**Supplemental Table 1: Multilinear regression ( coefficients and SE) between Log Natural-transformed BMI and BLL quartile in adult participants in NHANES 1999-2006, NHANES 1999-2002, and NHANES 2003-2006.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | NHANES 1999 - 2006 | NHANES 1999 - 2002 | NHANES 2003 - 2006 |
|  | % (SE)1 |  (SE) | % (SE)1 |  (SE) | % (SE)1 |  (SE) |
| BLL Quartile 1 (≤0.70 µg/dL) | 25.0 (0.72) | 0 (Reference) | 21.8 (0.82) | 0 (Reference) | 28.2 (1.12) | 0 (Reference) |
| BLL Quartile 2(0.71 – 1.09 µg/dL) | 24.5 (0.47) | -0.03 (0.01)p≤0.01 | 22.6 (0.70) | -0.02 (0.01)p=0.06 | 26.1 (0.63) | -0.03 (0.01)p≤0.01 |
| BLL Quartile 3(1.10 – 1.60 µg/dL) | 25.0 (0.55) | -0.04 (0.01)p≤0.01 | 26.9 (0.66) | -0.04 (0.01)p≤0.01 | 23.2 (0.82) | -0.04 (0.01)p≤0.01 |
| BLL Quartile 4(≥1.61 µg/dL) | 25.5 (0.54) | -0.08 (0.01)p≤0.01 | 28.7 (0.69) | -0.08 (0.01)p≤0.01 | 22.5 (0.84) | -0.08 (0.01)p≤0.01 |
| *p* trend |  | p≤0.01 |  | p≤0.01 |  | p≤0.01 |

Supplement Figure Legend.

Supplement Figure 1. Dose-response association between BMI Z score and blood lead in children and adolescents adjusted for age, gender, race/ethnicity, hematocrit, Calorie intake, TV and video game use, serum cotinine, Poverty Income Ratio. A solid line shows dose-response curve between blood lead and BMI Z-score in NHANES 1999-2002 (Figure 1a) and in NHANES 2003-2006 (Figure 1b). *Y*-axis represents the difference in BMI Z-score between individuals with any value of blood lead with individuals with 0.7 g/dL of blood lead. The dashed lines represent the 95% confidence of interval. Knots are represented by dots.

Supplement Figure 2.

Dose-response association between obesity and blood lead in children and adolescents adjusted for age, gender, race/ethnicity, hematocrit, Calorie intake, TV and video game use, Serum cotinine, Poverty Income Ratio. A solid line shows dose-response curve between obesity and blood lead in NHANES 1999-2006 (Figure 2a), in NHANES 1999-2002 (Figure 2b) and in NHANES 2003-2006 (Figure 2c). *Y*-axis represents the OR to have obesity between individuals with any value of blood lead compared to individuals with 0.7 g/dL of blood lead. The dashed lines represent the 95% confidence of interval. Knots are represented by dots.

Supplement Figure 3.

Dose-response association between BMI and blood lead in adults adjusted for race/ethnicity, gender, age, Hematocrit, smoking status, serum cotinine, alcohol consumption, education, caloric intake and moderate and vigorous activity covariates. A solid line shows dose-response curve between blood lead and BMI, in NHANES 1999-2002 (Figure 3a) and in NHANES 2003-2006 (Figure 3b). *Y*-axis represents the difference in BMI between individuals with any value of blood lead with individuals with 1.0 g/dL of blood lead. The dashed lines represent the 95% confidence of interval. Knots are represented by dots.

Supplement Figure 4. Dose-response association between obesity and blood lead in adults adjusted for race/ethnicity, gender, age, hematocrit, smoking status, serum cotinine, alcohol consumption, education, caloric intake and moderate and vigorous activity covariates. A solid line shows dose-response curve between obesity and blood lead in NHANES 1999-2006 (Figure 4a), in NHANES 1999-2002 (Figure 4b) and in NHANES 2003-2006 (Figure 4c). *Y*-axis represents the OR to have obesity between individuals with any value of blood lead compared to individuals with 1.0 g/dL of blood lead. The dashed lines represent the 95% confidence of interval. Knots are represented by dots.

Figure 1a



Figure 1b



Figure 2a



Figure 2b



Figure 2c



Figure 3a



Figure 3b



Figure 4a



Figure 4b



Figure 4c

