Table 1:

| X1 | Bangladesh | Kenya |
| --- | --- | --- |
| n | 1761 | 1893 |
| tr (%) |  |  |
| Control | 432 (24.5) | 519 (27.9) |
| Nutrition | 435 (24.7) | 435 (23.4) |
| Nutrition + WSH | 451 (25.6) | 450 (24.2) |
| WSH | 443 (25.2) | 456 (24.5) |
| laz\_t1 (median [IQR]) | -1.29 [-1.99, -0.58] | -0.78 [-1.47, -0.08] |
| waz\_t1 (median [IQR]) | -1.21 [-1.86, -0.57] | -0.26 [-1.01, 0.39] |
| laz\_t2 (median [IQR]) | -1.39 [-2.07, -0.75] | -1.27 [-1.99, -0.55] |
| waz\_t2 (median [IQR]) | -1.31 [-2.00, -0.63] | -0.62 [-1.29, 0.03] |
| cesd\_sum\_t2 (median [IQR]) | 24.00 [8.00, 47.00] |  |
| cesd\_sum\_ee\_t3 (median [IQR]) | 24.00 [7.00, 54.00] |  |
| pss\_sum\_mom\_t3 (median [IQR]) | 12.00 [7.00, 32.00] |  |
| quantile\_phq (median [IQR]) |  | 2.00 [1.00, 3.00] |
| quantile\_pss (median [IQR]) |  | 2.00 [1.00, 3.00] |
| sex (%) |  |  |
| female | 871 (49.5) | 894 (47.2) |
| male | 890 (50.5) | 946 (50.0) |
| missing | 0 (0.0) | 53 (2.8) |
| life\_viol\_any\_t3 = 1 (%) | 836 (57.1) |  |
| birthord (%) |  |  |
| first | 597 (33.9) | 1488 (78.6) |
| missing | 109 (6.2) | 2 (0.1) |
| second or greater | 1055 (59.9) | 403 (21.3) |
| momage (median [IQR]) | 23.00 [20.00, 27.00] | 25.42 [21.29, 30.00] |
| momheight (%) |  |  |
| [-1,0) | 591 (33.6) | 590 (31.2) |
| [-2,-1) | 232 (13.2) | 241 (12.7) |
| [-4.46,-2) | 36 (2.0) | 0 (0.0) |
| [0,1) | 570 (32.4) | 597 (31.5) |
| [1,2) | 253 (14.4) | 243 (12.8) |
| [2,3.29] | 28 (1.6) | 0 (0.0) |
| missing | 51 (2.9) | 144 (7.6) |
| [-3.5,-2) | 0 (0.0) | 37 (2.0) |
| [2,3.19] | 0 (0.0) | 41 (2.2) |
| momedu (%) |  |  |
| No education | 248 (14.1) | 0 (0.0) |
| Primary (1-5y) | 498 (28.3) | 0 (0.0) |
| Secondary (>5y) | 1015 (57.6) | 0 (0.0) |
| AnySecondary | 0 (0.0) | 413 (21.8) |
| IncompletePrimary | 0 (0.0) | 990 (52.3) |
| missing | 0 (0.0) | 55 (2.9) |
| Primary | 0 (0.0) | 435 (23.0) |
| hfiacat (%) |  |  |
| Food Secure | 1244 (70.6) |  |
| Mildly Food Insecure | 147 (8.3) |  |
| Moderately Food Insecure | 310 (17.6) |  |
| Severely Food Insecure | 60 (3.4) |  |
| Nlt18 (median [IQR]) | 1.00 [1.00, 2.00] | 3.00 [1.00, 4.00] |
| Ncomp (median [IQR]) | 9.00 [6.00, 14.00] | 7.00 [5.00, 11.00] |
| watmin (median [IQR]) | 0.00 [0.00, 1.00] |  |
| walls = 1 (%) | 1137 (64.6) |  |
| floor (%) |  |  |
| 0 | 1532 (87.0) | 1747 (92.3) |
| 1 | 229 (13.0) | 91 (4.8) |
| 9 | 0 (0.0) | 2 (0.1) |
| missing | 0 (0.0) | 53 (2.8) |
| roof (%) |  |  |
| 0 | 22 (1.2) | 706 (37.3) |
| 1 | 1739 (98.8) | 1134 (59.9) |
| missing | 0 (0.0) | 53 (2.8) |
| hh\_index (median [IQR]) | 3.28 [1.00, 8.99] | -0.38 [-1.04, 0.62] |

Table 2: Communicative Development Inventories (Bangladesh)

| CDI Year | Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year 1 | Understanding | alpha-1 antitrypsin (3 mo) | 797 | -1.48 | -0.23 | -0.04(-0.26,0.18) | 0.71 | 0.79 |
| Expressing | alpha-1 antitrypsin (3 mo) | 793 | -1.48 | -0.22 | -0.06(-0.23,0.11) | 0.49 | 0.69 |
