

APPENDIX TABLES AND FIGURES

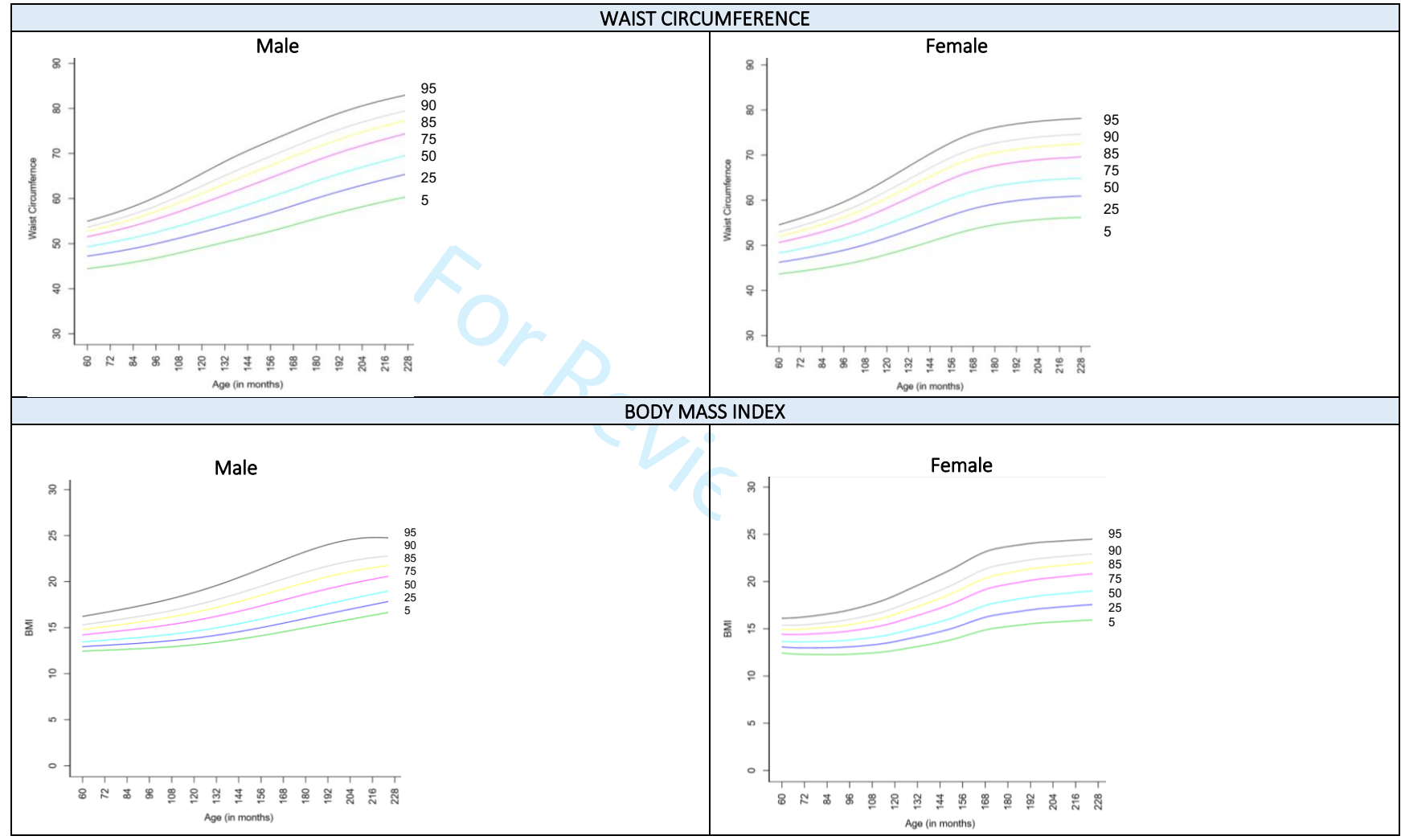
Appendix Table 1: Characteristics of a population-based sample of children and adolescents 5-19 years in India (2016-18)

