Supplement

Supplement 1 Food lead concentration data in food

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| --- | --- |
| Food category | Mean（μg/g） |
| Leafy vegetable | 0.116 |
| Coarse cereals | 0.121 |
| Milk and its products | 0.036 |
| Wheat floor | 0.154 |
| Egg | 0.125 |
| Beverage | 0.128 |
| Shrimp, crab and shellfish | 0.099 |
| Rice | 0.133 |
| Snacks | 0.128 |
| Soybean and its products | 0.045 |
| Meat | 0.067 |
| Fish | 0.070 |
| Tubers | 0.079 |
| Fresh beans | 0.045 |
| Fungi and algae | 0.100 |
| Poultry | 0.067 |
| Leaf-off vegetable | 0.045 |

**Supplement 2** The intake of food items among three dietary patterns in Hunan children (N=425, g/day)

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| --- | --- | --- | --- |
| Food items | Balance pattern | Plant pattern | Beverage and snack pattern |
| Q1 | Q4 | Q1 | Q4 | Q1 | Q4 |
| Median (IQR) | Median (IQR) | Median (IQR) | Median (IQR) | Median (IQR) | Median (IQR) |
| Rice | 106 | (100-128) | 125 | (107-171)\*\* | 112 | (100-150) | 133 | (100-160) | 120 | (100-150) | 114 | (100-150)  |
| Wheat flour | 19 | (8-31) | 23 | (14-43) \*\* | 14 | (5-25) | 34 | (14-58) \*\* | 21 | (11-45) | 23 | (10-46) \* |
| Coarse cereals | 1 | (0-4) | 11 | (4-23) \*\* | 3 | (0-8) | 17 | (3-43) \*\* | 3 | (0-13) | 7 | (0-22)  |
| Tubers | 1 | (0-2) | 8 | (3-17) \*\* | 1 | (0-4) | 6 | (1-20) \*\* | 4 | (2-14) | 2 | (0-4) \*\* |
| Soybean and its products | 5 | (0-15) | 36 | (15-86) \*\* | 11 | (4-22) | 43 | (11-96) \*\* | 18 | (6-42) | 32 | (10-87) \*\* |
| Meat | 11 | (4-24) | 30 | (17-54) \*\* | 42 | (24-80) | 15 | (5-26) \*\* | 23 | (10-43) | 23 | (10-36)  |
| Poultry | 2 | (0-4) | 17 | (6-29) \*\* | 10 | (5-25) | 3 | (1-8) \*\* | 6 | (3-15) | 6 | (2-13)  |
| Egg | 28 | (10-50) | 46 | (29-50) \*\* | 50 | (30-60) | 34 | (21-50) \*\* | 50 | (29-60) | 29 | (14-50) \* |
| Fish | 4 | (1-10) | 21 | (11-46) \*\* | 16 | (7-35) | 10 | (3-17) \*\* | 21 | (10-50) | 8 | (3-17) \*\* |
| Shrimp, crab and shellfish | 0 | (0-3) | 4 | (0-17) \*\* | 3 | (0-8) | 2 | (0-7)  | 6 | (2-20) | 2 | (0-6) \*\* |
| Milk and its products | 64 | (16-150) | 175 | (74-295) \*\* | 162 | (100-289) | 97 | (36-231) \*\* | 83 | (36-143) | 250 | (124-382) \*\* |
| Leafy vegetable | 15 | (7-30) | 29 | (12-50) \*\* | 30 | (15-60) | 16 | (6-30) \*\* | 20 | (6-30) | 20 | (9-36)  |
| Leaf-off vegetable | 10 | (4-18) | 39 | (21-64) \*\* | 18 | (7-26) | 37 | (16-57) \*\* | 29 | (15-56) | 19 | (7-29) \*\* |
| Fresh beans | 2 | (0-6) | 11 | (4-18) \*\* | 4 | (1-11) | 9 | (4-14) \*\* | 6 | (2-12) | 5 | (2-11)  |
| Fungi and algae | 1 | (0-3) | 9 | (4-17) \*\* | 4 | (1-10) | 3 | (1-8)  | 6 | (2-14) | 3 | (1-7) \*\* |
| Fruits | 52 | (31-82) | 223 | (155-301) \*\* | 115 | (65-213) | 131 | (63-205)  | 133 | (76-226) | 126 | (68-206) \* |
| Beverage | 0 | (0-7) | 21 | (0-54) \*\* | 7 | (0-44) | 0 | (0-24)  | 0 | (0-14) | 27 | (0-79) \*\* |
| Nuts | 0 | (0-2) | 8 | (3-20) \*\* | 3 | (0-9) | 2 | (0-7) \* | 2 | (0-9) | 3 | (0-9)  |
| Snacks | 14 | (3-36) | 47 | (12-92) \*\* | 41 | (14-75) | 25 | (9-52) \* | 13 | (7-35) | 57 | (23-100) \*\* |

To compare by Kruskal Wallis Test, \*P<0.05,\*\*P<0.001.

**Supplement 3** The analysis of Pearson’s correlation between food items, lead intake and blood log-Pb concentration among group of children with blood lead > P50 （N=209）

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| Food items | r | P |
| Rice | 0.075 | 0.283 |
| Wheat flour | 0.055 | 0.425 |
| Coarse cereals | -0.035 | 0.619 |
| Tubers | -0.010 | 0.885 |
| Soybean and its products | -0.032 | 0.644 |
| Meat | -0.139 | 0.044 |
| Poultry | -0.078 | 0.262 |
| Egg | 0.014 | 0.844 |
| Fish | -0.073 | 0.292 |
| Shrimp, crab and shellfish | 0.010 | 0.884 |
| Milk and its products | -0.095 | 0.171 |
| Leafy vegetable | -0.062 | 0.374 |
| Leaf-off vegetable | 0.129 | 0.063 |
| Fresh beans | -0.003 | 0.971 |
| Fungi and algae | -0.008 | 0.911 |
| Fruits | 0.178 | 0.010 |
| Beverage | -0.089 | 0.200 |
| Nuts | -0.034 | 0.622 |