| Understanding | myeloperoxidase (3 mo) | 799 | 8.34 | 9.86 | -0.03(-0.14,0.07) | 0.52 | 0.69 |
| Expressing | myeloperoxidase (3 mo) | 795 | 8.35 | 9.88 | 0.02(-0.08,0.12) | 0.67 | 0.79 |
| **Understanding** | **neopterin (3 mo)** | **800** | **6.80** | **7.75** | **0.23(0.07,0.39)** | **0.01\*** | **0.1** |
| Expressing | neopterin (3 mo) | 796 | 6.80 | 7.75 | 0.07(-0.16,0.3) | 0.55 | 0.69 |
| **Understanding** | **lactulose (3 mo)** | **979** | **-1.56** | **-0.01** | **-0.16(-0.3,-0.01)** | **0.03\*** | **0.13** |
| **Expressing** | **lactulose (3 mo)** | **976** | **-1.56** | **-0.01** | **-0.17(-0.33,-0.01)** | **0.04\*** | **0.13** |
| Understanding | mannitol (3 mo) | 979 | 0.67 | 2.11 | -0.12(-0.25,0.01) | 0.07 | 0.18 |
| Expressing | mannitol (3 mo) | 976 | 0.67 | 2.12 | -0.11(-0.27,0.04) | 0.16 | 0.31 |
| Year 2 | Understanding | alpha-1 antitrypsin (3 mo) | 701 | -1.45 | -0.21 | -0.01(-0.11,0.08) | 0.77 | 0.96 |
| Expressing | alpha-1 antitrypsin (3 mo) | 707 | -1.45 | -0.21 | 0(-0.1,0.1) | 0.97 | 1 |
| Understanding | myeloperoxidase (3 mo) | 702 | 8.38 | 9.91 | 0(-0.11,0.11) | 1 | 1 |
| Expressing | myeloperoxidase (3 mo) | 708 | 8.37 | 9.90 | 0.14(-0.06,0.34) | 0.17 | 0.87 |
| Understanding | neopterin (3 mo) | 703 | 6.82 | 7.76 | 0.06(-0.04,0.16) | 0.26 | 0.87 |
| Expressing | neopterin (3 mo) | 709 | 6.82 | 7.75 | 0.09(-0.02,0.2) | 0.12 | 0.87 |
| Understanding | lactulose (3 mo) | 870 | -1.56 | -0.03 | 0.07(-0.14,0.29) | 0.51 | 0.87 |
| Expressing | lactulose (3 mo) | 878 | -1.56 | -0.03 | 0.12(-0.1,0.33) | 0.29 | 0.87 |
| Understanding | mannitol (3 mo) | 870 | 0.69 | 2.10 | 0.03(-0.15,0.22) | 0.73 | 0.95 |
| Expressing | mannitol (3 mo) | 878 | 0.69 | 2.10 | -0.01(-0.21,0.19) | 0.93 | 1 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |

Table 3: Bangladesh Analyses

| Outcome Domain | Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| WHO Motor Milestone (Year 1) | Sum Total | alpha-1 antitrypsin (3 mo) | 806 | -1.48 | -0.23 | 0.03(-0.18,0.24) | 0.77 | 0.81 |
| Milestones 2, 4, 5, 6 | alpha-1 antitrypsin (3 mo) | 806 | -1.48 | -0.23 | -0.01(-0.21,0.18) | 0.9 | 0.9 |
| Sum Total | myeloperoxidase (3 mo) | 808 | 8.34 | 9.86 | 0.08(-0.04,0.21) | 0.2 | 0.33 |
| Milestones 2, 4, 5, 6 | myeloperoxidase (3 mo) | 808 | 8.34 | 9.86 | 0.08(-0.03,0.18) | 0.17 | 0.31 |
| Sum Total | neopterin (3 mo) | 809 | 6.81 | 7.75 | 0.14(-0.1,0.37) | 0.26 | 0.4 |
| Milestones 2, 4, 5, 6 | neopterin (3 mo) | 809 | 6.81 | 7.75 | 0.15(-0.05,0.35) | 0.15 | 0.31 |
| **Sum Total** | **lactulose (3 mo)** | **984** | **-1.55** | **-0.01** | **-0.25(-0.49,-0.01)** | **0.04\*** | **0.13** |
| **Milestones 2, 4, 5, 6** | **lactulose (3 mo)** | **991** | **-1.56** | **-0.02** | **-0.11(-0.21,0)** | **0.04\*** | **0.13** |
| **Sum Total** | **mannitol (3 mo)** | **984** | **0.68** | **2.12** | **-0.23(-0.36,-0.09)** | **0\*** | **0\*** |