| Characteristics | weight (kg) | | Height (cm) | | Waist circumference (cm) | | Waist circumference height ratio | | Body mass index | |
|-----------------|--------------|--------------------|--------------|---------------------|--------------------------|-------------------|----------------------------------|--------------------|-----------------|-------------------|
| | (n) | Mean (SD) | (n) | Mean (SD) | (n) | Mean (SD) | (n) | Mean (SD) | (n) | Mean (SD) |
| Boys | 35390 | 33.0 (14.4) | 35449 | 139.6 (20.9) | 35449 | 59.0 (8.9) | 35449 | 0.42 (0.04) | 35130 | 16.0 (2.9) |
| 5 | 3624 | 16.4(6.3) | 3640 | 106.6(6.2) | 3640 | 49.8(3.6) | 3640 | 0.47(0.04) | 3582 | 14.0(1.4) |
| 6 | 3839 | 17.8(3.7) | 3848 | 112.5(6.7) | 3848 | 50.6(3.8) | 3848 | 0.45(0.04) | 3796 | 14.0(1.5) |
| 7 | 3869 | 19.9(4.9) | 3872 | 118.5(6.8) | 3872 | 52.1(4.4) | 3872 | 0.44(0.03) | 3831 | 14.1(1.5) |
| 8 | 4117 | 21.9(4.5) | 4126 | 123.5(7.4) | 4126 | 53.2(4.8) | 4126 | 0.43(0.04) | 4081 | 14.3(1.8) |
| 9 | 3585 | 24.5(6.6) | 3589 | 128.6(7.6) | 3589 | 54.9(5.4) | 3589 | 0.43(0.04) | 3556 | 14.6(2.0) |
| 10 | 1837 | 27.1(7.3) | 1838 | 133.5(7.4) | 1838 | 56.4(5.6) | 1838 | 0.42(0.04) | 1821 | 15.0(2.1) |
| 11 | 1766 | 29.8(6.9) | 1769 | 138.6(8.3) | 1769 | 58.1(6.7) | 1769 | 0.42(0.04) | 1754 | 15.4(2.5) |
| 12 | 1867 | 32.7(7.7) | 1868 | 143.3(9.6) | 1868 | 59.3(6.3) | 1868 | 0.41(0.04) | 1854 | 15.8(2.3) |
| 13 | 1819 | 37.0(8.9) | 1821 | 149.5(9.4) | 1821 | 61.6(7.3) | 1821 | 0.41(0.04) | 1816 | 16.4(2.6) |
| 14 | 1860 | 41.3(9.0) | 1860 | 155.4(9.6) | 1860 | 63.0(6.8) | 1860 | 0.41(0.04) | 1851 | 17.0(2.5) |
| 15 | 1865 | 45.6(9.6) | 1868 | 159.7(8.8) | 1868 | 64.8(7.2) | 1868 | 0.41(0.04) | 1860 | 17.7(2.7) |
| 16 | 1765 | 48.7(9.4) | 1766 | 162.9(8.0) | 1766 | 66.6(8.1) | 1766 | 0.41(0.05) | 1759 | 18.3(2.9) |
| 17 | 1558 | 51.5(9.0) | 1562 | 164.4(7.4) | 1562 | 68.1(7.5) | 1562 | 0.41(0.04) | 1555 | 19.0(2.8) |
| 18 | 1801 | 52.7(9.2) | 1803 | 165.3(7.2) | 1803 | 69.2(7.3) | 1803 | 0.42(0.04) | 1797 | 19.2(2.7) |
| 19 | 218 | 52.6(8.3) | 219 | 164.1(7.2) | 219 | 70.1(7.0) | 219 | 0.43(0.04) | 217 | 19.5(2.5) |
| Girls | 32766 | 32.1 (12.5) | 32812 | 136.2 (17.5) | 32812 | 58.0 (8.4) | 32812 | 0.43 (0.04) | 32611 | 16.3 (3.2) |
| 5 | 3476 | 15.5(2.9) | 3486 | 105.7(6.8) | 3486 | 48.8(3.6) | 3486 | 0.46(0.04) | 3455 | 13.8(1.4) |
| 6 | 3635 | 17.2(3.4) | 3642 | 111.4(6.6) | 3642 | 49.9(3.8) | 3642 | 0.45(0.04) | 3610 | 13.8(1.5) |
| 7 | 3556 | 19.2(3.9) | 3565 | 117.5(6.7) | 3565 | 50.9(4.0) | 3565 | 0.43(0.03) | 3525 | 13.8(1.6) |
| 8 | 3642 | 21.5(5.2) | 3646 | 122.5(7.3) | 3646 | 52.4(5.5) | 3646 | 0.43(0.04) | 3619 | 14.2(1.8) |
| 9 | 3046 | 23.8(4.9) | 3049 | 127.8(7.6) | 3049 | 53.9(5.5) | 3049 | 0.42(0.04) | 3032 | 14.5(2.0) |
| 10 | 1612 | 26.8(5.9) | 1613 | 133.3(8.4) | 1613 | 55.8(5.7) | 1613 | 0.42(0.04) | 1604 | 15.0(2.2) |
| 11 | 1686 | 30.2(7.0) | 1686 | 138.7(8.1) | 1686 | 57.3(6.4) | 1686 | 0.41(0.04) | 1683 | 15.6(2.5) |
| 12 | 1777 | 34.0(8.2) | 1777 | 143.4(8.0) | 1777 | 59.5(6.3) | 1777 | 0.42(0.04) | 1769 | 16.3(2.6) |
| 13 | 1714 | 37.8(8.7) | 1718 | 147.1(7.6) | 1718 | 61.5(7.0) | 1718 | 0.42(0.04) | 1708 | 17.4(2.9) |
| 14 | 1661 | 41.7(9.3) | 1663 | 150.7(6.5) | 1663 | 63.9(7.6) | 1663 | 0.42(0.05) | 1656 | 18.3(3.1) |
| 15 | 1874 | 42.1(6.7) | 1876 | 151.7(6.1) | 1876 | 63.4(6.3) | 1876 | 0.42(0.04) | 1868 | 18.3(2.6) |
| 16 | 1751 | 43.7(6.9) | 1752 | 152.5(6.0) | 1752 | 64.3(6.3) | 1752 | 0.42(0.04) | 1749 | 18.8(2.6) |
| 17 | 1553 | 44.8(8.2) | 1556 | 152.7(6.0) | 1556 | 65.7(7.4) | 1556 | 0.43(0.05) | 1551 | 19.2(3.1) |
| 18 | 1568 | 44.8(7.1) | 1568 | 152.3(5.8) | 1568 | 65.4(6.8) | 1568 | 0.43(0.04) | 1567 | 19.3(2.7) |
| 19 | 215 | 44.2(7.9) | 215 | 151.2(5.8) | 215 | 64.7(6.9) | 215 | 0.43(0.04) | 215 | 19.3(2.9) |
| Total | 68156 | 32.3 (13.5) | 68261 | 137.9 (19.4) | 68261 | 58.5 (8.7) | 68261 | 0.43 (0.04) | 67741 | 16.2 (3.1) |
| 5 | 7100 | 16.0(4.9) | 7126 | 106.2(6.5) | 7126 | 49.3(3.6) | 7126 | 0.47(0.04) | 7037 | 13.9(1.4) |
| 6 | 7474 | 17.5(3.6) | 7490 | 112.0(6.7) | 7490 | 50.3(3.8) | 7490 | 0.45(0.04) | 7406 | 13.9(1.5) |
| 7 | 7425 | 19.5(4.4) | 7437 | 117.9(6.8) | 7437 | 51.4(4.3) | 7437 | 0.44(0.03) | 7356 | 14.0(1.5) |

| | | | | | | | | | | |
|-----------|------|-----------|------|------------|------|-----------|------|------------|------|-----------|
| 8 | 7759 | 21.7(4.8) | 7772 | 123.0(7.3) | 7772 | 52.8(5.2) | 7772 | 0.43(0.04) | 7700 | 14.2(1.8) |
| 9 | 6631 | 24.2(5.8) | 6638 | 128.2(7.6) | 6638 | 54.4(5.5) | 6638 | 0.42(0.04) | 6588 | 14.6(2.0) |
| 10 | 3449 | 26.9(6.6) | 3451 | 133.4(7.9) | 3451 | 56.1(5.7) | 3451 | 0.42(0.04) | 3425 | 15.0(2.1) |
| 11 | 3452 | 30.0(7.0) | 3455 | 138.6(8.2) | 3455 | 57.7(6.6) | 3455 | 0.42(0.04) | 3437 | 15.5(2.5) |
| 12 | 3644 | 33.3(7.9) | 3645 | 143.3(8.9) | 3645 | 59.4(6.3) | 3645 | 0.41(0.04) | 3623 | 16.1(2.5) |
| 13 | 3533 | 37.4(8.8) | 3539 | 148.3(8.7) | 3539 | 61.6(7.2) | 3539 | 0.42(0.04) | 3524 | 16.9(2.8) |
| 14 | 3521 | 41.5(9.1) | 3523 | 153.0(8.5) | 3523 | 63.4(7.2) | 3523 | 0.42(0.05) | 3507 | 17.7(2.9) |
| 15 | 3739 | 43.7(8.3) | 3744 | 155.4(8.4) | 3744 | 64.0(6.8) | 3744 | 0.41(0.04) | 3728 | 18.1(2.7) |
| 16 | 3516 | 46.2(8.6) | 3518 | 157.6(8.7) | 3518 | 65.4(7.3) | 3518 | 0.42(0.04) | 3508 | 18.6(2.8) |
| 17 | 3111 | 48.0(9.2) | 3118 | 158.2(8.9) | 3118 | 66.8(7.6) | 3118 | 0.42(0.05) | 3106 | 19.1(3.0) |
| 18 | 3369 | 48.9(9.1) | 3371 | 159.0(9.3) | 3371 | 67.3(7.3) | 3371 | 0.42(0.04) | 3364 | 19.3(2.7) |
| 19 | 433 | 48.4(9.1) | 434 | 157.8(9.2) | 434 | 67.5(7.4) | 434 | 0.43(0.04) | 432 | 19.4(2.7) |

For Review Only

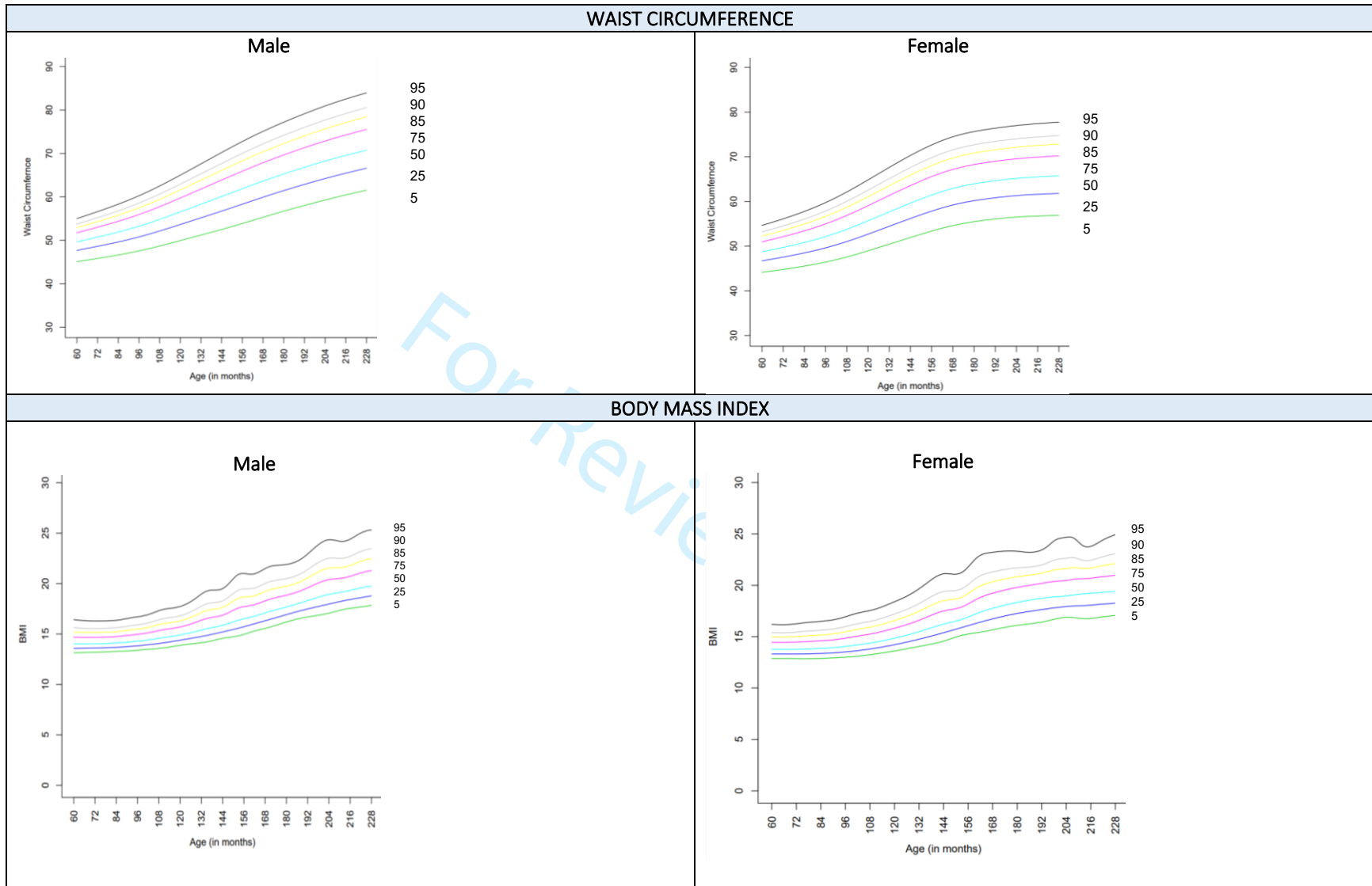
Appendix Figure 1: Smoothed waist circumference (WC) and BMI percentiles curves for males and females aged 5-19 years based on a "Reference" population in analytical sample 2 (removing $\pm 3SD$ BMI z scores)



Excluded sample: 7.7% of boys and 4.1% of girls were thin (BMI < -3SD). Similarly, 0.1% of boys and 0.2% of girls were obese (BMI > -3SD).

