Table S1 Sensitivity analyses before and after imputation of missing data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Before imputation | After imputation | Statistics | *P* |
| Education level, n (%) |  |  | χ2=0.74 | 0.692 |
| Below high school | 2135 (15.02) | 2136 (15.01) |  |  |
| High school | 1900 (22.25) | 1902 (22.25) |  |  |
| College and above | 4662 (62.74) | 4667 (62.74) |  |  |
| Marital status, n(%) |  |  | χ2=0.71 | 0.701 |
| Married | 5177 (64.33) | 5179 (64.33) |  |  |
| Never married | 812 (8.05) | 812 (8.04) |  |  |
| Others | 2711 (27.62) | 2714 (27.63) |  |  |
| PIR, n (%) |  |  | χ2=2.39 | 0.303 |
| ≤1.3 | 2247 (17.43) | 2483 (17.64) |  |  |
| 1.3~3.5 | 2763 (30.98) | 2976 (30.87) |  |  |
| >3.5 | 3059 (51.58) | 3246 (51.49) |  |  |
| Drinking, n (%) |  |  | χ2=2.31 | 0.129 |
| No | 2246 (21.52) | 2375 (21.71) |  |  |
| Yes | 6001 (78.48) | 6330 (78.29) |  |  |
| CKD, n (%) |  |  | χ2=3.33 | 0.068 |
| No | 7681 (91.31) | 7716 (91.25) |  |  |
| Yes | 976 (8.69) | 989 (8.75) |  |  |
| ALT, U/L, Mean (S.E) | 26.03 (0.28) | 26.05 (0.28) | t=-1.12 | 0.264 |
| AST, U/L, Mean (S.E) | 26.27 (0.25) | 26.27 (0.25) | t=-0.00 | 0.998 |
| Hemoglobin, g/dL, Mean (S.E) | 14.29 (0.03) | 14.29 (0.03) | t=0.33 | 0.745 |
| Uric acid, mg/dL, Mean (S.E) | 5.34 (0.03) | 5.34 (0.03) | t=0.13 | 0.894 |

t, t-test; χ2, chi-square test; S.E, standard error;

PIR, poverty-to-income ratio; CKD, chronic kidney disease; ALT, Alanine aminotransferase; AST, aspartate aminotransferase.

Table S2 Weighted univariate logistic regression analysis of 10-year ASCVD

|  |  |  |
| --- | --- | --- |
| Variates | OR (95%CI) | *P* |
| Age | 1.18 (1.17-1.19) | <0.001 |
| Gender |  |  |
| Male | Ref |  |
| Female | 0.30 (0.27-0.34) | <0.001 |
| Race |  |  |
| Non-Hispanic White | Ref |  |
| Non-Hispanic Black | 0.89 (0.75-1.04) | 0.146 |
| Others | 0.84 (0.73-0.96) | 0.011 |
| Education |  |  |
| Below high school | Ref |  |
| High school | 0.80 (0.67-0.97) | 0.022 |
| College and above | 0.63 (0.52-0.76) | <0.001 |
| Marital status |  |  |
| Married | Ref |  |
| Never married | 1.01 (0.79-1.27) | 0.960 |
| Others | 1.32 (1.13-1.53) | <0.001 |
| PIR |  |  |
| ≤1.3 | Ref |  |
| 1.3-3.5 | 0.89 (0.77-1.02) | 0.101 |
| >3.5 | 0.62 (0.54-0.70) | <0.001 |
| Drinking |  |  |
| No | Ref |  |
| Yes | 1.11 (0.96-1.29) | 0.152 |
| Physical activity, met\*minutes/week |  |  |
| <750 | Ref |  |
| ≥750 | 1.18 (0.99-1.41) | 0.071 |
| Unknown | 1.65 (1.43-1.91) | <0.001 |
| CKD |  |  |
| No | Ref |  |
| Yes | 3.41 (2.83-4.11) | <0.001 |
| Autoimmune disease |  |  |
| No | Ref |  |
| Yes | 1.69 (1.29-2.23) | <0.001 |
| Family history of myocardial infarction |  |  |
| No | Ref |  |
| Yes | 0.92 (0.75-1.11) | 0.362 |
| BMI overweight, kg/m2 |  |  |
| BMI<25 | Ref |  |
| BMI≥25 | 1.69 (1.43-1.99) | <0.001 |
| Total energy intake | 1.01 (1.01-1.01) | 0.033 |
| SFA | 1.01 (1.01-1.01) | 0.004 |
| Monounsaturated fatty acid | 1.01 (1.01-1.01) | 0.012 |
| Drug for psoriasis |  |  |
| No | Ref |  |
| Yes | 1.05 (0.46-2.40) | 0.912 |
| Drug for dyslipidemia |  |  |
| No | Ref |  |
| Yes | 2.75 (2.36-3.20) | <0.001 |
| ALT | 1.01 (1.01-1.01) | 0.007 |
| AST | 1.01 (1.01-1.01) | 0.012 |
| Hemoglobin | 1.27 (1.21-1.33) | <0.001 |
| Uric acid | 1.51 (1.44-1.58) | <0.001 |