| **Milestones 2, 4, 5, 6** | **mannitol (3 mo)** | **991** | **0.68** | **2.11** | **-0.1(-0.2,0)** | **0.05\*** | **0.14** |
| Communicative Development Inventories (Year 1) | Understanding | alpha-1 antitrypsin (3 mo) | 797 | -1.48 | -0.23 | -0.04(-0.26,0.18) | 0.71 | 0.79 |
| Expressing | alpha-1 antitrypsin (3 mo) | 793 | -1.48 | -0.22 | -0.06(-0.23,0.11) | 0.49 | 0.69 |
| Understanding | myeloperoxidase (3 mo) | 799 | 8.34 | 9.86 | -0.03(-0.14,0.07) | 0.52 | 0.69 |
| Expressing | myeloperoxidase (3 mo) | 795 | 8.35 | 9.88 | 0.02(-0.08,0.12) | 0.67 | 0.79 |
| **Understanding** | **neopterin (3 mo)** | **800** | **6.80** | **7.75** | **0.23(0.07,0.39)** | **0.01\*** | **0.1** |
| Expressing | neopterin (3 mo) | 796 | 6.80 | 7.75 | 0.07(-0.16,0.3) | 0.55 | 0.69 |
| **Understanding** | **lactulose (3 mo)** | **979** | **-1.56** | **-0.01** | **-0.16(-0.3,-0.01)** | **0.03\*** | **0.13** |
| **Expressing** | **lactulose (3 mo)** | **976** | **-1.56** | **-0.01** | **-0.17(-0.33,-0.01)** | **0.04\*** | **0.13** |
| Understanding | mannitol (3 mo) | 979 | 0.67 | 2.11 | -0.12(-0.25,0.01) | 0.07 | 0.18 |
| Expressing | mannitol (3 mo) | 976 | 0.67 | 2.12 | -0.11(-0.27,0.04) | 0.16 | 0.31 |
| Extended Ages and Stages Questionnaire (Year 2) | Personal Social Score | alpha-1 antitrypsin (3 mo) | 697 | -1.45 | -0.21 | -0.01(-0.19,0.18) | 0.95 | 1 |
| Gross Motor Score | alpha-1 antitrypsin (3 mo) | 693 | -1.45 | -0.21 | -0.04(-0.14,0.06) | 0.46 | 0.87 |
| Combined | alpha-1 antitrypsin (3 mo) | 697 | -1.45 | -0.21 | -0.03(-0.19,0.13) | 0.72 | 0.95 |
| Combined | alpha-1 antitrypsin (3 mo) | 697 | -1.45 | -0.21 | -0.02(-0.18,0.14) | 0.79 | 0.97 |
| Personal Social Score | myeloperoxidase (3 mo) | 698 | 8.38 | 9.91 | -0.06(-0.18,0.06) | 0.33 | 0.87 |
| Gross Motor Score | myeloperoxidase (3 mo) | 694 | 8.41 | 9.91 | 0.01(-0.1,0.13) | 0.86 | 1 |
| Combined | myeloperoxidase (3 mo) | 698 | 8.38 | 9.91 | -0.04(-0.16,0.08) | 0.54 | 0.9 |
| Combined | myeloperoxidase (3 mo) | 698 | 8.38 | 9.91 | -0.05(-0.17,0.06) | 0.35 | 0.87 |
| Personal Social Score | neopterin (3 mo) | 699 | 6.83 | 7.76 | 0.09(-0.03,0.21) | 0.15 | 0.87 |
| Gross Motor Score | neopterin (3 mo) | 695 | 6.83 | 7.76 | 0.06(-0.09,0.21) | 0.45 | 0.87 |
| Combined | neopterin (3 mo) | 699 | 6.83 | 7.76 | 0.11(-0.01,0.23) | 0.06 | 0.8 |
| Combined | neopterin (3 mo) | 699 | 6.83 | 7.76 | 0.1(-0.01,0.22) | 0.08 | 0.8 |
| Personal Social Score | lactulose (3 mo) | 867 | -1.57 | -0.03 | 0.06(-0.18,0.3) | 0.64 | 0.95 |
| Gross Motor Score | lactulose (3 mo) | 862 | -1.56 | -0.03 | 0.12(-0.01,0.25) | 0.07 | 0.8 |
| Combined | lactulose (3 mo) | 867 | -1.57 | -0.03 | 0.04(-0.06,0.14) | 0.42 | 0.87 |
| Combined | lactulose (3 mo) | 867 | -1.57 | -0.03 | 0.03(-0.06,0.13) | 0.49 | 0.87 |
| Personal Social Score | mannitol (3 mo) | 867 | 0.69 | 2.11 | -0.02(-0.14,0.1) | 0.73 | 0.95 |
