

SUPPLEMENTAL MATERIAL

Supplemental Table 1. Child weight-for-height z-score (WHZ) of children with mothers who are overweight versus those who are not; multiple years of surveys from Bangladesh, India and Nepal

| | Overweight mothers | | | Not overweight mothers | | | Adj. β^2 | SE |
|---------------------|--------------------|----------|------|------------------------|----------|------|----------------|------|
| | n | mean WHZ | SD | n | mean WHZ | SD | | |
| <i>Bangladesh</i> | | | | | | | | |
| <i>h</i> | | | | | | | | |
| Pooled ¹ | 1,832 | -0.56 | 1.2 | 14,109 | -1 | 1.18 | 0.31** | 0.03 |
| 1997 | 115 | -0.62 | 1.53 | 4,210 | -0.98 | 1.33 | 0.15 | 0.13 |
| 2007 | 455 | -0.5 | 1.19 | 4,551 | -1.08 | 1.07 | 0.42** | 0.06 |
| 2014 | 1,262 | -0.57 | 1.17 | 5,348 | -0.96 | 1.13 | 0.28** | 0.04 |
| <i>India</i> | | | | | | | | |
| Pooled | 33,700 | -0.57 | 1.36 | 232,197 | -0.99 | 1.39 | 0.39** | 0.04 |
| 1999 | 1,264 | -0.25 | 1.38 | 21,274 | -0.81 | 1.47 | 0.34** | 0.04 |
| 2006 | 3,721 | -0.46 | 1.3 | 33,931 | -0.96 | 1.33 | 0.30** | 0.02 |
| 2016 | 28,715 | -0.59 | 1.36 | 176,992 | -1.02 | 1.39 | 0.29** | 0.01 |
| <i>Nepal</i> | | | | | | | | |
| Pooled | 627 | -0.2 | 1.11 | 9,701 | -0.82 | 1.11 | 0.44** | 0.05 |

*p<0.05; **p<0.01

¹Each row represents a separate multivariate mixed linear regression model controlling for child's age and sex, mothers age and education, wealth index, urban, country-specific sub-regions and clusters

²Adjusted beta coefficient for maternal overweight

³Models were stratified by survey year when year was a significant effect modifier in the relationship

Supplemental Table 2. Relationship between prevalence of overweight¹ among adolescent girls and three key factors in Bangladesh, India and Nepal, presented pooled and stratified by survey year

| | N | % overweight | APR ² | SE |
|-------------------|---------|-----------------|------------------|------|
| <i>Bangladesh</i> | | | | |
| No education | 487 | 1.85 | Ref. | |
| Some education | 2944 | 5.81 | 0.99 | 0.37 |
| Poor | 1346 | 2.23 | Ref. | |
| Not poor | 2085 | 7.19 | 3.04** | 0.7 |
| Rural | 2506 | 3.95 | Ref. | |
| Urban | 925 | 8.76 | 1.57* | 0.3 |
| 1997 | 668 | 0.75 | Ref. | |
| 2007 | 1096 | 3.28 | 4.02** | 1.92 |
| 2014 | 1667 | 8.34 | 12.52** | 5.82 |
| | N | % overweight | APR ² | SE |
| <i>India</i> | | | | |
| No education | 13,766 | 1.93 | Ref. | |
| Some education | 131,772 | 4.51 | 1.31** | 0.09 |
| Poor | 61,717 | 2.02 | Ref. | |
| Not poor | 83,822 | 5.93 | 2.29** | 0.09 |
| Rural | 103,672 | 3.1 | Ref. | |
| Urban | 41,867 | 7.17 | 1.89** | 0.06 |
| 1999 | 5119 | 1.8 | Ref. | |
| 2006 | 21818 | 3.78 | 1.37 | 0.16 |
| 2016 | 118602 | 4.46 | 2.26 | 0.26 |
| | N | % overweight | APR ² | SE |
| <i>Nepal</i> | | | | |
| No education | 493 | 1.62 | Ref. | |
| Some education | 3,040 | 3.88 | 1.67 | 0.76 |
| Poor | 1,437 | 2.3 | Ref. | |
| