

S4 File. Certainty of evidence based on Grading of Recommendations, Assessment, Development and Evaluation (GRADE).

| | Outcome | Risk of Bias | Imprecision | Inconsistency | Indirectness | Publication Bias | Overall |
|-----------------------------------|---|--------------|-------------|---------------|--------------|------------------|---------|
| Obesity indicators | BMI | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Waist circumference | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Percent body fat | -1 | -1 | 0 | 0 | -1 | ⊕ |
| | Visceral adiposity and subcutaneous adiposity | -1 | -1 | 0 | 0 | -1 | ⊕ |
| | Obesity ^a | -1 | -1 | 0 | 0 | 0 | ⊕⊕ |
| Diabetes indicators | HOMA-IR | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Glucose | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Insulin | -1 | -1 | 0 | 0 | -1 | ⊕ |
| | Insulin resistance ^b | -1 | -1 | 0 | 0 | 0 | ⊕⊕ |
| Hypertension indicators | Blood pressure | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Hypertension ^c | -1 | -1 | 0 | 0 | 0 | ⊕⊕ |
| Dyslipidaemia indicators | HDL-C | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | LDL-C | -1 | -1 | 0 | 0 | 0 | ⊕ |
| | Triglycerides | -1 | 0 | -1 | 0 | 0 | ⊕⊕ |
| | Dyslipidaemia ^d | -1 | -1 | 0 | 0 | 0 | ⊕⊕ |
| 2 or more CVD risk factors | Presence of 2 or more CVD risk factors | -1 | 0 | 0 | 0 | 0 | ⊕⊕⊕ |

Metabolic syndrome ^e

-1

0

0

0

0

⊕⊕⊕

Abbreviations: BMI: body mass index; HDL-C: high-density lipoprotein-cholesterol; HOMA-IR: homeostatic model assessment – insulin resistance; LDL-C: low-density lipoprotein-cholesterol.

Certainty of Evidence classified as either “very low”, “low”, “moderate”, or “high”. The certainty could be downgraded due to a high risk of bias, inconsistency (unexplained heterogeneity), indirectness (lack of generalisability or external validity), imprecision (small sample size or wide confidence intervals), or the presence of publication bias.

⊕ = very low, ⊕⊕ = low, ⊕⊕⊕ = moderate, ⊕⊕⊕⊕ = high.

^a Obesity was defined as having at least one of: BMI $\geq 30\text{kg/m}^2$ in adults and $\geq 97^{\text{th}}$ percentile in children, waist circumference $\geq 102\text{cm}$ in men, $\geq 88\text{cm}$ in women and $\geq 95^{\text{th}}$ percentile in children.

^b Insulin resistance was defined as having at least one of: blood fasting glucose $\geq 6.1\text{ mmol/L}$ (109.8 mg/dL), glycated haemoglobin $\geq 6\%$ and $< 6.5\%$ and homeostasis model assessment-insulin resistance ≥ 2.86 in adults and $\geq 95^{\text{th}}$ percentile in children.

^c Hypertension were defined, respectively, as: blood pressure $\geq 130/85$ and $< 140/90\text{ mmHg}$ in adults and $\geq 90^{\text{th}}$ and $< 95^{\text{th}}$ percentile for age and height in children and $\geq 140/90\text{ mmHg}$ or taking medication in adults and $\geq 95^{\text{th}}$ percentile for age and height or taking medication in children.

^d Dyslipidaemia was defined as having at least one of: triglycerides $\geq 1.7\text{ mmol/L}$ (150.6 mg/dL) in adults and $\geq 1.47\text{ mmol/L}$ (130.2 mg/dL) in children, LDL-C $\geq 3.4\text{ mmol/L}$ (131.5 mg/dL) in adults and $\geq 3.36\text{ mmol/L}$ (129.9 mg/dL) in children, HDL-C < 1.03 in men (39.8 mg/dL), and $< 1.3\text{ mmol/L}$ (50.3 mg/dL) in women and $< 1.03\text{ mmol/L}$ (39.8 mg/dL) in children.

^e Metabolic syndrome was defined as three or more of the following: 1) abdominal obesity (waist circumference of $> 102\text{ cm}$ in males or $> 88\text{ cm}$ in females); 2) triglycerides $\geq 150\text{ mg/dL}$; 3) high-density lipoprotein (HDL) cholesterol $< 40\text{ mg/dL}$ in males or $< 50\text{ mg/dL}$ in females; 4) hypertension (systolic pressure $\geq 130\text{ mm Hg}$ or diastolic pressure $\geq 85\text{ mm Hg}$); and 5) fasting plasma glucose $\geq 100\text{ mg/dL}$, consistently across the studies.