| WAIST CIRCUMFERENCE (WC) (N=64,262) | | | | | | | | | | | | | | | | | | | | |
|--|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Age (Years) | Males | | | | | | | | | | Females | | | | | | | | | |
| | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 |
| 5 | -0.445 | 49.306 | 0.065 | 44.45 | 47.22 | 49.31 | 51.52 | 52.77 | 53.64 | 54.97 | -1.665 | 48.310 | 0.067 | 43.67 | 46.25 | 48.31 | 50.63 | 52.01 | 52.99 | 54.56 |
| 6 | -0.707 | 50.237 | 0.068 | 45.08 | 48.01 | 50.24 | 52.65 | 54.02 | 54.99 | 56.48 | -1.658 | 49.228 | 0.071 | 44.26 | 47.02 | 49.23 | 51.73 | 53.23 | 54.31 | 56.02 |
| 7 | -1.040 | 51.294 | 0.072 | 45.85 | 48.91 | 51.29 | 53.93 | 55.45 | 56.54 | 58.23 | -1.650 | 50.269 | 0.075 | 44.95 | 47.89 | 50.27 | 52.99 | 54.61 | 55.79 | 57.67 |
| 8 | -1.475 | 52.530 | 0.076 | 46.82 | 49.99 | 52.53 | 55.42 | 57.14 | 58.38 | 60.35 | -1.643 | 51.489 | 0.079 | 45.76 | 48.92 | 51.49 | 54.45 | 56.24 | 57.54 | 59.62 |
| 9 | -1.942 | 53.923 | 0.080 | 47.93 | 51.21 | 53.92 | 57.11 | 59.06 | 60.50 | 62.84 | -1.636 | 52.972 | 0.084 | 46.77 | 50.18 | 52.97 | 56.22 | 58.19 | 59.63 | 61.95 |
| 10 | -2.290 | 55.419 | 0.085 | 49.11 | 52.52 | 55.42 | 58.91 | 61.12 | 62.78 | 65.53 | -1.628 | 54.709 | 0.089 | 47.99 | 51.67 | 54.71 | 58.27 | 60.44 | 62.04 | 64.63 |
| 11 | -2.415 | 56.989 | 0.089 | 50.30 | 53.90 | 56.99 | 60.79 | 63.22 | 65.08 | 68.20 | -1.621 | 56.589 | 0.093 | 49.36 | 53.31 | 56.59 | 60.46 | 62.85 | 64.61 | 67.48 |
| 12 | -2.316 | 58.632 | 0.092 | 51.50 | 55.33 | 58.63 | 62.69 | 65.30 | 67.28 | 70.63 | -1.614 | 58.515 | 0.096 | 50.81 | 55.01 | 58.52 | 62.68 | 65.25 | 67.16 | 70.28 |
| 13 | -2.113 | 60.340 | 0.094 | 52.76 | 56.84 | 60.34 | 64.61 | 67.33 | 69.38 | 72.83 | -1.606 | 60.376 | 0.098 | 52.28 | 56.69 | 60.38 | 64.77 | 67.49 | 69.51 | 72.82 |
| 14 | -1.950 | 62.112 | 0.096 | 54.14 | 58.45 | 62.11 | 66.55 | 69.35 | 71.46 | 74.97 | -1.599 | 61.951 | 0.099 | 53.59 | 58.14 | 61.95 | 66.49 | 69.31 | 71.41 | 74.84 |
| 15 | -1.858 | 63.863 | 0.096 | 55.58 | 60.06 | 63.86 | 68.45 | 71.33 | 73.49 | 77.06 | -1.591 | 63.060 | 0.099 | 54.56 | 59.19 | 63.06 | 67.67 | 70.53 | 72.65 | 76.13 |
| 16 | -1.776 | 65.493 | 0.097 | 56.93 | 61.57 | 65.49 | 70.19 | 73.13 | 75.33 | 78.95 | -1.583 | 63.801 | 0.098 | 55.24 | 59.90 | 63.80 | 68.43 | 71.31 | 73.43 | 76.92 |
| 17 | -1.680 | 66.985 | 0.097 | 58.19 | 62.97 | 66.99 | 71.77 | 74.74 | 76.95 | 80.57 | -1.576 | 64.322 | 0.098 | 55.71 | 60.40 | 64.32 | 68.97 | 71.85 | 73.99 | 77.48 |
| 18 | -1.537 | 68.370 | 0.096 | 59.36 | 64.28 | 68.37 | 73.19 | 76.16 | 78.35 | 81.92 | -1.568 | 64.660 | 0.098 | 56.01 | 60.72 | 64.66 | 69.33 | 72.22 | 74.36 | 77.86 |
| 19 | -1.344 | 69.682 | 0.095 | 60.45 | 65.52 | 69.68 | 74.52 | 77.46 | 79.61 | 83.07 | -1.561 | 64.891 | 0.098 | 56.20 | 60.93 | 64.89 | 69.58 | 72.48 | 74.63 | 78.14 |
| BODY MASS INDEX (BMI) (N= 64,262) | | | | | | | | | | | | | | | | | | | | |
| Age (Years) | Males | | | | | | | | | | Females | | | | | | | | | |
| | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 |
| 5 | -11.073 | 13.748 | 0.103 | 12.45 | 12.94 | 13.45 | 14.21 | 14.80 | 15.30 | 16.22 | -4.395 | 13.662 | 0.072 | 12.42 | 13.07 | 13.66 | 14.42 | 14.95 | 15.36 | 16.12 |
| 6 | -10.551 | 14.008 | 0.118 | 12.55 | 13.08 | 13.63 | 14.47 | 15.11 | 15.65 | 16.65 | -4.197 | 13.606 | 0.077 | 12.30 | 12.98 | 13.60 | 14.42 | 14.98 | 15.43 | 16.26 |
| 7 | -10.029 | 14.276 | 0.133 | 12.65 | 13.23 | 13.82 | 14.73 | 15.43 | 16.01 | 17.10 | -3.999 | 13.669 | 0.082 | 12.27 | 13.00 | 13.67 | 14.55 | 15.16 | 15.65 | 16.56 |
| 8 | -9.506 | 14.562 | 0.147 | 12.77 | 13.39 | 14.03 | 15.02 | 15.78 | 16.41 | 17.59 | -3.802 | 13.810 | 0.088 | 12.31 | 13.09 | 13.81 | 14.76 | 15.43 | 15.98 | 17.00 |
| 9 | -8.984 | 14.872 | 0.158 | 12.93 | 13.59 | 14.29 | 15.36 | 16.18 | 16.87 | 18.16 | -3.604 | 14.079 | 0.095 | 12.44 | 13.29 | 14.08 | 15.13 | 15.88 | 16.49 | 17.63 |
| 10 | -8.462 | 15.211 | 0.163 | 13.14 | 13.85 | 14.60 | 15.76 | 16.65 | 17.41 | 18.82 | -3.406 | 14.513 | 0.102 | 12.71 | 13.64 | 14.51 | 15.68 | 16.52 | 17.21 | 18.51 |
| 11 | -7.939 | 15.580 | 0.164 | 13.41 | 14.18 | 14.98 | 16.23 | 17.20 | 18.03 | 19.58 | -3.208 | 15.108 | 0.108 | 13.12 | 14.15 | 15.10 | 16.41 | 17.35 | 18.12 | 19.60 |
| 12 | -7.417 | 15.976 | 0.159 | 13.74 | 14.56 | 15.43 | 16.77 | 17.83 | 18.73 | 20.44 | -3.010 | 15.753 | 0.114 | 13.57 | 14.70 | 15.75 | 17.19 | 18.22 | 19.08 | 20.70 |
| 13 | -6.895 | 16.396 | 0.151 | 14.12 | 15.00 | 15.93 | 17.37 | 18.51 | 19.50 | 21.38 | -2.812 | 16.571 | 0.119 | 14.18 | 15.41 | 16.57 | 18.14 | 19.26 | 20.19 | 21.93 |
| 14 | -6.372 | 16.835 | 0.141 | 14.55 | 15.49 | 16.47 | 18.00 | 19.22 | 20.28 | 22.34 | -2.614 | 17.471 | 0.122 | 14.87 | 16.22 | 17.47 | 19.16 | 20.35 | 21.33 | 23.15 |
| 15 | -5.850 | 17.286 | 0.131 | 15.00 | 16.00 | 17.03 | 18.63 | 19.91 | 21.03 | 23.25 | -2.416 | 17.970 | 0.123 | 15.24 | 16.66 | 17.97 | 19.71 | 20.92 | 21.90 | 23.70 |
| 16 | -5.328 | 17.744 | 0.122 | 15.45 | 16.51 | 17.58 | 19.22 | 20.53 | 21.70 | 24.03 | -2.218 | 18.355 | 0.124 | 15.52 | 17.00 | 18.35 | 20.13 | 21.34 | 22.31 | 24.04 |
| 17 | -4.805 | 18.205 | 0.115 | 15.90 | 17.01 | 18.12 | 19.77 | 21.08 | 22.23 | 24.57 | -2.021 | 18.631 | 0.124 | 15.70 | 17.24 | 18.63 | 20.42 | 21.62 | 22.57 | 24.24 |
| 18 | -4.283 | 18.665 | 0.108 | 16.34 | 17.50 | 18.63 | 20.26 | 21.51 | 22.60 | 24.79 | -1.823 | 18.859 | 0.125 | 15.84 | 17.44 | 18.86 | 20.66 | 21.86 | 22.78 | 24.39 |
| 19 | -3.760 | 19.126 | 0.103 | 16.78 | 17.98 | 19.11 | 20.69 | 21.84 | 22.81 | 24.70 | -1.625 | 19.049 | 0.126 | 15.94 | 17.59 | 19.05 | 20.87 | 22.05 | 22.96 | 24.51 |

