**Supplementary Table 1** Age- and sex- specific values used for calculation of the prevalence of inadequacy according to free sugars intakea

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1-2 years | | 3-5 years | | 6-7 years | | 8-9 years | | 10-11 years | | 12-14 years | | 15-17 years | | 18-19 years | |
| Nutrients | boys | girls | boys | girls | boys | girls | boys | girls | boys | girls | boys | girls | boys | girls | boys | girls |
| Energy (kcal)b | 950 | 900 | 1300 | 1250 | 1550 | 1450 | 1850 | 1700 | 2250 | 2100 | 2600 | 2400 | 2800 | 2300 | 2650 | 2000 |
| Macronutrients |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Protein (g)c | 15 | 15 | 20 | 20 | 25 | 25 | 30 | 30 | 40 | 40 | 50 | 45 | 50 | 45 | 50 | 40 |
| Protein (%E)d | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 | 13-20 |
| Fat (%E)d | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 | 20-30 |
| SFA (%E)d | - | - | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤10 | ≤8 | ≤8 | ≤7 | ≤7 |
| Carbohydrates (%E)d | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 | 50-65 |
| Micronutrients |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n-6 PUFA (g)e | 4 | 4 | 6 | 6 | 8 | 7 | 8 | 7 | 10 | 8 | 11 | 9 | 13 | 9 | 11 | 8 |
| n-3 PUFA (g)e | 0.7 | 0.8 | 1.1 | 1.0 | 1.5 | 1.3 | 1.5 | 1.3 | 1.6 | 1.6 | 1.9 | 1.6 | 2.1 | 1.6 | 2.0 | 1.6 |
| Dietary fiber (g)d | - | - | ≥8 | ≥8 | ≥10 | ≥10 | ≥11 | ≥11 | ≥13 | ≥13 | ≥17 | ≥17 | ≥19 | ≥18 | ≥21 | ≥18 |
| Vitamin A (µg RAE)cf | 300 | 250 | 350 | 350 | 300 | 300 | 350 | 350 | 450 | 400 | 550 | 500 | 650 | 500 | 600 | 450 |
| Vitamin D (µg)e | 3.0 | 3.5 | 3.5 | 4.0 | 4.5 | 5.0 | 5.0 | 6.0 | 6.5 | 8.0 | 8.0 | 9.5 | 9.0 | 8.5 | 8.5 | 8.5 |
| Vitamin E (mg)e | 3.0 | 3.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.5 | 5.5 | 6.5 | 6.0 | 7.0 | 5.5 | 6.0 | 5.0 |
| Vitamin K (µg)e | 50 | 60 | 60 | 70 | 80 | 90 | 90 | 110 | 110 | 140 | 140 | 170 | 160 | 150 | 150 | 150 |
| Thiamin (mg)c | 0.4 | 0.4 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 1.0 | 0.9 | 1.2 | 1.1 | 1.3 | 1.0 | 1.2 | 0.9 |
| Riboflavin (mg)c | 0.5 | 0.5 | 0.7 | 0.6 | 0.8 | 0.7 | 0.9 | 0.9 | 1.1 | 1.0 | 1.3 | 1.2 | 1.4 | 1.2 | 1.3 | 1.0 |
| Niacin (mg NE)cg | 5 | 4 | 6 | 6 | 7 | 7 | 9 | 8 | 11 | 10 | 12 | 12 | 14 | 11 | 13 | 9 |
| Vitamin B6 (mg)c | 0.4 | 0.4 | 0.5 | 0.5 | 0.7 | 0.6 | 0.8 | 0.8 | 1.0 | 1.0 | 1.2 | 1.0 | 1.2 | 1.0 | 1.1 | 1.0 |
| Vitamin B12 (µg)c | 0.8 | 0.8 | 0.9 | 0.9 | 1.1 | 1.1 | 1.3 | 1.3 | 1.6 | 1.6 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Folate (µg)c | 80 | 90 | 90 | 90 | 110 | 110 | 130 | 130 | 160 | 160 | 200 | 200 | 220 | 200 | 200 | 200 |
| Pantothenic acid (mg)e | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 5 | 6 | 6 | 7 | 6 | 7 | 6 | 5 | 5 |
| Vitamin C (mg)c | 35 | 35 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 85 | 85 | 85 | 85 | 85 | 85 |
| Sodium  (g NaCl equivalent)d | <3.0 | <3.0 | <3.5 | <3.5 | <4.5 | <4.5 | <5.0 | <5.0 | <6.0 | <6.0 | <7.0 | <6.5 | <7.5 | <6.5 | <7.5 | <6.5 |
| Potassium (mg)d | - | - | ≥1400 | ≥1400 | ≥1800 | ≥1800 | ≥2000 | ≥2000 | ≥2200 | ≥2000 | ≥2400 | ≥2400 | ≥3000 | ≥2600 | ≥3000 | ≥2600 |
| Calcium (mg)c | 350 | 350 | 500 | 450 | 500 | 450 | 550 | 600 | 600 | 600 | 850 | 700 | 650 | 550 | 650 | 550 |
| Magnesium (mg)c | 60 | 60 | 80 | 80 | 110 | 110 | 140 | 140 | 180 | 180 | 250 | 240 | 300 | 260 | 280 | 230 |
| Phosphorus (mg)e | 500 | 500 | 700 | 700 | 900 | 800 | 1000 | 1000 | 1100 | 1000 | 1200 | 1000 | 1200 | 900 | 1000 | 800 |
| Iron (mg)c | 3.0 | 3.0 | 4.0 | 4.0 | 5.0 | 4.5 | 6.0 | 6.0 | 7.0 | 7.0 | 8.0 | 10.0 | 8.0 | 8.5 | 6.5 | 8.5 |
| Zinc (mg)c | 3 | 2 | 3 | 3 | 4 | 3 | 5 | 4 | 6 | 5 | 9 | 7 | 10 | 7 | 9 | 7 |
| Copper (mg)c | 0.3 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.7 | 0.6 | 0.8 | 0.6 | 0.7 | 0.6 |
| Manganese (mg)e | 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | 2.5 | 2.5 | 3.0 | 3.0 | 4.0 | 4.0 | 4.5 | 3.5 | 4.0 | 3.5 |

%E, percent of energy intake; RAE, retinol activity equivalent; NE, niacin equivalent

a Values were derived from the Dietary Reference Intakes for Japanese, 2020(17)

b Estimated energy requirement for moderate level of physical activity

c Estimated average requirement

d Tentative dietary goal for preventing life-style related diseases

e Adequate intake

f 1 µg RAE = sum of retinol (µg) + β-carotene (µg) × 1/12 + α-carotene (µg) × 1/12 + β-cryptoxanthin (µg) × 1/24

g 1 mg NE = niacin (mg) + protein (mg)/6000