**Table 1 Characteristics of controls across quartiles of the DII score in a Chinese case-control study, 2011-2016**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Q1 | | Q2 | | Q3 | | Q4 | | *p*-value |
|  | Mean | SD | Mean | SD | Mean | SD | Mean | SD |  |
| Age | 47 | 9.7 | 46.2 | 9.8 | 46.9 | 10.7 | 47.3 | 10.5 | 0.69 |
| Body mass index, kg/m2 | 22.8 | 3.1 | 22.6 | 3.2 | 22.3 | 2.9 | 22.5 | 3.2 | 0.29 |
| Age at menarche, years | 14.6 | 1.7 | 14.6 | 1.8 | 14.7 | 1.6 | 14.6 | 1.7 | 0.90 |
| Age at first live birth, years a | 25.3 | 3.1 | 25.4 | 3.2 | 25.4 | 3.2 | 25.7 | 3.2 | 0.20 |
| DII Score | -3.6 | 0.6 | -2.5 | 0.3 | -1.5 | 0.3 | 0.5 | 1.3 | <0.01 |
|  | n | % | n | % | n | % | n | % |  |
| Marital status |  |  |  |  |  |  |  |  | 0.31 |
| Married | 198 | 96.6 | 194 | 93.7 | 193 | 92.8 | 189 | 92.6 |  |
| Unmarried/divorced/widowed | 7 | 3.4 | 13 | 6.3 | 15 | 7.2 | 15 | 7.4 |  |
| Education level |  |  |  |  |  |  |  |  | 0.35 |
| Primary school or below | 62 | 30.2 | 58 | 28.0 | 50 | 24.0 | 48 | 23.5 |  |
| Junior high school | 37 | 18.0 | 52 | 25.1 | 55 | 26.4 | 44 | 21.6 |  |
| Senior high school/secondary technical school | 79 | 38.5 | 63 | 30.4 | 71 | 34.1 | 80 | 39.2 |  |
| College or above | 27 | 13.2 | 34 | 16.4 | 32 | 15.4 | 32 | 15.7 |  |
| Occupation |  |  |  |  |  |  |  |  | 0.33 |
| Blue collar worker | 55 | 26.8 | 49 | 23.7 | 58 | 27.9 | 58 | 28.4 |  |
| Administrator/other white collar worker | 36 | 17.6 | 52 | 25.1 | 39 | 18.8 | 50 | 24.5 |  |
| Unemployed/other | 114 | 55.6 | 106 | 51.2 | 111 | 53.4 | 96 | 47.1 |  |
| Income level (yuan/month) |  |  |  |  |  |  |  |  | 0.82 |
| <2,000 | 16 | 7.8 | 13 | 6.3 | 10 | 4.8 | 10 | 4.9 |  |
| 2,001–5,000 | 51 | 24.9 | 47 | 22.7 | 49 | 23.6 | 39 | 19.1 |  |
| 5,001–8,000 | 73 | 35.6 | 77 | 37.2 | 76 | 36.5 | 77 | 37.7 |  |
| >8,001 | 65 | 31.7 | 70 | 33.8 | 73 | 35.1 | 78 | 38.2 |  |
| Physical activity (exercise for health) |  |  |  |  |  |  |  |  | 0.22 |
| Never  Seldom | 74  6 | 36.1  2.9 | 79  7 | 38.2  3.4 | 86  7 | 41.3  3.4 | 80  15 | 39.2  7.4 |  |
| **Continuous** |  |  |  |  |  |  |  |  |  |
| Often | 125 | 61.0 | 121 | 58.5 | 115 | 55.3 | 109 | 53.4 |  |
| Regular smoker | 2 | 1.0 | 6 | 2.9 | 0 | 0 | 4 | 2.0 | 0.08 |
| Passive smoking | 117 | 57.1 | 111 | 53.6 | 114 | 54.8 | 86 | 42.2 | 0.01 |
