**Supplementary material**

**Table S1.** Sensitivity analysis of effect of folic acid supplementation with plurality on birth weight, small for gestational age, low birth weight

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Birth weight | | Small for gestational age | | | Low birth weight | | |
| Risk factors | Dataset 1\* | | Dataset 2† | | Dataset 1\* | Dataset 2† | | Dataset 1\* | Dataset 2† | |
| ***β*** (95%CI)‡ | | ***β*** (95%CI)‡ | | OR(95%CI)§ | OR (95%CI)§ | | OR(95%CI)‖ | OR(95%CI)‖ | |
| Folic acid | 17.2(6.0 to 28.3) | | 17.0(5.9 to 28.2) | | 0.85 (0.79 to 0.92) | 0.85 (0.80 to 0.92) | | 0.81 (0.70 to 0.94) | 0.81 (0.70 to 0.94) | |
| Plurality | -673.9(-752.6 to -595.1) | | -686.1(-765.0 to -607.3) | | 10.67(7.25 to 15.70) | 10.69(7.26 to 15.72) | | 18.62(12.23 to 28.36) | 16.61(10.89 to 25.33) | |
| Interaction | 162.9(66.2 to 259.7) | | 140.2(43.4to 237.0) | | 0.53 (0.33 to 0.84) | 0.59 (0.37 to 0.94) | | 0.44 (0.26 to 0.75) | 0.75(0.44 to 1.27) | |

Abbreviations: Interaction, Folic acid by Plurality; CI, confidence interval, OR, odds ratio.

\*singleton and twin A sample included in analysis excluding women who sporadically continued to consume folic acid supplement in the second trimester or third trimester or both (n 207).

† singleton and twin B sample included in analysis excluding women who sporadically continued to consume folic acid supplement in the second trimester or third trimester or both (n 207).

‡ β represents an estimate of GLM with normal distribution and identity-link function, including covariates of infant gender, residence, maternal age, maternal education, household wealth index, ANC visits, gravidity, parity, passive smoking, alcohol drinking, tea drinking, PIH, cold, iron supplementation, folic acid supplementation, gestational age.

§Odds ratio represents results of GLM with binomial distribution and logit-link function, including covariates above except for gestational age.

‖Odds ratio represents results of GLM with binomial distribution and logit-link function, including all covariates above.

**Table S2** Association between folic acid supplementation and birth weight, small for gestational age, low birth weight by infant sex

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Folic acid use | Birth weight | | | Small for gestational age | | | Low birth weight | | |
| ***β*** (95%CI) | *P* | *P* interaction | OR(95%CI) | *P* | *P* interaction | OR(95%CI) | *P* | *P* interaction |
| Singleton |  |  |  |  |  |  |  |  |  |
| Infant sex |  |  | 0.578 |  |  | 0.506 |  |  | 0.132 |
| Male | 16.8(1.6 to 31.9) | 0.031 |  | 0.83(0.76 to 0.92) | <0.001 |  | 0.75(0.61 to 0.93) | 0.009 |  |
| Female | 17.3(0.9 to 33.6) | 0.039 |  | 0.87(0.79 to 0.97) | 0.013 |  | 0.88(0.72 to 1.08) | 0.217 |  |
| Twin A |  |  |  |  |  |  |  |  |  |
| Infant sex |  |  | 0.220 |  |  | 0.574 |  |  | 0.884 |
| Male | 237.3(103.7 to 370.9) | <0.001 |  | 0.36 (0.18 to 0.72) | 0.004 |  | 0.37(0.18 to 0.77) | 0.007 |  |
| Female | 133.5(-31.6 to 298.6) | 0.113 |  | 0.42(0.20 to 0.92) | 0.031 |  | 0.34(0.15 to 0.79) | 0.013 |  |
| Twin B |  |  |  |  |  |  |  |  |  |
| Infant sex |  |  | 0.855 |  |  | 0.915 |  |  | 0.983 |
| Male | 166.3(18.2 to 314.4) | 0.028 |  | 0.47(0.23 to 0.95) | 0.036 |  | 0.61(0.30 to 1.26) | 0.183 |  |
| Female | 143.8(-11.5 to 299.1) | 0.069 |  | 0.44(0.21 to 0.92) | 0.029 |  | 0.62(0.29 to 1.33) | 0.217 |  |

Abbreviations: OR, odds ratio; CI, confidence interval.

For birth weight, ***β*** adjusted for covariates of residence, maternal age, maternal education, household wealth index, ANC visits, gravidity, parity, passive smoking, alcohol drinking, tea drinking, PIH, cold, iron supplementation, folic acid supplementation, gestational age in GLM with normal distribution and identity link function among singleton, twin A, twin B.

For small for gestational age, OR adjusted for all covariates above except for gestational age in GLM with binomial distribution and logit-link function among singleton, twin A, twin B.

For low birth weight, OR adjusted for all covariates above in GLM with binomial distribution and logit-link function among singleton, twin A, twin B.