## EMM Table: Effect modification of maternal micronutrients and child immune status

| Effect Modifier | Maternal micronutrients | Outcome | N | Modifier value | Outcome, 75th Percentile v. 25th Percentile of Exposure | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Adjusted | | | | |
|  |  |  |  |  | Coefficient (95% CI) | P-value | FDR Corrected P-value | Interaction P-value | FDR Corrected Interaction P-value |
| Arm | Vitamin D (nmol/L) | Ln AGP Age 14 months (g/L) | 423 | Control | -0.03 (-0.11, 0.04) | 0.4 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.08 (0, 0.15) | 0.04 | 0.84 | 0.21 | 0.68 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | -0.4 (-1.09, 0.28) | 0.25 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.12 (-0.82, 0.59) | 0.76 | 0.98 | 0 | 0 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | 0.07 (-0.41, 0.54) | 0.8 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.15 (-0.37, 0.66) | 0.59 | 0.98 | 0.43 | 0.94 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | 0.12 (-0.1, 0.34) | 0.27 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.09 (-0.09, 0.27) | 0.34 | 0.98 | 0.82 | 0.95 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | -0.04 (-0.18, 0.11) | 0.63 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.03 (-0.17, 0.11) | 0.69 | 0.98 | 0.57 | 0.95 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | -0.1 (-0.22, 0.03) | 0.13 | 0.89 |  |  |
|  |  |  |  | Nutrition + WSH | 0 (-0.16, 0.16) | 0.98 | 0.98 | 0 | 0 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | -0.01 (-0.11, 0.09) | 0.87 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.03 (-0.05, 0.11) | 0.48 | 0.98 | 0.52 | 0.94 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | -0.02 (-0.17, 0.13) | 0.84 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0 (-0.12, 0.12) | 0.97 | 0.98 | 0.77 | 0.95 |
|  |  |  |  |  |  |  |  |  |  |
|  | Vitamin D deficiency | Ln AGP Age 14 months (g/L) | 423 | Control | -0.16 (-0.35, 0.02) | 0.09 | 0.85 |  |  |
|  |  |  |  | Nutrition + WSH | 0.1 (-0.02, 0.23) | 0.11 | 0.85 | 0.78 | 0.95 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | -0.24 (-0.97, 0.49) | 0.53 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.39 (-0.07, 0.84) | 0.1 | 0.85 | 0.09 | 0.54 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | 0.01 (-0.22, 0.24) | 0.92 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.16 (0.01, 0.32) | 0.04 | 0.84 | 0.28 | 0.81 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | 0.08 (-0.36, 0.52) | 0.73 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.15 (-0.14, 0.45) | 0.32 | 0.98 | 0.79 | 0.95 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | -0.05 (-0.41, 0.32) | 0.8 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.01 (-0.19, 0.17) | 0.9 | 0.98 | 0.86 | 0.95 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | -0.27 (-0.79, 0.26) | 0.32 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.22 (-0.14, 0.59) | 0.23 | 0.98 | 0.13 | 0.6 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | -0.02 (-0.27, 0.23) | 0.88 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.03 (-0.14, 0.21) | 0.72 | 0.98 | 0.91 | 0.95 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | 0.27 (-0.11, 0.65) | 0.16 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.07 (-0.33, 0.2) | 0.63 | 0.98 | 0.14 | 0.6 |
|  |  |  |  |  |  |  |  |  |  |
|  | Ln RBP (umol/L) | Ln AGP Age 14 months (g/L) | 423 | Control | 0 (-0.01, 0.01) | 0.82 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0 (-0.01, 0.01) | 0.66 | 0.98 | 0.9 | 0.95 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | -0.01 (-0.04, 0.02) | 0.61 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.02 (-0.05, 0.01) | 0.11 | 0.85 | 0.59 | 0.95 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | 0.01 (-0.01, 0.04) | 0.25 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.03 (-0.04, -0.01) | 0.01 | 0.39 | 0.01 | 0.13 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | -0.03 (-0.26, 0.2) | 0.84 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.09 (-0.32, 0.14) | 0.44 | 0.98 | 0.02 | 0.2 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | -0.02 (-0.11, 0.06) | 0.63 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.04 (-0.01, 0.09) | 0.1 | 0.85 | 0.23 | 0.7 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | 0 (-0.01, 0.01) | 0.81 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.01 (-0.01, 0.03) | 0.44 | 0.98 | 0.87 | 0.95 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | 0.01 (0, 0.02) | 0.09 | 0.85 |  |  |
|  |  |  |  | Nutrition + WSH | 0.01 (0, 0.02) | 0.16 | 0.98 | 0.95 | 0.96 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | 0.02 (0, 0.04) | 0.06 | 0.84 |  |  |
|  |  |  |  | Nutrition + WSH | 0.01 (-0.01, 0.02) | 0.43 | 0.98 | 0.41 | 0.94 |
|  |  |  |  |  |  |  |  |  |  |
