**SUPPLEMENTAL MATERIALS**

**Title: A prospective cohort study of in-utero and early childhood arsenic exposure and infectious disease in 4-5 year old Bangladeshi children**

Sharia M Ahmed, Adam Branscum, Barrett M. Welch, Meghan Megowan, Jeffrey W. Bethel, Michelle C. Odden, Sakila Afroz Joya, M. Omar Sharif Ibn Hasan, Pi-I Lin, Golam Mostofa, Quazi Quamruzzaman, Mahmudur Rahman, David C. Christiani, Molly L. Kile

**Table S1:** Frequency table of number of active disease surveillance visits (every two weeks) per child in a cohort of children aged 4-5 years recruited in Bangladesh (N=989).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of active surveillance visits | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 27 | 29 |
| Number of children | 657 | 1 | 21 | 38 | 73 | 84 | 65 | 19 | 3 | 7 | 6 | 4 | 3 | 3 | 1 | 1 | 1 | 1 | 1 |

**Table S2:** Poison modelsestimated incident rate ratio for respiratory and fever symptoms in children age 4-5 years per doubling in household drinking water arsenic concentration at the three life stages, Bangladesh, 2008-2017, (N=846, complete case analysis)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Crude IRR (95% CI) |  | Adjusteda IRR (95% CI) |  |
| Acute respiratory infection (ARI), 3 day recall |
| Pregnancy | 1.04 (0.94, 1.15) |   | 1.11 (0.99, 1.24) |  |
| Toddlerhood | 1.03 (0.95, 1.11) |  | 1 (0.93, 1.08) |  |
| Childhood | 0.92 (0.84, 1.01) |  | 0.96 (0.87, 1.05) |  |
| Fever, 3 day recall |
| Pregnancy | 0.86 (0.76, 0.96) |  | 0.9 (0.78, 1.03) |  |
| Toddlerhood | 1.07 (0.99, 1.16) |  | 1.05 (0.97, 1.14) |  |
| Childhood | 0.94 (0.85, 1.04) |  | 0.97 (0.87, 1.07) |  |
| Diarrhea, 3 day recall  |  |
| Models not fit |

aAdjusted for: child sex, maternal age, household income, maternal education, sanitary latrine, maternal protein consumption, preterm birth, Cesarean birth, biomass fuel burning, environmental tobacco smoke, gravidity, duration of breastfeeding, and hours spent over open fire during pregnancy

**Table S3:** Regression coefficient estimates for the interaction terms between sex and household drinking water arsenic concentration at three life stages, Bangladesh, 2008-2017, (N=846, complete case analysis)

|  |  |  |
| --- | --- | --- |
|  | Coefficient | p-value |
| Acute respiratory infection (ARI), 3 day recall |
| Pregnancy | 0 (-0.3, 0.3) | 0.991 |
| Toddlerhood | 0 (-0.2, 0.2) | 0.783 |
| Childhood | 0 (-0.3, 0.3) | 0.925 |
| Fever, 3 day recall |
| Pregnancy | 0.1 (-0.3, 0.5) | 0.529 |
| Toddlerhood | 0 (-0.2, 0.2) | 0.927 |
| Childhood | -0.2 (-0.5, 0) | 0.101 |