |  |  | **Sample size\*** |
| 56.9 | 0.031 | 0.366 | 0.102 | 1.152 (0.972, 1.364) | 7 | 2000 < |
| 79.1 | 0.008 |  | 0.843 | 0.986 (0.86, 1.131) | 2 | 2000-10000 |
| - | - |  | 0.540 | 1.090 (0.828, 1.44) | 1 | >10000 |
|  |  |  |  |  |  | **Gender** |
| 29.3 | 0.234 | 0.014 | 0.075 | 1.195 (0.982, 1.454) | 2 | Male |
| 50.7 | 0.154 |  | 0.084 | 0.863 (0.730, 1.02) | 2 | Female |
| 55.5 | 0.036 |  | 0.062 | 1.164 (0.992, 1.365) | 7 | Both gender |

Studies eligible for inclusion in the systematic review and meta-analysis; Studies eligible for inclusion in the systematic review and meta-analysis; \* The studies by Kim H, Sokol and Wirth et al (18, 45, 52) were carried out in both men and women and each was included as two separate studies.

**Sup. Table 3**. Results of subgroup analyses of the mean difference of SBP in different DII categories according to the study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **WMD (95% CI)** | **No. of studies** | **Group** |
| 91.5 | <0.001 |  | 0.011 | 1.230 (0.283, 2.177) | 15 | **Total\*** |
|  |  | 0.937 |  |  |  | **Continent** |
| 95.6 | <0.001 |  | <0.001 | 2.119 (1.663, 2.576) | 6 | *USA* |
| 87.9 | <0.001 |  | <0.001 | 2.090 (2.044, 2.136) | 7 | *Europe/ Australia* |
| 54 | 0.140 |  | 0.369 | 1.520 (-1.794, 4.833) | 2 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 91.5 | <0.001 | <0.001 | 0.009 | 1.565 (0.397, 2.734) | 10 | FFQ |
| 5.5 | 0.303 |  | 0.056 | -0.785 (-1.59, 0.021) | 2 | 24h-Recall |
| 0 | 0.749 |  | 0.002 | 1.479 (0.565, 2.393) | 3 | 24h-Record |
|  |  |  |  |  |  | **Sample size** |
| 64.6 | 0.023 | <0.001 | 0.508 | -0.540 (-2.138, 1.058) | 5 | 1500 < |
| 90.8 | <0.001 |  | <0.001 | 2.087 (2.041, 2.133) | 7 | 2000-10000 |
| 97.2 | <0.001 |  | <0.001 | 2.673 (2.188, 3.159) | 3 | >10000 |
|  |  |  |  |  |  | **Design** |
| 92.6 | <0.001 | 0.181 | <0.001 | 2.092 (2.046, 2.138) | 13 | Cross-sectional |
| 0 | 0.475 |  | 0.002 | 1.459 (0.532, 2.385) | 2 | Cohort |
|  |  |  |  |  |  | **Obesity status** |
| 50.4 | 0.109 | <0.001 | 0.097 | -0.630 (-1.374, 0.113) | 4 | Obese |
| 90.7 | <0.001 |  | <0.001 | 2.101 (2.054, 2.147) | 11 | General |

Studies eligible for inclusion in the systematic review and meta-analysis; Studies eligible for inclusion in the systematic review and meta-analysis; \* The studies by Mark-Park, Boden and Neufcourt et al (24, 43, 46) were included as two separate studies.

**Sup. Table 4**. Results of subgroup analyses of the mean difference of DBP in different DII categories according to the study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **WMD (95% CI)** | **No. of studies** | **Group** |
| 91.7 | 0.001 |  | 0.98 | 0.008 (-0.686, 0.703) | 12 | **Total\*** |
|  |  |  |  |  |  | **Continent** |
| 96.3 | <0.001 | 0.063 | 0.609 | 0.106 (-0.302, 0.514) | 5 | *USA* |
| 75.6 | 0.003 |  | <0.001 | 0.597 (0.57, 0.624) | 5 | *Europe/ Australia* |
| 54.7 | 0.137 |  | 0.687 | 0.500 (-1.934, 2.93) | 2 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 80.4 | <0.001 | <0.001 | <0.001 | 0.599 (0.572, 0.626) | 7 | FFQ |
| 94.0 | <0.001 |  | <0.001 | -2.734 (-3.447, -2.021) | 2 | 24h-Recall |
| 0 | 0.645 |  | 0.020 | 0.726 (0.115, 1.336) | 3 | 24h-Record |
|  |  |  |  |  |  | **Sample size** |
| 31.4 | 0.224 | 0.085 | 0.209 | 0.60 (0.283, 0.917) | 3 | 1500 < |
| 96.1 | <0.001 |  | <0.001 | 0.595 (0.568, 0.623) | 5 | 2000-10000 |
| 90.6 | <0.001 |  | <0.001 | 0.600 (0.283, 0.917) | 4 | >10000 |
|  |  |  |  |  |  | **Design** |
| 93.1 | <0.001 | 0.675 | <0.001 | 0.594 (0.567, 0.622) | 10 | Cross-sectional |
| 0 | 0.349 |  | 0.021 | 0.726 (0.110, 1.343) | 2 | Cohort |
|  |  |  |  |  |  | **Obesity status** |
| 88.3 | <0.001 | <0.001 | <0.001 | -2.497 (-3.192, -1.803) | 4 | Obese |
| 76.9 | <0.001 |  | <0.001 | 0.599 (0.572, 0.627) | 8 | General |

Studies eligible for inclusion in the systematic review and meta-analysis; Studies eligible for inclusion in the systematic review and meta-analysis; \* The studies by Mark-Park and Neufcourt et al (24, 46) were included as two separate studies.