Appendix Figure 2: Smoothed waist circumference (WC) and BMI percentiles curves for males and females aged 5-19 years based on a "Reference" population in analytical sample 2 (removing $\pm 2SD$ BMI z scores)



Appendix Table 3: Smoothed percentile values of WC (cm) and BMI by age and sex for males and females aged 5-19 years based on a “Reference” population in analytical sample 3 (removing ±2SD BMI z scores)

| WAIST CIRCUMFERENCE (WC) (N=53,516) | | | | | | | | | | | | | | | | | | | | |
|--|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Age (Years) | Males | | | | | | | | | | Females | | | | | | | | | |
| | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 |
| 5 | -0.629 | 49.641 | 0.060 | 45.08 | 47.68 | 49.64 | 51.73 | 52.92 | 53.74 | 55.01 | -1.360 | 48.735 | 0.064 | 44.14 | 46.72 | 48.73 | 50.97 | 52.27 | 53.20 | 54.65 |
| 6 | -0.680 | 50.743 | 0.064 | 45.83 | 48.63 | 50.74 | 53.02 | 54.31 | 55.22 | 56.61 | -1.331 | 49.714 | 0.068 | 44.79 | 47.55 | 49.71 | 52.12 | 53.53 | 54.54 | 56.12 |
| 7 | -0.731 | 51.907 | 0.068 | 46.63 | 49.62 | 51.91 | 54.38 | 55.79 | 56.79 | 58.32 | -1.303 | 50.822 | 0.072 | 45.53 | 48.49 | 50.82 | 53.43 | 54.96 | 56.06 | 57.78 |
| 8 | -0.782 | 53.248 | 0.072 | 47.57 | 50.78 | 53.25 | 55.94 | 57.48 | 58.58 | 60.26 | -1.275 | 52.147 | 0.076 | 46.44 | 49.62 | 52.15 | 54.99 | 56.66 | 57.86 | 59.75 |
| 9 | -0.833 | 54.819 | 0.076 | 48.70 | 52.15 | 54.82 | 57.75 | 59.45 | 60.65 | 62.51 | -1.246 | 53.777 | 0.080 | 47.58 | 51.03 | 53.78 | 56.88 | 58.72 | 60.04 | 62.13 |
| 10 | -0.884 | 56.545 | 0.080 | 49.94 | 53.65 | 56.54 | 59.75 | 61.61 | 62.94 | 65.01 | -1.218 | 55.669 | 0.085 | 48.96 | 52.68 | 55.67 | 59.06 | 61.07 | 62.53 | 64.83 |
| 11 | -0.935 | 58.315 | 0.084 | 51.21 | 55.18 | 58.32 | 61.81 | 63.86 | 65.32 | 67.61 | -1.189 | 57.664 | 0.088 | 50.44 | 54.44 | 57.66 | 61.33 | 63.52 | 65.11 | 67.62 |
| 12 | -0.986 | 60.092 | 0.088 | 52.50 | 56.73 | 60.09 | 63.87 | 66.10 | 67.70 | 70.22 | -1.161 | 59.632 | 0.091 | 51.94 | 56.20 | 59.63 | 63.56 | 65.90 | 67.60 | 70.30 |
| 13 | -1.037 | 61.886 | 0.091 | 53.88 | 58.33 | 61.89 | 65.92 | 68.31 | 70.03 | 72.76 | -1.132 | 61.446 | 0.093 | 53.38 | 57.84 | 61.45 | 65.57 | 68.03 | 69.82 | 72.65 |
| 14 | -1.088 | 63.637 | 0.092 | 55.31 | 59.93 | 63.64 | 67.86 | 70.38 | 72.20 | 75.09 | -1.104 | 62.926 | 0.093 | 54.59 | 59.20 | 62.93 | 67.18 | 69.72 | 71.55 | 74.47 |
| 15 | -1.139 | 65.281 | 0.093 | 56.71 | 61.45 | 65.28 | 69.66 | 72.28 | 74.18 | 77.20 | -1.075 | 63.947 | 0.093 | 55.47 | 60.17 | 63.95 | 68.26 | 70.83 | 72.69 | 75.64 |
| 16 | -1.190 | 66.812 | 0.093 | 58.03 | 62.88 | 66.81 | 71.33 | 74.04 | 76.01 | 79.15 | -1.047 | 64.647 | 0.093 | 56.08 | 60.83 | 64.65 | 68.99 | 71.57 | 73.44 | 76.40 |
| 17 | -1.241 | 68.239 | 0.093 | 59.28 | 64.22 | 68.24 | 72.87 | 75.66 | 77.69 | 80.94 | -1.018 | 65.166 | 0.093 | 56.51 | 61.31 | 65.17 | 69.54 | 72.14 | 74.02 | 76.99 |
| 18 | -1.292 | 69.544 | 0.093 | 60.45 | 65.46 | 69.54 | 74.27 | 77.12 | 79.20 | 82.53 | -0.989 | 65.503 | 0.094 | 56.75 | 61.61 | 65.50 | 69.92 | 72.54 | 74.43 | 77.42 |
