Appendix 1. Vitamin E content in default categories, National Birth Defects Prevention Study, 1997-2005

|  |  |
| --- | --- |
| Default categories | Assumed quantity of vitamin E in daily dose  IU (mg)a |
| Prenatal vitamins | 30 (13.5) |
| Multivitamin / mineral with or without iron | 30 (13.5) |
| Multivitamin / mineral for women | 30 (13.5) |
| Stress vitamin | 30 (13.5) |
| Multivitamin / mineral for children | 30 (13.5) |
|  |  |
| Senior multivitamin / mineral | 45 (20.25) |
| Multivitamin / mineral for men | 45 (20.25) |
|  |  |
| Antioxidant vitamin and mineral formula | 200 (90.0) |
|  |  |
| Vitamin E | 400 (180.0) |
| Vitamin E and C | 400 (180.0) |
| Vitamin E and selenium | 400 (180.0) |

a Conversion calculated based on 1 IU d-alpha tocopherol = 0.45 mg synthetic dl-alpha tocopherol

Appendix 2. Adjusteda odds ratios (OR) and 95% confidence intervals (CI) for the association between total maternal intake of vitamin E and simple, isolated congenital heart defects, adjustment for total energy intake using nutrient residual method, National Birth Defects Prevention Study, 1997-2005

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Quartilesb of Daily Total Vitamin E Intake | | | | | | |
|  | Quartile 1 | Quartile 2 | | Quartile 3 | | Quartile 4 | |
|  | (0.47-5.16 mg) | (5.17- 8.00 mg) | | (8.01 –14.66 mg) | | (>14.66 mg) | |
|  |  |  |  |  |  |  |  |
|  | N | N | OR (95% CI) | N | OR (95% CI) | N | OR (95% CI) |
| Controls | 1147 | 1190 |  | 1099 |  | 1089 |  |
| Any included simple, isolated congenital heart defect | 787 | 893 | 1.15(1.00-1.32) | 838 | **1.19(1.02-1.38)** | 715 | 1.03(0.88-1.20) |
| Conotruncal defects | 161 | 184 | 1.16(0.90-1.49) | 179 | 1.23(0.95-1.61) | 153 | 1.04(0.79-1.37) |
| Tetralogy of Fallot | 80 | 81 | 1.02(0.72-1.45) | 95 | 1.28(0.89-1.84) | 79 | 1.00(0.69-1.47) |
| D-transposition of the great arteries | 56 | 70 | 1.30(0.87-1.94) | 56 | 1.19(0.77-1.85) | 55 | 1.20(0.76-1.88) |
| Atrioventricular septal defect | 13 | 25 | 1.82(0.86-3.82) | 12 | 0.92(0.38-2.22) | 16 | 1.13(0.49-2.64) |
| Anomalous pulmonary venous return | 23 | 29 | 1.27(0.69-2.35) | 26 | 1.30(0.67-2.53) | 28 | 1.65(0.84-3.21) |
| Left ventricular outflow tract obstruction defects | 116 | 139 | 1.11(0.84-1.47) | 175 | **1.47(1.10-1.95)** | 125 | 0.99(0.73-1.34) |
| Hypoplastic left heart syndrome | 46 | 51 | 0.92(0.60-1.42) | 76 | 1.45(0.95-2.20) | 52 | 0.99(0.63-1.55) |
| Coarctation of the aorta | 38 | 49 | 1.26(0.79-2.03) | 63 | **1.70(1.06-2.74)** | 44 | 1.13(0.68-1.88) |
| Aortic stenosis | 32 | 37 | 1.23(0.72-2.10) | 33 | 1.12(0.64-1.99) | 29 | 0.84(0.47-1.52) |
| Right ventricular outflow tract obstruction defects | 128 | 132 | 0.99(0.75-1.31) | 115 | 0.92(0.68-1.24) | 130 | 1.02(0.75-1.38) |
| Pulmonary valve stenosis | 95 | 96 | 1.03(0.74-1.42) | 88 | 1.02(0.72-1.44) | 104 | 1.16(0.83-1.64) |
| Septal defects | 345 | 385 | 1.21(1.00-1.46) | 331 | 1.17(0.96-1.44) | 263 | 1.02(0.82-1.26) |
| Ventricular septal defect perimembranous | 149 | 158 | 1.27(0.97-1.65) | 137 | 1.23(0.92-1.65) | 128 | 1.15(0.85-1.56) |
| Ventricular septal defect muscular | 29 | 24 | 0.88(0.48-1.63) | 25 | 0.96(0.51-1.82) | 18 | 0.54(0.27-1.09) |
| Atrial septal defect secundum or NOS | 158 | 192 | 1.22(0.94-1.58) | 166 | 1.20(0.91-1.59) | 114 | 1.03(0.75-1.39) |
| NOS, Not Otherwise Specified | | | | | | | |
| a Adjusted for total fat, folate (as Dietary Folate Equivalents), maternal race/ethnicity, age, education, body mass index, study center, smoking, alcohol use and use of folic acid supplements (the last three for three months before pregnancy through the first two months of pregnancy). | | | | | | | |
| b Quartiles determined from energy-adjusted intake of vitamin E from foods and supplements among control mothers. | | | | | | | |