| Regular drinker | 12 | 5.9 | 13 | 6.3 | 13 | 6.3 | 14 | 6.90 | 0.98 |
| Menopausal status |  |  |  |  |  |  |  |  | 0.70 |
| Premenopausal | 135 | 65.9 | 138 | 66.7 | 133 | 63.9 | 127 | 62.3 |  |
| Postmenopausal | 70 | 34.1 | 69 | 33.3 | 75 | 36.1 | 77 | 37.7 |  |
| Breastfeeding history b | 170 | 82.9 | 174 | 84.1 | 169 | 81.3 | 170 | 83.3 | 0.83 |
| Parity |  |  |  |  |  |  |  |  | 0.38 |
| 0 | 12 | 5.9 | 6 | 2.9 | 11 | 5.3 | 10 | 4.90 |  |
| 1~2 | 148 | 72.2 | 159 | 76.8 | 165 | 79.3 | 161 | 78.9 |  |
| ≥3 | 45 | 22.0 | 42 | 20.3 | 32 | 15.4 | 33 | 16.2 |  |
| First-degree relative with cancer | 12 | 5.9 | 27 | 13.0 | 21 | 10.1 | 15 | 7.4 | 0.06 |
| History of benign breast disease | 47 | 22.9 | 44 | 21.3 | 54 | 26 | 60 | 29.4 | 0.24 |
| Ever used an oral contraceptive | 15 | 7.3 | 11 | 5.3 | 13 | 6.3 | 6 | 2.9 | 0.25 |
| Hormone replacement therapy use | 9 | 4.4 | 9 | 4.3 | 6 | 2.9 | 2 | 1.0 | 0.16 |

Continuous variables are given as mean±standard deviation; Categorical variablesare given as n (%).

aAmong women who have had a live birth. bAmong breast feeding women.

**Table 2 Characteristics of cases across quartiles of the DII score in a Chinese case-control study, 2011-2016**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Q1 | | Q2 | | Q3 | | Q4 | | *p*-value |
|  | Mean | SD | Mean | SD | Mean | SD | Mean | SD |  |
| Age | 47.3 | 9.0 | 47.1 | 10.1 | 46.4 | 9.4 | 47.7 | 10.1 | 0.50 |
| Body mass index, kg/m2 | 22.8 | 3.0 | 23.4 | 3.1 | 23.1 | 3.5 | 23.0 | 3.4 | 0.49 |
| Age at menarche, years | 14.5 | 1.7 | 14.3 | 2.1 | 14.4 | 1.9 | 14.7 | 1.8 | 0.14 |
| Age at first live birth, years a | 25.4 | 3.4 | 26.4 | 4.6 | 25.6 | 3.4 | 25.5 | 3.4 | 0.05 |
| DII Score | -3.6 | 0.6 | -2.5 | 0.2 | -1.5 | 0.3 | 0.7 | 1.2 | <0.01 |
|  | n | % | n | % | n | % | n | % |  |
| Marital status |  |  |  |  |  |  |  |  | 0.47 |
| Married | 153 | 94.4 | 151 | 95.0 | 194 | 92.4 | 321 | 95.5 |  |
| Unmarried/divorced/widowed | 9 | 5.6 | 8 | 5.0 | 16 | 7.6 | 15 | 4.5 |  |
| Education level |  |  |  |  |  |  |  |  | 0.86 |
| Primary school or below | 43 | 26.5 | 44 | 27.7 | 44 | 21.0 | 87 | 25.9 |  |
| Junior high school | 47 | 29.0 | 43 | 27.0 | 64 | 30.5 | 106 | 31.5 |  |
| Senior high school/secondary technical school | 61 | 37.7 | 59 | 37.1 | 84 | 40.0 | 114 | 33.9 |  |