| 19 | -1.343 | 70.734 | 0.093 | 61.54 | 66.60 | 70.73 | 75.53 | 78.43 | 80.55 | 83.95 | -0.961 | 65.736 | 0.094 | 56.88 | 61.80 | 65.74 | 70.20 | 72.85 | 74.76 | 77.77 |
| BODY MASS INDEX (BMI) (N= 53,516) | | | | | | | | | | | | | | | | | | | | |
| Age (Years) | Males | | | | | | | | | | Females | | | | | | | | | |
| | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 | L | M | S | P5 | P25 | P50 | P75 | P85 | P90 | P95 |
| 5 | -12.610 | 14.217 | 0.078 | 13.06 | 13.48 | 13.91 | 14.56 | 15.05 | 15.47 | 16.25 | -13.108 | 14.109 | 0.101 | 12.87 | 13.31 | 13.77 | 14.46 | 14.97 | 15.41 | 16.20 |
| 6 | -13.935 | 14.284 | 0.083 | 13.18 | 13.59 | 14.00 | 14.63 | 15.10 | 15.50 | 16.22 | -12.900 | 14.128 | 0.103 | 12.86 | 13.31 | 13.78 | 14.48 | 15.00 | 15.45 | 16.25 |
| 7 | -14.290 | 14.400 | 0.088 | 13.29 | 13.71 | 14.14 | 14.79 | 15.28 | 15.69 | 16.43 | -12.183 | 14.208 | 0.106 | 12.89 | 13.36 | 13.85 | 14.59 | 15.16 | 15.63 | 16.49 |
| 8 | -13.508 | 14.598 | 0.093 | 13.42 | 13.87 | 14.34 | 15.04 | 15.58 | 16.02 | 16.83 | -11.227 | 14.396 | 0.108 | 13.00 | 13.52 | 14.05 | 14.85 | 15.47 | 15.98 | 16.94 |
| 9 | -12.121 | 14.889 | 0.098 | 13.59 | 14.10 | 14.62 | 15.41 | 16.01 | 16.51 | 17.42 | -10.421 | 14.717 | 0.110 | 13.24 | 13.80 | 14.37 | 15.25 | 15.92 | 16.49 | 17.54 |
| 10 | -12.171 | 15.268 | 0.103 | 13.89 | 14.41 | 14.95 | 15.76 | 16.37 | 16.88 | 17.81 | -9.499 | 15.174 | 0.111 | 13.60 | 14.22 | 14.85 | 15.82 | 16.57 | 17.21 | 18.40 |
| 11 | -9.786 | 15.720 | 0.108 | 14.15 | 14.77 | 15.42 | 16.41 | 17.17 | 17.81 | 19.00 | -8.122 | 15.746 | 0.110 | 14.05 | 14.75 | 15.48 | 16.60 | 17.47 | 18.22 | 19.66 |
| 12 | -10.019 | 16.245 | 0.113 | 14.59 | 15.23 | 15.90 | 16.92 | 17.70 | 18.36 | 19.59 | -6.765 | 16.405 | 0.108 | 14.57 | 15.38 | 16.22 | 17.50 | 18.51 | 19.39 | 21.12 |
| 13 | -8.265 | 16.851 | 0.117 | 14.97 | 15.73 | 16.52 | 17.73 | 18.68 | 19.49 | 21.02 | -7.168 | 17.110 | 0.106 | 15.25 | 16.07 | 16.91 | 18.19 | 19.19 | 20.07 | 21.78 |
| 14 | -8.961 | 17.516 | 0.121 | 15.54 | 16.29 | 17.06 | 18.25 | 19.17 | 19.95 | 21.42 | -4.312 | 17.787 | 0.103 | 15.66 | 16.73 | 17.76 | 19.23 | 20.34 | 21.30 | 23.21 |
| 15 | -9.860 | 18.199 | 0.125 | 16.15 | 16.86 | 17.60 | 18.73 | 19.61 | 20.34 | 21.71 | -3.465 | 18.340 | 0.100 | 16.10 | 17.26 | 18.34 | 19.79 | 20.83 | 21.69 | 23.31 |
| 16 | -9.328 | 18.859 | 0.130 | 16.62 | 17.41 | 18.22 | 19.46 | 20.43 | 21.25 | 22.79 | -3.050 | 18.739 | 0.099 | 16.42 | 17.63 | 18.74 | 20.19 | 21.18 | 21.99 | 23.44 |
| 17 | -8.157 | 19.460 | 0.135 | 17.02 | 17.92 | 18.86 | 20.29 | 21.41 | 22.39 | 24.23 | -5.089 | 19.016 | 0.099 | 16.88 | 17.93 | 18.96 | 20.47 | 21.63 | 22.64 | 24.67 |
| 18 | -9.101 | 19.994 | 0.142 | 17.55 | 18.43 | 19.34 | 20.73 | 21.81 | 22.74 | 24.48 | -2.578 | 19.223 | 0.100 | 16.77 | 18.07 | 19.22 | 20.69 | 21.67 | 22.44 | 23.78 |
| 19 | -8.566 | 20.486 | 0.149 | 17.92 | 18.90 | 19.92 | 21.49 | 22.72 | 23.78 | 25.81 | -3.796 | 19.407 | 0.101 | 17.06 | 18.26 | 19.40 | 20.96 | 22.11 | 23.07 | 24.94 |