ASCVD, atherosclerotic cardiovascular disease; PIR, poverty-to-income ratio; met, metabolic equivalent; CKD, chronic kidney disease; BMI, body mass index; SFA, saturated fatty acid; ALT, alanine transaminase; AST, aspartate aminotransferase.

Table S3 The multicollinearity analysis

a. When the regulating variable is PUFA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| Total polyunsaturated fatty acids | 1.299 |
| Psoriasis | 1.836 |
| Age | 1.4 |
| Gender | 1.527 |
| Race | 1.153 |
| Education level | 1.105 |
| Marital status | 1.067 |
| PIR | 1.127 |
| Physical activity | 1.032 |
| Drug for dyslipidemia | 1.063 |
| CKD | 1.025 |
| Autoimmune disease | 1.026 |
| BMI overweight | 1.068 |
| Total energy | 2.085 |
| SFA | 1.993 |
| Monounsaturated fatty acid | 2.297 |
| ALT | 2.039 |
| AST | 1.937 |
| Hemoglobin | 1.357 |
| Uric acid | 1.15 |
| Total polyunsaturated fatty acids\*Psoriasis | 1.848 |

b. When the regulating variable is Omega-3, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| Omegea-3 | 1.203 |
| Psoriasis | 1.414 |
| Age | 1.411 |
| Gender | 1.53 |
| Race | 1.152 |
| Education level | 1.11 |
| Marital status | 1.071 |
| PIR | 1.126 |
| Physical activity | 1.03 |
| Drug for dyslipidemia | 1.061 |
| CKD | 1.024 |
| Autoimmune disease | 1.028 |
| BMI overweight | 1.068 |
| Total energy | 2.091 |
| SFA | 1.976 |
| Monounsaturated fatty acid | 2.182 |
| ALT | 2.036 |
| AST | 1.934 |
| Hemoglobin | 1.366 |
| Uric acid | 1.149 |
| Omegea-3\*Psoriasis | 1.423 |

c. When the regulating variable is Omega-6, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| Omegea-6 | 1.302 |
| Psoriasis | 1.778 |
| Age | 1.4 |
| Gender | 1.524 |
| Race | 1.152 |
| Education level | 1.105 |
| Marital status | 1.067 |
| PIR | 1.127 |
| Physical activity | 1.032 |
| Drug for dyslipidemia | 1.065 |
| CKD | 1.024 |
| Autoimmune disease | 1.026 |
| BMI overweight | 1.068 |
| Total energy | 2.074 |
| SFA | 1.996 |
| Monounsaturated fatty acid | 2.306 |
| ALT | 2.052 |
| AST | 1.95 |
| Hemoglobin | 1.356 |
| Uric acid | 1.152 |
| Omegea-6\*Psoriasis | 1.788 |

