**Supplementary table 2. Diagnostic criteria of metabolic disorders.**

|                  | Diagnostic criteria                                                                 | Source of diagnostic criteria               |
|------------------|--------------------------------------------------------------------------------------|---------------------------------------------|
| **MetS**         | More than 3 of the following criteria were apparent in a participant                 | International Diabetes Federation (IDF) in 2004.9 |
|                  | (1) waist circumference: male ≥90 cm, women ≥85 cm;                                   |                                             |
|                  | (2) TG ≥1.7 mmol/L;                                                                   |                                             |
|                  | (3) HDL-C level: males <1.0 mmol/L, females <1.3 mmol/L;                              |                                             |
|                  | (4) abnormal blood pressure: presence of any of the following 3 criteria:             |                                             |
|                  | (a) taking antihypertensive medications;                                              |                                             |
|                  | (b) SBP ≥130 mmHg;                                                                    |                                             |
|                  | (c) DBP ≥85 mmHg;                                                                    |                                             |
|                  | (5) hyperglycemia: any of the following 4 criteria related to blood glucose:          |                                             |
|                  | (a) self-reported diabetes history or taking hypoglycemic drugs;                      |                                             |
|                  | (b) FPG ≥5.6 mmol/L;                                                                  |                                             |
|                  | (c) OGTT-2hPG ≥7.8 mmol/L;                                                            |                                             |
|                  | (d) HBA1C ≥5.7%.                                                                     |                                             |
| **Diabetes**     | One or >1 of the following criteria were present                                       | American Diabetes Association (ADA) in 2018.10 |
|                  | (1) FPG ≥7·0 mmol/L;                                                                  |                                             |
|                  | (2) OGTT-2hPG ≥11.1 mmol/L;                                                          |                                             |
|                  | (3) HBA1C ≥6.5%.                                                                     |                                             |
| **Prediabetes**  |                                                                                      |                                             |
|                  | (1) FPG: 5.6–7.0 mmol/L;                                                              |                                             |
|                  | (2) OGTT-2hPG 7.8–<11.1 mmol/L;                                                      |                                             |
|                  | (3) HBA1C 5.7%–6.5%;                                                                 |                                             |
|                  | (4) non-diabetic.                                                                     |                                             |
| **Hypertention** |                                                                                      |                                             |
|                  | (1) taking antihypertensive medications;                                              |                                             |
|                  | (2) SBP ≥140 mmHg;                                                                    |                                             |
|                  | (3) DBP ≥90 mmHg;                                                                     |                                             |
| **Central obesity** | Waist circumference: male ≥90 cm, women ≥85 cm;                                      | Bao Y, et al. Atherosclerosis. 2008.11       |
| **Hypertriglyceridemia** | TG ≥1.7 mmol/L                        | Circulation 2002.12                         |
| **Hypercholesterolemia** | TC ≥5.2 mmol/L                       |                                             |
| **High LDL-C**   | LDL-C ≥3.4 mmol/L                                                                     |                                             |
| Low HDL-C | Male: HDL-C < 1.0 mmol/L |
| Metabolic disorder | Female: HDL-C < 1.3 mmol/L |
| Satisfied any of diseases above |