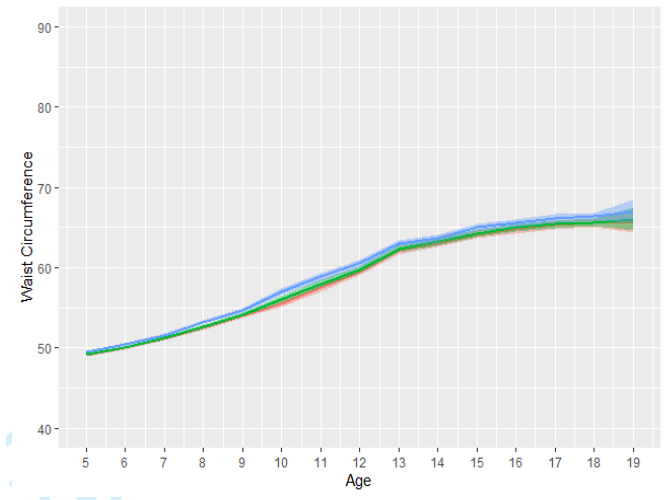
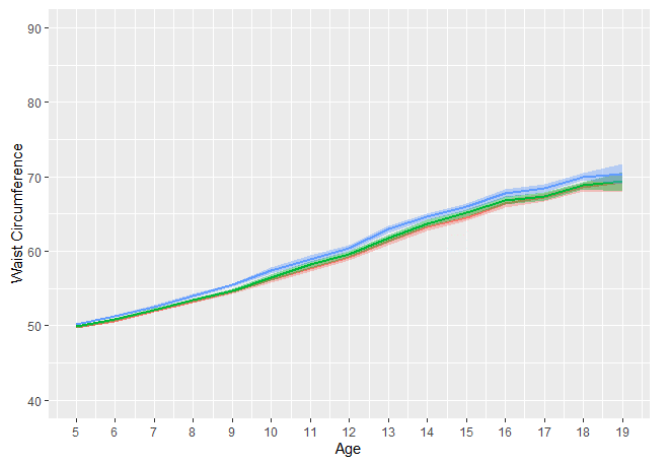
Appendix Figure 3: Comparison of sex wise data distribution of WC and BMI percentiles values with 95 % confidence interval in Samples 1, 2 and 3

50th and 90th percentiles for Waist Circumference by age and sex for all eligible participants and after excluding $\pm 2sd$ and $\pm 3sd$

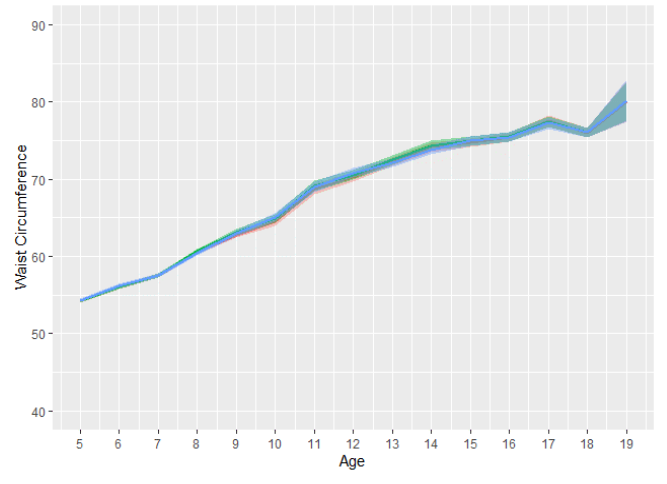
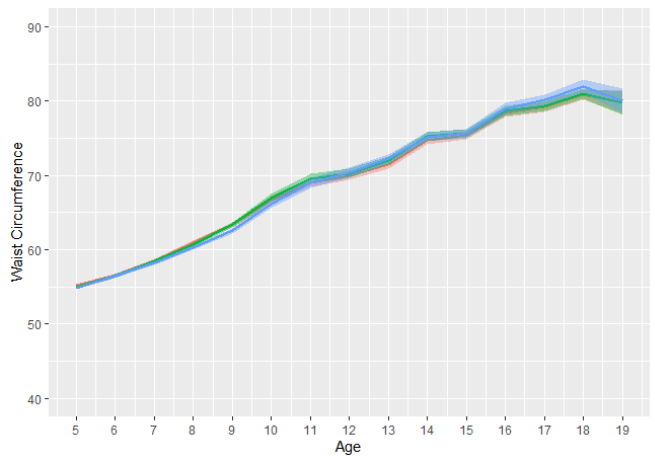
Males

Females

50th percentiles



90th percentiles

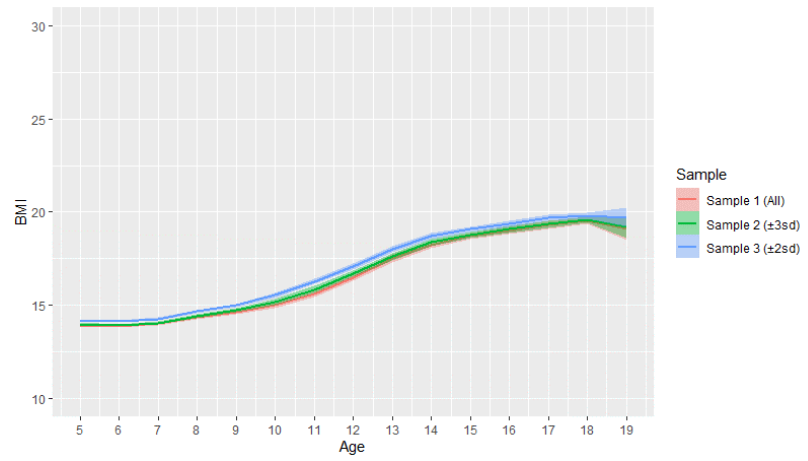
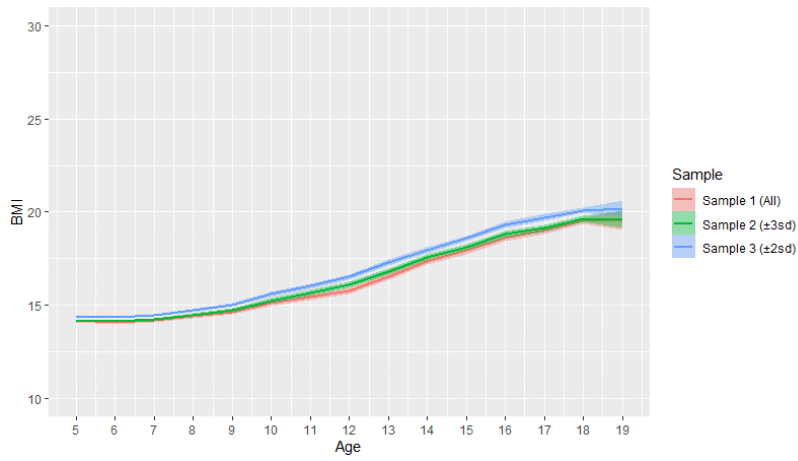