**Sup. Table 5**. Results of subgroup analyses of the mean difference of FBS in different DII categories according to the study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **WMD (95% CI)** | **No. of studies** | **Group** |
| 89.0 | <0.001 |  | 0.031 | 1.083 (0.099, 2.068) | 15 | **Total\*** |
|  |  |  |  |  |  | **Continent** |
| 86.7 | <0.001 | 0.002 | <0.001 | 2.026 (1.236, 2.817) | 6 | *USA* |
| 93.9 | <0.001 |  | <0.001 | 0.700 (0.637, 0.762) | 5 | *Europe/ Australia* |
| 75.5 | 0.007 |  | 0.018 | 1.523 (0.266, 2.780) | 4 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 91.9 | <0.001 | 0.034 | <0.001 | 0.717 (0.654, 0.780) | 10 | FFQ |
| 0 | 0.648 |  | 0.167 | -0.902 ( -2.180, 0.377) | 2 | 24h-Recall |
| 76.5 | 0.014 |  | 0.099 | 0.485 (-0.091, 1.061) | 3 | 24h-Record |
|  |  |  |  |  |  | **Sample size** |
| 77.7 | <0.001 | 0.047 | 0.005 | 2.166 (0.640, 3.693) | 6 | 1500 < |
| 69.4 | 0.011 |  | <0.001 | 0.713 (0.650, 0.775) | 5 | 2000-10000 |
| 96.5 | <0.001 |  | 0.582 | 0.180 (-0.462, 0.823) | 4 | >10000 |
|  |  |  |  |  |  | **Design** |
| 90.0 | <0.001 | 0.341 | <0.001 | 0.713 (0.651, 0.776) | 13 | Cross-sectional |
| 82.7 | 0.016 |  | 0.146 | 0.430 (-0.150, 1.010) | 2 | Cohort |
|  |  |  |  |  |  | **Obesity status** |
| 80.1 | <0.001 | 0.604 | 0.467 | 0.415 (-0.703, 1.533) | 5 | Obese |
| 91.6 | <0.001 |  | <0.001 | 0.711 (0.648, 0.774) | 10 | General |

Studies eligible for inclusion in the systematic review and meta-analysis; Studies eligible for inclusion in the systematic review and meta-analysis; \* The studies by Mark-Park and Neufcourt et al (24, 46) were included as two separate studies.

**Sup. Table 6**. Results of subgroup analyses of the mean difference of insulin in different DII categories according to the study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **WMD (95% CI)** | **No. of studies** | **Group** |
| **86.5** | <0.001 |  | 0.013 | 0.829 (0.172 , 1.486) | 6 | **Total\*** |
|  |  |  |  |  |  | **Continent** |
| 0 | 0.544 | <0.001 | <0.001 | 0.113 (0.076, 0.150) | 2 | *USA* |
| 99.9 | <0.001 |  | <0.001 | 1.554 (1.46, 1.649) | 2 | *Europe/ Australia* |
| 0 | 0.883 |  | 0.053 | 0.095 ( -0.001, 0.191) | 2 | *Asia* |
|  |  |  |  |  |  | **Sample size** |
| 0 | 0.556 | <0.001 | 0.161 | 0.141 (-0.056 , 0.339) | 2 | 1000 < |
| 99.9 | 0.806 |  | <0.001 | 1.554 (1.460, 1.649) | 2 | 1000-10000 |
| 0 | <0.001 |  | <0.001 | 0.110 (0.074, 0.145) | 2 | >10000 |

Studies eligible for inclusion in the systematic review and meta-analysis.

**Sup. Table 7**. Results of subgroup analyses of the mean difference of HOMA-IR in different DII categories according to the study and participants’ characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **I2, %** | **P heterogeneity** | **P between group** | **P within group** | **WMD (95% CI)** | **No. of studies** | **Group** |
| 89.0 | <0.001 |  | 0.026 | 0.192 (0.023, 0.361) | 7 | **Total\*** |
|  |  |  |  |  |  | **Continent** |
| 96.6 | <0.001 | <0.001 | <0.001 | 0.159 (0.077, 0.242) | 3 | *USA* |
| 93.1 | <0.001 |  | <0.001 | 0.269 (0.261, 0.278) | 2 | *Europe/ Australia* |
| 43.3 | 0.184 |  | 0.024 | 0.118 (0.016, 0.221) | 2 | *Asia* |
| **Dietary assessment tool** | | | | | | |
| 93.1 | <0.001 | <0.001 | <0.001 | 0.269 (0.261, 0.278) | 5 | FFQ |
| 73.3 | 0.053 |  | 0.591 | 0.025 (-0.065, 0.115) | 2 | 24h-Recall |
|  |  |  |  |  |  | **Sample size** |
| 84.5 | 0.011 | 0.017 | 0.641 | -0.052 (-0.272, 0.167) | 2 | 1500 < |
| 93.8 | <0.001 |  | <0.001 | 0.268 (0.260, 0.276) | 3 | 2000-10000 |
| 97.7 | <0.001 |  | <0.001 | 0.261 (0.166, 0.355) | 2 | >10000 |
|  |  |  |  |  |  | **Obesity status** |
| 69.9 | 0.036 | <0.001 | 0.350 | 0.042 (-0.046, 0.130) | 3 | Obese |
| 94.8 | <0.001 |  | <0.001 | 0.269 (0.261, 0.278) | 4 | General |

Studies eligible for inclusion in the systematic review and meta-analysis.