Appendix 3. Adjusteda odds ratios (OR) and 95% confidence intervals (CI) for the association between total maternal intake of vitamin E and isolated (non-congenital heart defect) birth defects, adjustment for total energy intake using nutrient residual method, National Birth Defects Prevention Study, 1997-2005

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Quartilesb of Daily Total Vitamin E Intake | | | | | | |
|  | Quartile 1 | Quartile 2 | | Quartile 3 | | Quartile 4 | |
|  | (0.47-5.16 mg) | (5.17- 8.00 mg) | | (8.01 –14.66 mg) | | (>14.66 mg) | |
|  | N | N | OR (95% CI) | N | OR (95% CI) | N | OR (95% CI) |
|  |  |  |  |  |  |  |  |
| Controls | 1147 | 1190 |  | 1099 |  | 1089 |  |
| Neural tube defects | 177 | 188 | 0.98(0.77-1.25) | 179 | 1.03(0.80-1.33) | 174 | 1.13(0.87-1.46) |
| Anencephaly and craniorachischisis | 46 | 59 | 1.15(0.75-1.78) | 56 | 1.22(0.77-1.92) | 41 | 1.00(0.61-1.64) |
| Spina bifida | 116 | 107 | 0.87(0.64-1.17) | 110 | 0.99(0.73-1.36) | 115 | 1.16(0.84-1.59) |
| Encephalocele | 15 | 22 | 1.30(0.63-2.69) | 13 | 0.83(0.36-1.92) | 18 | 1.31(0.59-2.91) |
| Hydrocephaly | 35 | 41 | 1.18(0.71-1.96) | 31 | 1.05(0.60-1.83) | 32 | 1.13(0.64-1.99) |
| Cataracts | 23 | 27 | 1.18(0.64-2.19) | 26 | 1.21(0.63-2.32) | 32 | 1.51(0.80-2.87) |
| Anotia/microtia | 51 | 55 | 1.07(0.69-1.66) | 30 | 0.66(0.39-1.13) | 33 | 0.97(0.56-1.66) |
| Oral clefts | 398 | 380 | 0.89(0.75-1.07) | 396 | 1.05(0.87-1.27) | 337 | 0.93(0.76-1.13) |
| Cleft palate | 117 | 123 | 0.98(0.74-1.32) | 137 | 1.19(0.88-1.60) | 107 | 0.90(0.65-1.24) |
| Cleft lip with cleft palate | 181 | 169 | 0.90(0.70-1.15) | 170 | 1.07(0.82-1.38) | 122 | 0.87(0.65-1.15) |
| Cleft lip without cleft palate | 100 | 88 | 0.80(0.58-1.10) | 89 | 0.89(0.63-1.24) | 108 | 1.06(0.76-1.47) |
| Cleft lip w/wo cleft palate | 281 | 257 | 0.86(0.70-1.06) | 259 | 1.00(0.80-1.24) | 230 | 0.95(0.76-1.19) |
| Esophageal atresia | 22 | 31 | 1.55(0.84-2.86) | 22 | 1.09(0.55-2.17) | 38 | 1.74(0.91-3.33) |
| Small intestinal atresia/stenosis | 28 | 37 | 1.58(0.91-2.75) | 36 | **1.84(1.02-3.32)** | 32 | **1.85(1.00-3.44)** |
| Anorectal atresia/stenosis | 43 | 39 | 1.13(0.69-1.84) | 51 | **1.78(1.08-2.94)** | 43 | 1.59(0.94-2.69) |
| Hypospadias second/third degree | 140 | 175 | 1.16(0.89-1.52) | 186 | 1.21(0.92-1.60) | 240 | **1.38(1.05-1.81)** |
| Limb deficiency | 78 | 94 | 1.06(0.76-1.49) | 78 | 0.96(0.66-1.38) | 78 | 0.99(0.68-1.44) |
| Longitudinal limb deficiency | 26 | 29 | 1.04(0.58-1.88) | 17 | 0.65(0.33-1.31) | 21 | 0.84(0.43-1.65) |
| Transverse limb deficiency | 49 | 62 | 1.07(0.70-1.62) | 58 | 1.08(0.70-1.68) | 52 | 1.02(0.64-1.60) |
| Craniosynostosis | 110 | 117 | 1.00(0.74-1.35) | 132 | 1.11(0.81-1.50) | 125 | 0.90(0.66-1.24) |
| Diaphragmatic hernia | 72 | 78 | 1.10(0.76-1.59) | 57 | 0.87(0.58-1.31) | 62 | 0.92(0.61-1.39) |
| Omphalocele | 30 | 22 | 0.81(0.44-1.49) | 29 | 1.18(0.64-2.17) | 23 | 0.90(0.47-1.73) |
| Gastroschisis | 162 | 125 | 0.93(0.69-1.25) | 106 | 1.04(0.75-1.43) | 46 | 0.68(0.46-1.02) |
|  |  |  |  |  |  |  |  |
| a Adjusted for total fat, folate (as Dietary Folate Equivalents), maternal race/ethnicity, age, education, body mass index, study center, smoking, alcohol use and use of folic acid supplements (the last three for three months before pregnancy through the first two months of pregnancy). | | | | | | | |
| b Quartiles determined from energy-adjusted intake of vitamin E from foods and supplements among control mothers. | | | | | | | |