|  | Vitamin A deficiency | Ln AGP Age 14 months (g/L) | 423 | Control | 0.36 (-0.23, 0.96) | 0.23 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.17 (-0.66, 0.32) | 0.5 | 0.98 | 0.15 | 0.6 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | 0.02 (-0.87, 0.91) | 0.97 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.04 (-1.5, 1.58) | 0.96 | 0.98 | 0.11 | 0.54 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | 0.31 (-0.44, 1.06) | 0.43 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.64 (-1.25, -0.04) | 0.04 | 0.84 | 0.06 | 0.39 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | 0.11 (-1.31, 1.53) | 0.89 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -1.68 (-2.81, -0.55) | 0 | 0.39 | 0.04 | 0.31 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | 0.52 (-0.5, 1.55) | 0.32 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.05 (-0.37, 0.48) | 0.81 | 0.98 | 0.65 | 0.95 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | 0.09 (-0.45, 0.62) | 0.76 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.15 (-0.81, 1.11) | 0.77 | 0.98 | 0 | 0 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | 0.44 (-0.28, 1.17) | 0.23 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.3 (-0.18, 0.78) | 0.23 | 0.98 | 0.73 | 0.95 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | 0.52 (-0.56, 1.59) | 0.35 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.2 (-0.52, 0.92) | 0.59 | 0.98 | 0.53 | 0.94 |
|  |  |  |  |  |  |  |  |  |  |
|  | Ln ferritin (ug/L) | Ln AGP Age 14 months (g/L) | 423 | Control | 0.03 (-0.02, 0.08) | 0.26 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.03 (-0.02, 0.07) | 0.25 | 0.98 | 0.85 | 0.95 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | 0.04 (-0.33, 0.4) | 0.85 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.05 (-0.31, 0.41) | 0.8 | 0.98 | 0.44 | 0.94 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | 0 (-0.01, 0) | 0.47 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.01 (-0.01, 0) | 0.08 | 0.85 | 0.6 | 0.95 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | -0.01 (-0.02, 0) | 0.01 | 0.39 |  |  |
|  |  |  |  | Nutrition + WSH | -0.01 (-0.02, 0) | 0.03 | 0.84 | 0.67 | 0.95 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | -0.02 (-0.05, 0.01) | 0.23 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0 (-0.03, 0.02) | 0.82 | 0.98 | 0.36 | 0.89 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | -0.01 (-0.02, 0.01) | 0.55 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.01 (-0.01, 0.03) | 0.58 | 0.98 | 0.18 | 0.63 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | 0.01 (0, 0.02) | 0.12 | 0.85 |  |  |
|  |  |  |  | Nutrition + WSH | 0 (-0.01, 0.02) | 0.56 | 0.98 | 0.41 | 0.94 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | 0.25 (0, 0.49) | 0.05 | 0.84 |  |  |
|  |  |  |  | Nutrition + WSH | 0.23 (-0.01, 0.48) | 0.06 | 0.84 | 0.1 | 0.54 |
|  |  |  |  |  |  |  |  |  |  |
|  | Ln sTfR (mg/L) | Ln AGP Age 14 months (g/L) | 423 | Control | -0.02 (-0.14, 0.1) | 0.78 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.04 (-0.13, 0.04) | 0.3 | 0.98 | 0.16 | 0.62 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | 0.52 (-0.36, 1.4) | 0.25 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.32 (-0.41, 1.04) | 0.4 | 0.98 | 0 | 0 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | -0.18 (-0.45, 0.09) | 0.19 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.16 (-0.42, 0.1) | 0.22 | 0.98 | 0.6 | 0.95 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | -0.28 (-0.8, 0.24) | 0.3 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.34 (-0.84, 0.16) | 0.18 | 0.98 | 0.15 | 0.61 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | 0.01 (-0.09, 0.12) | 0.83 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.07 (-0.09, 0.22) | 0.4 | 0.98 | 0 | 0 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | -0.28 (-0.57, 0.01) | 0.06 | 0.84 |  |  |
|  |  |  |  | Nutrition + WSH | -0.15 (-0.39, 0.1) | 0.24 | 0.98 | 0.06 | 0.39 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | 0.24 (-0.73, 1.21) | 0.64 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.18 (-0.69, 1.05) | 0.7 | 0.98 | 0.9 | 0.95 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | -0.03 (-0.41, 0.36) | 0.9 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.01 (-0.28, 0.26) | 0.93 | 0.98 | 0.85 | 0.95 |
|  |  |  |  |  |  |  |  |  |  |
|  | Iron deficiency | Ln AGP Age 14 months (g/L) | 423 | Control | -0.05 (-0.21, 0.1) | 0.51 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.18 (-0.3, -0.05) | 0.01 | 0.39 | 0.26 | 0.78 |
|  |  | Ln CRP Age 14 months (mg/L) | 369 | Control | 0.01 (-0.58, 0.6) | 0.97 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.42 (-0.87, 0.03) | 0.06 | 0.85 | 0.27 | 0.78 |
|  |  | Ln IFN-y Age 14 months (pg/mL) | 410 | Control | -0.02 (-0.22, 0.18) | 0.85 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.04 (-0.2, 0.12) | 0.65 | 0.98 | 0.97 | 0.97 |
|  |  | Sum score of 13 cytokines Age 14 months | 409 | Control | -0.17 (-0.54, 0.19) | 0.36 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.04 (-0.34, 0.26) | 0.79 | 0.98 | 0.2 | 0.68 |
|  |  | Ln AGP Age 28 months (g/L) | 252 | Control | -0.24 (-0.55, 0.06) | 0.12 | 0.85 |  |  |
|  |  |  |  | Nutrition + WSH | -0.04 (-0.21, 0.13) | 0.66 | 0.98 | 0.33 | 0.89 |
|  |  | Ln CRP Age 28 months (mg/L) | 498 | Control | 0.02 (-0.42, 0.46) | 0.93 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | -0.22 (-0.58, 0.15) | 0.24 | 0.98 | 0.41 | 0.94 |
|  |  | Ln IFN-y Age 28 months (g/L) | 489 | Control | 0.11 (-0.1, 0.32) | 0.33 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.09 (-0.09, 0.26) | 0.34 | 0.98 | 0.89 | 0.95 |
|  |  | Sum score of 13 cytokines Age 28 months | 489 | Control | 0.16 (-0.15, 0.48) | 0.31 | 0.98 |  |  |
|  |  |  |  | Nutrition + WSH | 0.12 (-0.14, 0.38) | 0.35 | 0.98 | 0.83 | 0.95 |