**Supplemental Table 1**. Baseline characteristics between participants remained and out of the study

|  |  |  |  |
| --- | --- | --- | --- |
| Variables  | Participants in the study | Participants out of the study | P value |
| Sample  | 4 855 | 106 004 | -- |
| Age, y | 36.0±8.9 | 43.2±13.0 | <0.001 |
| Sex, men/women, n (%) | 1 942 (40.0)/2,913 (60.0) | 59 680 (56.3)/46,324 (43.7) | <0.001 |
| hs-CRP, mg/L\* | 0.38 (0.2, 0.76) | 0.34 (0.63, 1.29) | <0.001 |
| BMI, kg/m2 | 22.2±2.4 | 23.9±3.5 | <0.001 |
| SBP, mmHg | 109.1±9.5 | 122.6±17.6 | <0.001 |
| DBP, mmHg | 67.7±6.9 | 75.9±11.8 | <0.001 |
| FBG, mmol/L | 4.8±0.4 | 5.3±1.1 | <0.001 |
| HbA1c, % | 5.1±0.3 | 5.4±0.7 | <0.001 |
| ALT, U/L\* | 10 (13-19) | 13 (18-27) | <0.001 |
| AST, U/L\* | 14 (16-19) | 16 (19-23) | <0.001 |
| TC, mmol/L | 4.4±0.6 | 4.9±0.9 | <0.001 |
| TG, mmol/L | 0.9±0.3 | 1.5±0.3 | <0.001 |
| HDL-C, mmol/L | 1.5±0.3 | 1.4±0.4 | <0.001 |
| LDL-C, mmol/L | 2.5±0.5 | 2.9±0.8 | <0.001 |
| Uric acid, μmol/L | 284.3±59.5 | 331.4±86.5 | <0.001 |
| eGFR, ml/min/1.73m2 | 113.3±11.6 | 104.5±14.8 | <0.001 |

**Abbreviation**: **hs-CRP**, high sensitivity C-reactive protein; **HbA1c**, glycated hemoglobin A1c; **BMI**, body mass index; **SBP**, systolic blood pressure; **DBP**, diastolic blood pressure; **FBG**, fasting blood glucose; **HbA1c**, glycated hemoglobin A1c; **ALT**, alanine transferase; **AST**, aspartate transferase; **TC**, total cholesterol; **TG**, triglyceride; **HDL-C**, high density lipoprotein cholesterol; **LDL-C**, low density lipoprotein cholesterol; **eGFR**, estimating glomerular filtration rate.

\*, abnormal distribution. The data was presented as medium and inter-quartile range.

**Supplemental Table 2**. Adjusted hazardous ratios and 95% confidence intervals for the risk of developing into unhealthy status, across different BMI groups during five-year follow up among 4 855 metabolically healthy Chinese adults: stratified by sex and age

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Stratified variables | Group  | -- | Normal (<24.0 kg/m2) | Overweight (≥24.0 kg/m2) | P for interaction |
| Sex  | Men | Sample number | 1 301 | 641 | 0.635 |
|  |  | Case number | 507 | 366 |  |
|  |  | Multivariable-adjusted Model  | **Ref (1)** | 1.22 (1.06, 1.40) |  |
|  | Women  | Sample number | 2 505 | 408 |  |
|  |  | Case number | 643 | 176 |  |
|  |  | Multivariable-adjusted Model | **Ref (1)** | 1.22 (1.03, 1.46) |  |
| Age  | <34 years | Sample number | 1 809 | 471 | 0.249 |
|  |  | Case number | 428 | 209 |  |
|  |  | Multivariable-adjusted Model | **Ref (1)** | 1.12 (0.93, 1.34) |  |
|  | ≥34 years | Sample number | 1 997 | 578 |  |
|  |  | Case number | 722 | 333 |  |
|  |  | Multivariable-adjusted Model | **Ref (1)** | 1.25 (1.09, 1.44) |  |

Note:

1. Multiple adjusted model was adjusted for age (y) and sex, and further baseline systolic blood pressure (mmHg), diastolic blood pressure (mmHg), fasting blood glucose (mmol/L), HbA1c (%), total cholesterol (mmol/L), triglyceride (mmol/L), low-density-lipoprotein cholesterol (mmol/L), high-density-lipoprotein cholesterol (mmol/L), alanine transferase (U/L), aspartate transferase (U/L), uric acid (μmol/L), and eGFR(ml/min/1.73m2).

2. Participants were divided into two groups based on the medium of the age.

**Supplemental Table 3**. Adjusted hazardous ratios and 95% confidence intervals for the risk of developing into unhealthy status, across different BMI groups during five-year follow up among 4 855 metabolically healthy Chinese adults: sensitivity analysis

|  |  |  |  |
| --- | --- | --- | --- |
| Groups | -- | Normal (<24.0 kg/m2) | Overweight (≥24.0 kg/m2) |
| Sensitivity I | Sample number | 3 693 | 977 |
|  | Case number | 1,105 | 490 |
|  | Multivariable-adjusted Model | **Ref (1)** | 1.19 (1.07, 1.33) |
| Sensitivity II | Sample number | 3 806 | 967 |
|  | Case number | 1 150 | 489 |
|  | Multivariable-adjusted Model | **Ref (1)** | 1.18 (1.05, 1.32) |
| Sensitivity III | Sample number | 3 296 | 811 |
|  | Case number | 640 | 304 |
|  | Multivariable-adjusted Model | **Ref (1)** | 1.28 (1.10, 1.48) |
| Sensitivity IV | Sample number | 4 400 | 455 |
|  | Case number | 1,411 | 281 |
|  | Multivariable-adjusted Model | **Ref (1)** | 1.6 (1.40, 1.83) |

Note:

1. **Sensitivity I:** excluding participants with abnormal baseline hs-CRP (≥3 mg/L) (n=185).

2. **Sensitivity II**: excluding participants with obesity (BMI≥28.0 kg/m2) (n=85).

3. **Sensitivity III**: excluding participants who developed into unhealthy status either in 2014 or 2015 (n=748).

4. **Sensitivity IV**: using cumulative average of BMI as the exposure.

5. Multiple adjusted model was adjusted for age (y) and sex, and further baseline systolic blood pressure (mmHg), diastolic blood pressure (mmHg), fasting blood glucose (mmol/L), HbA1c (%), total cholesterol (mmol/L), triglyceride (mmol/L), low-density-lipoprotein cholesterol (mmol/L), high-density-lipoprotein cholesterol (mmol/L), alanine transferase (U/L), aspartate transferase (U/L), uric acid (μmol/L), and eGFR(ml/min/1.73m2)