| Gross Motor Score | mannitol (3 mo) | 862 | 0.69 | 2.12 | 0.08(-0.05,0.21) | 0.23 | 0.87 |
| Combined | mannitol (3 mo) | 867 | 0.69 | 2.11 | 0.05(-0.08,0.17) | 0.48 | 0.87 |
| Combined | mannitol (3 mo) | 867 | 0.69 | 2.11 | 0.04(-0.06,0.15) | 0.43 | 0.87 |
| Communicative Development Inventories (Year 2) | Understanding | alpha-1 antitrypsin (3 mo) | 701 | -1.45 | -0.21 | -0.01(-0.11,0.08) | 0.77 | 0.96 |
| Expressing | alpha-1 antitrypsin (3 mo) | 707 | -1.45 | -0.21 | 0(-0.1,0.1) | 0.97 | 1 |
| Understanding | myeloperoxidase (3 mo) | 702 | 8.38 | 9.91 | 0(-0.11,0.11) | 1 | 1 |
| Expressing | myeloperoxidase (3 mo) | 708 | 8.37 | 9.90 | 0.14(-0.06,0.34) | 0.17 | 0.87 |
| Understanding | neopterin (3 mo) | 703 | 6.82 | 7.76 | 0.06(-0.04,0.16) | 0.26 | 0.87 |
| Expressing | neopterin (3 mo) | 709 | 6.82 | 7.75 | 0.09(-0.02,0.2) | 0.12 | 0.87 |
| Understanding | lactulose (3 mo) | 870 | -1.56 | -0.03 | 0.07(-0.14,0.29) | 0.51 | 0.87 |
| Expressing | lactulose (3 mo) | 878 | -1.56 | -0.03 | 0.12(-0.1,0.33) | 0.29 | 0.87 |
| Understanding | mannitol (3 mo) | 870 | 0.69 | 2.10 | 0.03(-0.15,0.22) | 0.73 | 0.95 |
| Expressing | mannitol (3 mo) | 878 | 0.69 | 2.10 | -0.01(-0.21,0.19) | 0.93 | 1 |
| Extended Ages and Stages Questionnaire (Year 2) | Personal Social Score | alpha-1 antitrypsin (14 mo) | 862 | -1.38 | -0.12 | 0.02(-0.07,0.12) | 0.66 | 0.95 |
| Gross Motor Score | alpha-1 antitrypsin (14 mo) | 857 | -1.38 | -0.12 | -0.02(-0.11,0.07) | 0.72 | 0.95 |
| Combined | alpha-1 antitrypsin (14 mo) | 862 | -1.38 | -0.12 | 0.02(-0.07,0.11) | 0.72 | 0.95 |
| Combined | alpha-1 antitrypsin (14 mo) | 862 | -1.38 | -0.12 | 0.04(-0.05,0.12) | 0.42 | 0.87 |
| Personal Social Score | myeloperoxidase (14 mo) | 862 | 7.93 | 9.25 | -0.02(-0.11,0.08) | 0.75 | 0.96 |
| Gross Motor Score | myeloperoxidase (14 mo) | 857 | 7.93 | 9.25 | -0.06(-0.15,0.03) | 0.2 | 0.87 |
| Combined | myeloperoxidase (14 mo) | 862 | 7.93 | 9.25 | -0.03(-0.12,0.06) | 0.51 | 0.87 |
| Combined | myeloperoxidase (14 mo) | 862 | 7.93 | 9.25 | 0(-0.09,0.08) | 0.95 | 1 |
| Personal Social Score | neopterin (14 mo) | 862 | 6.46 | 7.61 | 0(-0.12,0.13) | 0.96 | 1 |
| Gross Motor Score | neopterin (14 mo) | 857 | 6.46 | 7.62 | -0.03(-0.12,0.06) | 0.5 | 0.87 |
| Combined | neopterin (14 mo) | 862 | 6.46 | 7.61 | 0.05(-0.04,0.13) | 0.28 | 0.87 |
| Combined | neopterin (14 mo) | 862 | 6.46 | 7.61 | 0.07(0,0.15) | 0.06 | 0.8 |
| Personal Social Score | lactulose (14 mo) | 846 | -1.87 | -0.49 | -0.11(-0.3,0.08) | 0.27 | 0.87 |
| **Gross Motor Score** | **lactulose (14 mo)** | **841** | **-1.87** | **-0.49** | **-0.08(-0.16,0)** | **0.04\*** | **0.8** |
| Combined | lactulose (14 mo) | 846 | -1.87 | -0.49 | -0.13(-0.3,0.05) | 0.16 | 0.87 |
| Combined | lactulose (14 mo) | 846 | -1.87 | -0.49 | -0.02(-0.13,0.09) | 0.72 | 0.95 |