50th and 95th percentile with 95%CI for BMI by age and sex based for all eligible participants and after excluding $\pm 2sd$ and $\pm 3sd$

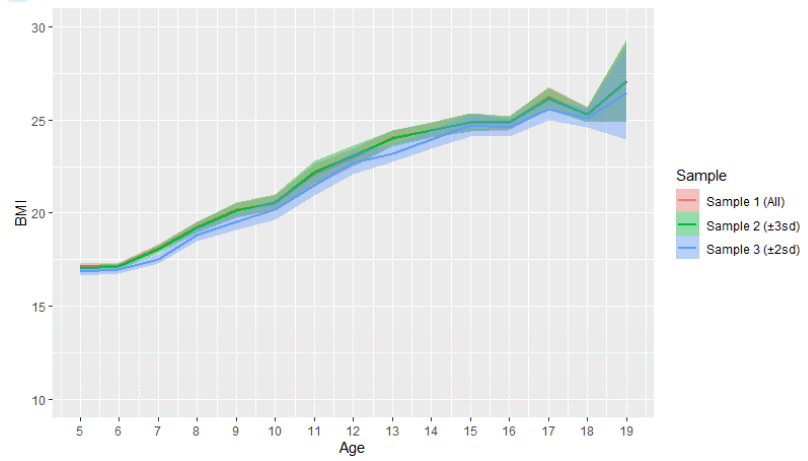
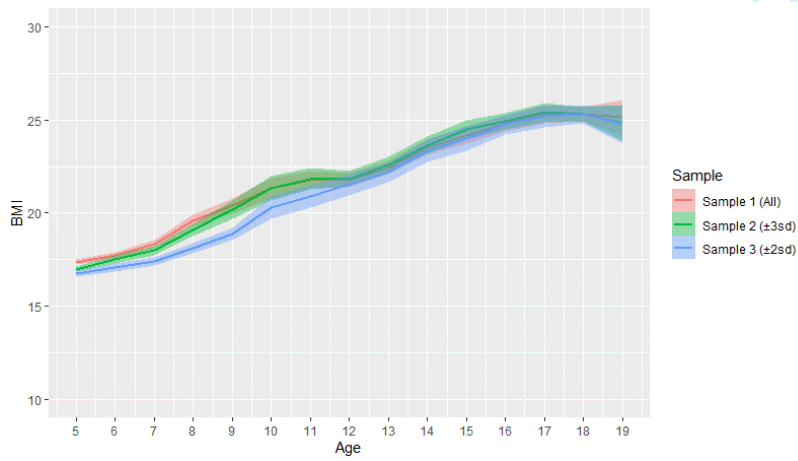
Males

Females

50th percentiles



95th percentiles



Appendix Table 4: Comparison of smoothed 50th and 90th percentiles of Waist circumference for Boys and Girls at age 10, 14 and 18 years

| Age group | 10 years | | | | | | 14 years | | | | | | 18 years | | | | | | |
|--------------|----------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|
| | Country | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ |
| Boys | | | | | | | | | | | | | | | | | | | |
| 50th | 55.1 | 65.9 | 58.7 | 60.3 | 60.5 | 61.4 | 61.4 | 75.0 | 67.5 | NA | 68.9 | 69.1 | 67.8 | 84.1 | NA | NA | NA | NA | 76.4 |
| 90th | 62.6 | 83.3 | 74.5 | 72.0 | 69.5 | 72.9 | 71.0 | 99.2 | 86.4 | NA | 79.5 | 81.0 | 78.5 | 115.1 | NA | NA | NA | NA | 86.5 |
| Girls | | | | | | | | | | | | | | | | | | | |
| 50th | 54.4 | 66.1 | 56.7 | 61.0 | 58.2 | 59.1 | 61.5 | 75.4 | 65.6 | NA | 64.7 | 66.2 | 64.6 | 84.7 | NA | NA | NA | NA | 69.0 |
| 90th | 61.9 | 84.5 | 69.8 | 74.0 | 66.3 | 69.5 | 71.2 | 100.5 | 80.1 | NA | 73.3 | 77.9 | 74.4 | 116.5 | NA | NA | NA | NA | 78.2 |

Study year: ¹2016-2018; ²2009-2014; ³2008-2009; ⁴2009-2010; ⁵2005; ⁶2002-2005
 NA-Not available

Appendix Table 5: Comparison of smoothed 50th and 90th percentiles of Body mass index for Boys and Girls at age 10, 14 and 18 years

| Age group | 10 years | | | | | | 14 years | | | | | | 18 years | | | | | | |
|--------------|----------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|--------------------|-----------------|-----------------------|-----------------------|---------------------|---------------------|
| | Country | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ | India ¹ | US ² | Malaysia ³ | Pakistan ⁴ | Turkey ⁵ | Poland ⁶ |
| Boys | | | | | | | | | | | | | | | | | | | |
| 50th | 14.5 | 16.4 | 16.6 | 14.5 | 17.7 | 17.1 | 16.3 | 19.0 | 18.6 | NA | 19.7 | 19.2 | 18.7 | 21.7 | NA | NA | 21.7 | 21.8 | |
| 90th | 17.1 | 19.2 | 23.2 | 19.5 | 21.1 | 21.7 | 19.9 | 22.8 | 25.6 | NA | 23.7 | 24.1 | 22.7 | 26.0 | NA | NA | 25.8 | 26.4 | |
| Girls | | | | | | | | | | | | | | | | | | | |
| 50th | 14.5 | 16.6 | 16.3 | 16.2 | 17.5 | 16.9 | 17.2 | 19.6 | 18.4 | NA | 20.2 | 19.4 | 18.9 | 21.3 | NA | NA | 21.6 | 20.7 | |
| 90th | 17.3 | 19.9 | 22.0 | 21.4 | 20.9 | 21.2 | 21.2 | 23.8 | 23.6 | NA | 25.6 | 24.1 | 22.9 | 26.0 | NA | NA | 25.2 | 24.9 | |

Study year: ¹2016-2018; ²2007; ³2011; ⁴2009-2010; ⁵2005; ⁶2007-2009
 NA-Not available

Review Only