| College or above | 11 | 6.8 | 13 | 8.2 | 18 | 8.6 | 29 | 8.6 |  |
| Occupation |  |  |  |  |  |  |  |  | 0.25 |
| Blue collar worker | 50 | 30.9 | 34 | 21.4 | 71 | 33.8 | 94 | 28.0 |  |
| Administrator/other white collar worker | 30 | 18.5 | 31 | 19.5 | 40 | 19.0 | 63 | 18.8 |  |
| Unemployed/other | 82 | 50.6 | 94 | 59.1 | 99 | 47.1 | 179 | 53.3 |  |
| Income level (yuan/month) |  |  |  |  |  |  |  |  | 0.54 |
| <2,000 | 29 | 17.9 | 20 | 12.6 | 24 | 11.4 | 52 | 15.5 |  |
| 2,001–5,000 | 52 | 32.1 | 54 | 34.0 | 62 | 29.5 | 90 | 26.8 |  |
| 5,001–8,000 | 47 | 29.0 | 46 | 28.9 | 73 | 34.8 | 115 | 34.2 |  |
| >8,001 | 34 | 21.0 | 39 | 24.5 | 51 | 24.3 | 79 | 23.5 |  |
| Physical activity (exercise for health) |  |  |  |  |  |  |  |  | 0.74 |
| Never | 65 | 40.1 | 62 | 39.0 | 93 | 44.3 | 155 | 46.1 |  |
| Seldom | 12 | 7.4 | 11 | 6.9 | 16 | 7.6 | 20 | 6.0 |  |
|  |  |  |  |  |  |  |  |  |  |
| **Continuous** |  |  |  |  |  |  |  |  |  |
| Often | 85 | 52.5 | 86 | 54.1 | 101 | 48.1 | 161 | 47.9 |  |
| Regular smoker | 3 | 1.9 | 1 | 0.6 | 2 | 1.0 | 8 | 2.4 | 0.42 |
| Passive smoking | 105 | 64.8 | 107 | 67.3 | 126 | 60.0 | 225 | 67.0 | 0.36 |
| Regular drinker | 9 | 5.6 | 14 | 8.8 | 16 | 7.6 | 29 | 8.6 | 0.64 |
| Menopausal status |  |  |  |  |  |  |  |  | 0.68 |
| Premenopausal | 103 | 63.6 | 103 | 64.8 | 143 | 68.1 | 212 | 63.1 |  |
| Postmenopausal | 59 | 36.4 | 56 | 35.2 | 67 | 31.9 | 124 | 36.9 |  |
| Breastfeeding history b | 136 | 84.0 | 138 | 86.8 | 176 | 83.8 | 278 | 82.7 | 0.64 |
| Parity |  |  |  |  |  |  |  |  | 0.42 |
| 0 | 5 | 3.1 | 5 | 3.1 | 13 | 6.2 | 16 | 4.8 |  |
| 1~2 | 113 | 69.8 | 119 | 74.8 | 157 | 74.8 | 248 | 73.8 |  |
| ≥3 | 44 | 27.2 | 35 | 22.0 | 40 | 19.0 | 72 | 21.4 |  |
| First-degree relative with cancer | 41 | 25.3 | 17 | 10.7 | 24 | 11.4 | 45 | 13.4 | <0.01 |
| History of benign breast disease | 62 | 38.3 | 56 | 35.2 | 68 | 32.4 | 121 | 36.0 | 0.69 |
| Ever used an oral contraceptive | 10 | 6.2 | 9 | 5.7 | 13 | 6.2 | 33 | 9.8 | 0.23 |
| Hormone replacement therapy use | 6 | 3.7 | 7 | 4.4 | 9 | 4.3 | 9 | 2.7 | 0.70 |

Continuous variables are given as mean±standard deviation; Categorical variablesare given as n (%).

aAmong women who have had a live birth. bAmong Among breast feeding women.