| Personal Social Score | mannitol (14 mo) | 846 | 0.06 | 1.58 | 0(-0.09,0.1) | 0.94 | 1 |
| **Gross Motor Score** | **mannitol (14 mo)** | **841** | **0.06** | **1.58** | **-0.2(-0.37,-0.03)** | **0.02\*** | **0.8** |
| Combined | mannitol (14 mo) | 846 | 0.06 | 1.58 | 0(-0.09,0.09) | 0.98 | 1 |
| Combined | mannitol (14 mo) | 846 | 0.06 | 1.58 | 0.04(-0.05,0.13) | 0.36 | 0.87 |
| Communicative Development Inventories (Year 2) | Understanding | alpha-1 antitrypsin (14 mo) | 865 | -1.37 | -0.12 | 0.03(-0.06,0.13) | 0.5 | 0.87 |
| Expressing | alpha-1 antitrypsin (14 mo) | 874 | -1.36 | -0.12 | 0.04(-0.04,0.13) | 0.32 | 0.87 |
| Understanding | myeloperoxidase (14 mo) | 865 | 7.92 | 9.25 | 0.01(-0.07,0.09) | 0.87 | 1 |
| Expressing | myeloperoxidase (14 mo) | 874 | 7.93 | 9.25 | -0.05(-0.13,0.04) | 0.28 | 0.87 |
| Understanding | neopterin (14 mo) | 865 | 6.48 | 7.62 | 0.05(-0.03,0.12) | 0.21 | 0.87 |
| Expressing | neopterin (14 mo) | 874 | 6.48 | 7.61 | -0.11(-0.28,0.06) | 0.2 | 0.87 |
| Understanding | lactulose (14 mo) | 848 | -1.88 | -0.50 | -0.11(-0.24,0.02) | 0.1 | 0.86 |
| Expressing | lactulose (14 mo) | 856 | -1.88 | -0.50 | -0.04(-0.2,0.12) | 0.63 | 0.95 |
| Understanding | mannitol (14 mo) | 848 | 0.06 | 1.57 | -0.02(-0.1,0.06) | 0.65 | 0.95 |
| Expressing | mannitol (14 mo) | 856 | 0.06 | 1.57 | 0(-0.09,0.09) | 0.95 | 1 |
| Extended Ages and Stages Questionnaire (Year 2) | Personal Social Score | regenerating gene 1-beta (14 mo) | 860 | 4.62 | 5.46 | -0.03(-0.09,0.03) | 0.38 | 0.64 |
| Gross Motor Score | regenerating gene 1-beta (14 mo) | 855 | 4.62 | 5.46 | -0.03(-0.09,0.04) | 0.43 | 0.64 |
| Combined | regenerating gene 1-beta (14 mo) | 860 | 4.62 | 5.46 | -0.02(-0.08,0.03) | 0.41 | 0.64 |
| Combined | regenerating gene 1-beta (14 mo) | 860 | 4.62 | 5.46 | 0(-0.05,0.05) | 0.98 | 0.98 |
| Communicative Development Inventories (Year 2) | Understanding | regenerating gene 1-beta (14 mo) | 863 | 4.63 | 5.46 | -0.01(-0.07,0.05) | 0.69 | 0.83 |
| Expressing | regenerating gene 1-beta (14 mo) | 872 | 4.63 | 5.46 | 0.07(-0.08,0.21) | 0.37 | 0.64 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |

Table 4: WHO Motor Milestones, Year 1 (Bangladesh)

| Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sum Total | alpha-1 antitrypsin (3 mo) | 806 | -1.48 | -0.23 | 0.03(-0.18,0.24) | 0.77 | 0.81 |
| Milestones 2, 4, 5, 6 | alpha-1 antitrypsin (3 mo) | 806 | -1.48 | -0.23 | -0.01(-0.21,0.18) | 0.9 | 0.9 |
| Sum Total | myeloperoxidase (3 mo) | 808 | 8.34 | 9.86 | 0.08(-0.04,0.21) | 0.2 | 0.33 |
| Milestones 2, 4, 5, 6 | myeloperoxidase (3 mo) | 808 | 8.34 | 9.86 | 0.08(-0.03,0.18) | 0.17 | 0.31 |
| Sum Total | neopterin (3 mo) | 809 | 6.81 | 7.75 | 0.14(-0.1,0.37) | 0.26 | 0.4 |
| Milestones 2, 4, 5, 6 | neopterin (3 mo) | 809 | 6.81 | 7.75 | 0.15(-0.05,0.35) | 0.15 | 0.31 |
| **Sum Total** | **lactulose (3 mo)** | **984** | **-1.55** | **-0.01** | **-0.25(-0.49,-0.01)** | **0.04\*** | **0.13** |