d. When the regulating variable is EPA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| EPA | 1.097 |
| Psoriasis | 1.376 |
| Age | 1.4 |
| Gender | 1.53 |
| Race | 1.161 |
| Education level | 1.109 |
| Marital status | 1.071 |
| PIR | 1.128 |
| Physical activity | 1.031 |
| Drug for dyslipidemia | 1.066 |
| CKD | 1.023 |
| Autoimmune disease | 1.025 |
| BMI overweight | 1.068 |
| Total energy | 2.1 |
| SFA | 1.97 |
| Monounsaturated fatty acid | 2.184 |
| ALT | 2.035 |
| AST | 1.928 |
| Hemoglobin | 1.36 |
| Uric acid | 1.147 |
| EPA\*Psoriasis | 1.393 |

e. When the regulating variable is DHA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| DHA | 1.079 |
| Psoriasis | 1.472 |
| Age | 1.389 |
| Gender | 1.527 |
| Race | 1.162 |
| Education level | 1.105 |
| Marital status | 1.07 |
| PIR | 1.128 |
| Physical activity | 1.029 |
| Drug for dyslipidemia | 1.061 |
| CKD | 1.021 |
| Autoimmune disease | 1.023 |
| BMI overweight | 1.066 |
| Total energy | 2.095 |
| SFA | 1.971 |
| Monounsaturated fatty acid | 2.182 |
| ALT | 2.024 |
| AST | 1.918 |
| Hemoglobin | 1.359 |
| Uric acid | 1.144 |
| DHA \*Psoriasis | 1.479 |

f. When the regulating variable is DPA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| DPA | 1.121 |
| Psoriasis | 1.404 |
| Age | 1.399 |
| Gender | 1.535 |
| Race | 1.158 |
| Education level | 1.107 |
| Marital | 1.073 |
| PIR | 1.132 |
| Physical activity | 1.03 |
| Drug for dyslipidemia | 1.064 |
| CKD | 1.022 |
| Autoimmune disease | 1.024 |
| BMI overweight | 1.065 |
| Total energy | 2.098 |
| SFA | 1.973 |
| Monounsaturated fatty acid | 2.197 |
| ALT | 2.03 |
| AST | 1.92 |
| Hemoglobin | 1.361 |
| Uric acid | 1.146 |
| DPA \*Psoriasis | 1.413 |

g. When the regulating variable is ALA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| ALA | 1.206 |
| Psoriasis | 1.454 |
| Age | 1.406 |
| Gender | 1.529 |
| Race | 1.151 |
| Education level | 1.107 |
| Marital status | 1.07 |
| PIR | 1.124 |
| Physical activity | 1.029 |
| Drug for dyslipidemia | 1.063 |
| CKD | 1.026 |
| Autoimmune disease | 1.026 |
| BMI overweight | 1.068 |
| Total energy | 2.093 |
| SFA | 1.978 |
| Monounsaturated fatty acid | 2.18 |
| ALT | 2.036 |
| AST | 1.933 |
| Hemoglobin | 1.366 |
| Uric acid | 1.148 |
| ALA \*Psoriasis | 1.467 |

h. When the regulating variable is SDA, the results of multicollinearity detection among independent variables were as follows:

|  |  |
| --- | --- |
| Variables | VIF |
| SDA | 1.092 |
| Psoriasis | 1.469 |
| Age | 1.399 |
| Gender | 1.528 |
| Race | 1.156 |
| Education level | 1.11 |
| Marital | 1.069 |
| PIR | 1.125 |
| Physical activity | 1.034 |
| Drug for dyslipidemia | 1.062 |
| CKD | 1.021 |
| Autoimmune disease | 1.024 |
| BMI overweight | 1.067 |
| Total energy | 2.096 |
| SFA | 1.979 |
| Monounsaturated fatty acid | 2.192 |
| ALT | 2.034 |
| AST | 1.932 |
| Hemoglobin | 1.364 |
| Uric acid | 1.147 |
| SDA \*Psoriasis | 1.478 |

PIR, poverty to income ratio; CKD, chronic kidney disease; BMI, body mass index; ALT, alanine aminotransferase; AST, aspartate aminotransferase; PUFA, polyunsaturated fatty acid; EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid; DPA, docosapentaenoic acid; ALA, alpha-linolenic acid; SDA, stearidonic acid; SFA, saturated fatty acid.