**Table 3-1 Correlation matrix for the components of the DII in a Chinese case-control study, 2011-2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | 1.VitaminB12 | 2.VitaminB6 | 3. β- Carotene | 4.Carbohydrate | 5.Cholesterol | 6.Total fat | 7.Fibre | 8.Folic acid | 9.Garlic | 10.Iron | 11.Magnesium | 12.MUFA | 13.Niacin | 14.n-3Fatty acids | 15.n-6Fatty acids | 16.Onion |
| 1.VitaminB12 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.VitaminB6 | 0.26\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.β-Carotene | 0.18\* | 0.35\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.Carbohydrate | 0.14\* | 0.31\* | 0.17\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5.Cholesterol | 0.69\* | 0.30\* | 0.20\* | 0.15\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |
| 6.Total fat | 0.40\* | 0.22\* | 0.10\* | 0.17\* | 0.41\* | 1.00 |  |  |  |  |  |  |  |  |  |  |
| 7.Fibre | 0.26\* | 0.42\* | 0.65\* | 0.51\* | 0.28\* | 0.22\* | 1.00 |  |  |  |  |  |  |  |  |  |
| 8.Folic acid | 0.43\* | 0.41\* | 0.52\* | 0.54\* | 0.56\* | 0.28\* | 0.8\* | 1.00 |  |  |  |  |  |  |  |  |
| 9.Garlic | 0.03 | 0.12\* | 0.00 | 0.12\* | 0.05 | 0.04 | 0.21\* | 0.19\* | 1.00 |  |  |  |  |  |  |  |
| 10.Iron | 0.46\* | 0.43\* | 0.62\* | 0.59\* | 0.55\* | 0.29\* | 0.75\* | 0.81\* | 0.08\* | 1.00 |  |  |  |  |  |  |
| 11.Magnesium | 0.46\* | 0.42\* | 0.61\* | 0.59\* | 0.46\* | 0.28\* | 0.73\* | 0.84\* | 0.11\* | 0.90\* | 1.00 |  |  |  |  |  |
| 12.MUFA | 0.35\* | 0.20\* | -0.03 | 0.23\* | 0.37\* | 0.48\* | 0.19\* | 0.25\* | 0.06\* | 0.21\* | 0.19\* | 1.00 |  |  |  |  |
| 13.Niacin | 0.61\* | 0.42\* | 0.44\* | 0.51\* | 0.62\* | 0.39\* | 0.53\* | 0.63\* | 0.04 | 0.84\* | 0.75\* | 0.33\* | 1.00 |  |  |  |
| 14.n-3Fatty acids | 0.34\* | 0.20\* | 0.05\* | 0.15\* | 0.31\* | 0.28\* | 0.28\* | 0.30\* | 0.06\* | 0.27\* | 0.26\* | 0.45\* | 0.30\* | 1.00 |  |  |
| 15.n-6Fatty acids | 0.16\* | 0.15\* | -0.05 | 0.20\* | 0.15\* | 0.26\* | 0.22\* | 0.20\* | 0.08\* | 0.12\* | 0.13\* | 0.75\* | 0.15\* | 0.37\* | 1.00 |  |
| 16.Onion | 0.03 | 0.12\* | -0.01 | 0.13\* | 0.04 | 0.04 | 0.21\* | 0.18\* | 0.98\* | 0.07\* | 0.11\* | 0.07\* | 0.03 | 0.06\* | 0.09\* | 1.00 |
| 17.Protein | 0.71\* | 0.41\* | 0.39\* | 0.49\* | 0.72\* | 0.41\* | 0.54\* | 0.70\* | 0.06\* | 0.85\* | 0.79\* | 0.34\* | 0.95\* | 0.36\* | 0.16\* | 0.05\* |
| 18.PUFA | 0.17\* | 0.16\* | -0.05 | 0.21\* | 0.17\* | 0.27\* | 0.23\* | 0.23\* | 0.07\* | 0.15\* | 0.15\* | 0.76\* | 0.16\* | 0.44\* | 0.98\* | 0.08\* |
| 19.Riboflavin | 0.35\* | 0.60\* | 0.34\* | 0.30\* | 0.40\* | 0.27\* | 0.44\* | 0.45\* | 0.10\* | 0.45\* | 0.44\* | 0.26\* | 0.43\* | 0.26\* | 0.16\* | 0.10\* |
| 20.Saturated fat | 0.43\* | 0.22\* | -0.01 | 0.23\* | 0.43\* | 0.50\* | 0.21\* | 0.28\* | 0.04 | 0.26\* | 0.23\* | 0.90\* | 0.36\* | 0.58\* | 0.63\* | 0.05\* |
| 21.Selenium | 0.68\* | 0.29\* | 0.17\* | 0.28\* | 0.71\* | 0.38\* | 0.29\* | 0.48\* | 0.02 | 0.56\* | 0.57\* | 0.32\* | 0.65\* | 0.34\* | 0.14\* | 0.02 |
| 22.Thiamin | 0.34\* | 0.35\* | 0.21\* | 0.32\* | 0.35\* | 0.20\* | 0.31\* | 0.35\* | 0.01 | 0.46\* | 0.41\* | 0.21\* | 0.51\* | 0.16\* | 0.14\* | 0.02 |
| Continous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23.VitaminA  24.VitaminC | 0.34\*  0.21\* | 0.39\*  0.39\* | 0.93\*  0.89\* | 0.19\*  0.21\* | 0.44\*  0.23\* | 0.17\*  0.14\* | 0.65\*  0.72\* | 0.63\*  0.56\* | 0.01  0.07\* | 0.71\*  0.61\* | 0.67\*  0.58\* | 0.04  0.03 | 0.55\*  0.45\* | 0.11\*  0.10\* | -0.02  0.02 | 0.00  0.06\* |
| 25.VitaminE | 0.43\* | 0.39\* | 0.50\* | 0.36\* | 0.50\* | 0.29\* | 0.80\* | 0.81\* | 0.17\* | 0.72\* | 0.72\* | 0.21\* | 0.54\* | 0.37\* | 0.23\* | 0.17\* |
| 26.Zinc | 0.52\* | 0.35\* | 0.19\* | 0.61\* | 0.58\* | 0.35\* | 0.32\* | 0.50\* | -0.01 | 0.71\* | 0.66\* | 0.31\* | 0.83\* | 0.22\* | 0.11\* | -0.01 |
| 27.Flavan-3-ol | 0.17\* | 0.24\* | 0.22\* | 0.24\* | 0.14\* | 0.12\* | 0.56\* | 0.37\* | 0.16\* | 0.25\* | 0.22\* | 0.12\* | 0.19\* | 0.14\* | 0.19\* | 0.17\* |
| 28.Flavones | 0.16\* | 0.28\* | 0.22\* | 0.26\* | 0.12\* | 0.15\* | 0.51\* | 0.44\* | 0.24\* | 0.29\* | 0.33\* | 0.24\* | 0.21\* | 0.19\* | 0.26\* | 0.24\* |
| 29.Flavonols | 0.19\* | 0.37\* | 0.84\* | 0.18\* | 0.22\* | 0.13\* | 0.69\* | 0.56\* | 0.15\* | 0.60\* | 0.60\* | -0.01 | 0.42\* | 0.09\* | -0.03 | 0.14\* |
| 30.Flavonones | 0.14\* | 0.20\* | 0.32\* | 0.14\* | 0.14\* | 0.09\* | 0.41\* | 0.30\* | 0.07\* | 0.25\* | 0.20\* | 0.06\* | 0.19\* | 0.11\* | 0.13\* | 0.07\* |
| 31.Anthocyanidins | 0.16\* | 0.29\* | 0.26\* | 0.27\* | 0.15\* | 0.15\* | 0.57\* | 0.44\* | 0.22\* | 0.29\* | 0.30\* | 0.23\* | 0.22\* | 0.20\* | 0.28\* | 0.23\* |
| 32.Isoflavones | 0.23\* | 0.18\* | 0.14\* | 0.08\* | 0.27\* | 0.15\* | 0.37\* | 0.47\* | 0.08\* | 0.36\* | 0.37\* | 0.08\* | 0.23\* | 0.27\* | 0.12\* | 0.07\* |
| 33.Pepper | 0.04 | 0.15\* | 0.09\* | 0.05 | 0.08\* | 0.10\* | 0.24\* | 0.22\* | 0.19\* | 0.14\* | 0.12\* | 0.11\* | 0.08\* | 0.11\* | 0.10\* | 0.19\* |

\* Significant association with *p*<0.05.

**Table 3-2 Correlation matrix for the components of the DII in a Chinese case-control study, 2011-2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | 17.Protein | 18.PUFA | 19.Riboflavin | 20.Saturated fat | 21.Selenium | 22.Thiamin | 23.VitaminA | 24.VitaminC | 25.VitaminE | 26.Zinc | 27.Flavan-3-ol | 28.Flavones | 29.Flavonols | 30.Flavonones | 31.Anthocyanidins | 32.Isoflavones | 33.pepper |
| 1.VitaminB12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.VitaminB6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. β-Carotene |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.Carbohydrate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5.Cholesterol |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6.Total fat |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.Fibre |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8.Folic acid |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9.Garlic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10.Iron |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11.Magnesium |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12.MUFA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13.Niacin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14.n-3Fatty acids |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15.n-6Fatty acids |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16.Onion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17.Protein | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18.PUFA | 0.18\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19.Riboflavin | 0.45\* | 0.17\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20.Saturated fat | 0.39\* | 0.68\* | 0.29\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21.Selenium | 0.75\* | 0.16\* | 0.36\* | 0.38\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 22.Thiamin | 0.50\* | 0.13\* | 0.32\* | 0.21\* | 0.33\* | 1.00 |  |  |  |  |  |  |  |  |  |  |  |
| Continous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23.VitaminA | 0.52\* | -0.02 | 0.41\* | 0.08\* | 0.32\* | 0.28\* | 1.00 |  |  |  |  |  |  |  |  |  |  |
| 24.VitaminC | 0.40\* | 0.03 | 0.38\* | 0.06\* | 0.19\* | 0.23\* | 0.85\* | 1.00 |  |  |  |  |  |  |  |  |  |
| 25.VitaminE | 0.63\* | 0.26\* | 0.43\* | 0.25\* | 0.44\* | 0.34\* | 0.58\* | 0.57\* | 1.00 |  |  |  |  |  |  |  |  |
| 26.Zinc | 0.83\* | 0.11\* | 0.37\* | 0.34\* | 0.66\* | 0.50\* | 0.31\* | 0.20\* | 0.35\* | 1.00 |  |  |  |  |  |  |  |
| 27.Flavan-3-ol | 0.22\* | 0.17\* | 0.28\* | 0.10\* | 0.11\* | 0.15\* | 0.23\* | 0.29\* | 0.53\* | 0.05 | 1.00 |  |  |  |  |  |  |
| 28.Flavones | 0.22\* | 0.26\* | 0.26\* | 0.21\* | 0.13\* | 0.15\* | 0.22\* | 0.39\* | 0.41\* | 0.08\* | 0.31\* | 1.00 |  |  |  |  |  |
| 29.Flavonols | 0.39\* | -0.03 | 0.35\* | 0.03 | 0.17\* | 0.22\* | 0.80\* | 0.92\* | 0.57\* | 0.20\* | 0.27\* | 0.32\* | 1.00 |  |  |  |  |
| 30.Flavonones | 0.18\* | 0.13\* | 0.20\* | 0.04 | 0.10\* | 0.08\* | 0.31\* | 0.40\* | 0.38\* | 0.03 | 0.44\* | 0.23\* | 0.30\* | 1.00 |  |  |  |
| 31.Anthocyanidins | 0.23\* | 0.28\* | 0.32\* | 0.19\* | 0.16\* | 0.12\* | 0.26\* | 0.37\* | 0.48\* | 0.06\* | 0.61\* | 0.50\* | 0.25\* | 0.40\* | 1.00 |  |  |
| 32.Isoflavones | 0.33\* | 0.15\* | 0.16\* | 0.13\* | 0.20\* | 0.11\* | 0.20\* | 0.17\* | 0.61\* | 0.12\* | 0.15\* | 0.16\* | 0.19\* | 0.15\* | 0.15\* | 1.00 |  |
| 33.Pepper | 0.07\* | 0.11\* | 0.10\* | 0.12\* | 0.04 | 0.05 | 0.12\* | 0.25\* | 0.21\* | 0.03 | 0.07\* | 0.18\* | 0.30\* | 0.13\* | 0.13\* | 0.19\* | 1.00 |

\* Significant association with *p*<0.05.