| **Milestones 2, 4, 5, 6** | **lactulose (3 mo)** | **991** | **-1.56** | **-0.02** | **-0.11(-0.21,0)** | **0.04\*** | **0.13** |
| **Sum Total** | **mannitol (3 mo)** | **984** | **0.68** | **2.12** | **-0.23(-0.36,-0.09)** | **0\*** | **0\*** |
| **Milestones 2, 4, 5, 6** | **mannitol (3 mo)** | **991** | **0.68** | **2.11** | **-0.1(-0.2,0)** | **0.05\*** | **0.14** |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | |

Table 5: Extended Ages and Stages Questionnaire, Year 2 (Kenya)

| Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Communication Score** | **alpha-1 antitrypsin (3 mo)** | **796** | **-1.27** | **-0.01** | **0.1(0.01,0.19)** | **0.03\*** | **0.6** |
| Gross Motor Score | alpha-1 antitrypsin (3 mo) | 816 | -1.27 | -0.02 | 0(-0.09,0.09) | 0.93 | 0.94 |
| Personal Social Score | alpha-1 antitrypsin (3 mo) | 818 | -1.27 | -0.02 | 0.04(-0.05,0.13) | 0.41 | 0.81 |
| Combined | alpha-1 antitrypsin (3 mo) | 796 | -1.27 | -0.01 | 0.06(-0.03,0.15) | 0.18 | 0.81 |
| Communication Score | lactulose (3 mo) | 861 | -2.25 | -0.85 | 0.11(-0.07,0.28) | 0.24 | 0.81 |
| Gross Motor Score | lactulose (3 mo) | 862 | -2.25 | -0.85 | -0.04(-0.12,0.03) | 0.27 | 0.81 |
| Personal Social Score | lactulose (3 mo) | 865 | -2.25 | -0.85 | 0.08(-0.01,0.16) | 0.08 | 0.8 |
| Combined | lactulose (3 mo) | 861 | -2.25 | -0.85 | 0.05(-0.1,0.2) | 0.53 | 0.81 |
| Communication Score | mannitol (3 mo) | 861 | -0.05 | 1.31 | 0.06(-0.02,0.14) | 0.15 | 0.81 |
| Gross Motor Score | mannitol (3 mo) | 862 | -0.05 | 1.31 | 0(-0.07,0.08) | 0.93 | 0.94 |
| **Personal Social Score** | **mannitol (3 mo)** | **865** | **-0.05** | **1.31** | **0.14(0.04,0.25)** | **0.01\*** | **0.4** |
| Combined | mannitol (3 mo) | 861 | -0.05 | 1.31 | 0.05(-0.03,0.13) | 0.21 | 0.81 |
| Communication Score | alpha-1 antitrypsin (3 mo) | 812 | -1.28 | -0.04 | 0.08(-0.08,0.24) | 0.35 | 0.81 |
| Gross Motor Score | alpha-1 antitrypsin (3 mo) | 707 | -1.28 | -0.07 | -0.02(-0.11,0.07) | 0.71 | 0.81 |
| Personal Social Score | alpha-1 antitrypsin (3 mo) | 814 | -1.28 | -0.03 | 0.02(-0.07,0.11) | 0.69 | 0.81 |
| Combined | alpha-1 antitrypsin (3 mo) | 694 | -1.28 | -0.08 | 0.03(-0.06,0.12) | 0.54 | 0.81 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | |

Table 6: Kenya Analyses

| Outcome Domain | Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| WHO Motor Milestone (Year 1) | Milestones 2, 4, 5, 6 | alpha-1 antitrypsin (3 mo) | 1,001 | -1.30 | -0.04 | 0.04(-0.04,0.13) | 0.31 | 0.91 |
| Sum Total | alpha-1 antitrypsin (3 mo) | 1,001 | -1.30 | -0.04 | 0.01(-0.07,0.1) | 0.78 | 0.91 |
| Milestones 2, 4, 5, 6 | myeloperoxidase (3 mo) | 1,002 | 7.41 | 8.90 | 0.02(-0.05,0.09) | 0.6 | 0.91 |
| Sum Total | myeloperoxidase (3 mo) | 1,002 | 7.41 | 8.90 | 0.01(-0.07,0.09) | 0.82 | 0.91 |
| Milestones 2, 4, 5, 6 | neopterin (3 mo) | 1,003 | 7.11 | 7.96 | 0.06(-0.03,0.16) | 0.16 | 0.9 |
| Sum Total | neopterin (3 mo) | 1,003 | 7.11 | 7.96 | 0.07(-0.03,0.17) | 0.18 | 0.9 |
| Milestones 2, 4, 5, 6 | lactulose (3 mo) | 1,083 | -2.24 | -0.85 | 0.01(-0.06,0.08) | 0.75 | 0.91 |
| Sum Total | lactulose (3 mo) | 1,083 | -2.24 | -0.85 | 0(-0.07,0.08) | 0.94 | 0.94 |
| Milestones 2, 4, 5, 6 | mannitol (3 mo) | 1,083 | -0.06 | 1.29 | 0.02(-0.05,0.09) | 0.6 | 0.91 |
| Sum Total | mannitol (3 mo) | 1,083 | -0.06 | 1.29 | 0.02(-0.06,0.09) | 0.66 | 0.91 |
| **Extended Ages and Stages Questionnaire (Year 2)** | **Communication Score** | **alpha-1 antitrypsin (3 mo)** | **796** | **-1.27** | **-0.01** | **0.1(0.01,0.19)** | **0.03\*** | **0.6** |
| Gross Motor Score | alpha-1 antitrypsin (3 mo) | 816 | -1.27 | -0.02 | 0(-0.09,0.09) | 0.93 | 0.94 |
| Personal Social Score | alpha-1 antitrypsin (3 mo) | 818 | -1.27 | -0.02 | 0.04(-0.05,0.13) | 0.41 | 0.81 |
| Combined | alpha-1 antitrypsin (3 mo) | 796 | -1.27 | -0.01 | 0.06(-0.03,0.15) | 0.18 | 0.81 |
| Communication Score | myeloperoxidase (3 mo) | 797 | 7.46 | 8.96 | -0.02(-0.11,0.06) | 0.6 | 0.81 |
| Gross Motor Score | myeloperoxidase (3 mo) | 817 | 7.45 | 8.95 | 0.02(-0.07,0.11) | 0.63 | 0.81 |
| Personal Social Score | myeloperoxidase (3 mo) | 819 | 7.43 | 8.94 | -0.02(-0.12,0.07) | 0.61 | 0.81 |
| Combined | myeloperoxidase (3 mo) | 797 | 7.46 | 8.96 | -0.01(-0.1,0.08) | 0.77 | 0.86 |
| Communication Score | neopterin (3 mo) | 798 | 7.12 | 7.96 | 0.07(-0.06,0.2) | 0.29 | 0.81 |
| Gross Motor Score | neopterin (3 mo) | 818 | 7.12 | 7.96 | 0.03(-0.09,0.15) | 0.66 | 0.81 |
| Personal Social Score | neopterin (3 mo) | 820 | 7.12 | 7.96 | 0.04(-0.1,0.18) | 0.58 | 0.81 |
| Combined | neopterin (3 mo) | 798 | 7.12 | 7.96 | 0.06(-0.07,0.19) | 0.36 | 0.81 |
| Communication Score | lactulose (3 mo) | 861 | -2.25 | -0.85 | 0.11(-0.07,0.28) | 0.24 | 0.81 |
| Gross Motor Score | lactulose (3 mo) | 862 | -2.25 | -0.85 | -0.04(-0.12,0.03) | 0.27 | 0.81 |
| Personal Social Score | lactulose (3 mo) | 865 | -2.25 | -0.85 | 0.08(-0.01,0.16) | 0.08 | 0.8 |
| Combined | lactulose (3 mo) | 861 | -2.25 | -0.85 | 0.05(-0.1,0.2) | 0.53 | 0.81 |
| Communication Score | mannitol (3 mo) | 861 | -0.05 | 1.31 | 0.06(-0.02,0.14) | 0.15 | 0.81 |
| Gross Motor Score | mannitol (3 mo) | 862 | -0.05 | 1.31 | 0(-0.07,0.08) | 0.93 | 0.94 |
| **Personal Social Score** | **mannitol (3 mo)** | **865** | **-0.05** | **1.31** | **0.14(0.04,0.25)** | **0.01\*** | **0.4** |
| Combined | mannitol (3 mo) | 861 | -0.05 | 1.31 | 0.05(-0.03,0.13) | 0.21 | 0.81 |
| Communication Score | alpha-1 antitrypsin (3 mo) | 812 | -1.28 | -0.04 | 0.08(-0.08,0.24) | 0.35 | 0.81 |
| Gross Motor Score | alpha-1 antitrypsin (3 mo) | 707 | -1.28 | -0.07 | -0.02(-0.11,0.07) | 0.71 | 0.81 |
| Personal Social Score | alpha-1 antitrypsin (3 mo) | 814 | -1.28 | -0.03 | 0.02(-0.07,0.11) | 0.69 | 0.81 |
| Combined | alpha-1 antitrypsin (3 mo) | 694 | -1.28 | -0.08 | 0.03(-0.06,0.12) | 0.54 | 0.81 |
| Communication Score | myeloperoxidase (3 mo) | 813 | 7.41 | 8.94 | -0.04(-0.13,0.05) | 0.43 | 0.81 |
| Gross Motor Score | myeloperoxidase (3 mo) | 707 | 7.41 | 8.93 | 0.04(-0.05,0.14) | 0.41 | 0.81 |
| Personal Social Score | myeloperoxidase (3 mo) | 815 | 7.41 | 8.94 | -0.02(-0.12,0.07) | 0.65 | 0.81 |
| Combined | myeloperoxidase (3 mo) | 694 | 7.41 | 8.93 | -0.03(-0.13,0.06) | 0.51 | 0.81 |
| Communication Score | neopterin (3 mo) | 814 | 7.12 | 7.96 | 0.08(-0.06,0.22) | 0.28 | 0.81 |
| Gross Motor Score | neopterin (3 mo) | 708 | 7.10 | 7.93 | -0.07(-0.15,0.01) | 0.07 | 0.8 |
| Personal Social Score | neopterin (3 mo) | 816 | 7.12 | 7.96 | 0.03(-0.13,0.2) | 0.7 | 0.81 |
| Combined | neopterin (3 mo) | 695 | 7.10 | 7.93 | 0.03(-0.11,0.17) | 0.68 | 0.81 |
| Communication Score | lactulose (14 mo) | 831 | -2.68 | -0.98 | 0.01(-0.15,0.16) | 0.94 | 0.94 |
| Gross Motor Score | lactulose (14 mo) | 831 | -2.68 | -0.98 | -0.01(-0.08,0.05) | 0.7 | 0.81 |
| Personal Social Score | lactulose (14 mo) | 1,078 | -2.77 | -0.93 | 0.03(-0.07,0.12) | 0.6 | 0.81 |
| Combined | lactulose (14 mo) | 833 | -2.69 | -0.99 | 0.04(-0.07,0.15) | 0.53 | 0.81 |
| Communication Score | mannitol (14 mo) | 831 | -0.42 | 1.18 | 0.05(-0.05,0.14) | 0.34 | 0.81 |
| Gross Motor Score | mannitol (14 mo) | 831 | -0.42 | 1.18 | 0.01(-0.07,0.08) | 0.85 | 0.92 |
| Personal Social Score | mannitol (14 mo) | 1,078 | -0.42 | 1.24 | -0.02(-0.09,0.05) | 0.58 | 0.81 |
| Combined | mannitol (14 mo) | 833 | -0.42 | 1.18 | 0.02(-0.07,0.12) | 0.64 | 0.81 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |

Table 7: WHO Motor Milestones, Year 1 (Kenya)

| Outcome | Exposure | n | Q1 mean | Q3 mean | Adj. Diff. (95% CI) | Adj. P-value | FDR Corr. P-value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Milestones 2, 4, 5, 6 | alpha-1 antitrypsin (3 mo) | 1,001 | -1.30 | -0.04 | 0.04(-0.04,0.13) | 0.31 | 0.91 |
| Sum Total | alpha-1 antitrypsin (3 mo) | 1,001 | -1.30 | -0.04 | 0.01(-0.07,0.1) | 0.78 | 0.91 |
| Milestones 2, 4, 5, 6 | myeloperoxidase (3 mo) | 1,002 | 7.41 | 8.90 | 0.02(-0.05,0.09) | 0.6 | 0.91 |
| Sum Total | myeloperoxidase (3 mo) | 1,002 | 7.41 | 8.90 | 0.01(-0.07,0.09) | 0.82 | 0.91 |
| Milestones 2, 4, 5, 6 | neopterin (3 mo) | 1,003 | 7.11 | 7.96 | 0.06(-0.03,0.16) | 0.16 | 0.9 |
| Sum Total | neopterin (3 mo) | 1,003 | 7.11 | 7.96 | 0.07(-0.03,0.17) | 0.18 | 0.9 |
| Milestones 2, 4, 5, 6 | lactulose (3 mo) | 1,083 | -2.24 | -0.85 | 0.01(-0.06,0.08) | 0.75 | 0.91 |
| Sum Total | lactulose (3 mo) | 1,083 | -2.24 | -0.85 | 0(-0.07,0.08) | 0.94 | 0.94 |
| Milestones 2, 4, 5, 6 | mannitol (3 mo) | 1,083 | -0.06 | 1.29 | 0.02(-0.05,0.09) | 0.6 | 0.91 |
| Sum Total | mannitol (3 mo) | 1,083 | -0.06 | 1.29 | 0.02(-0.06,0.09) | 0.66 | 0.91 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | |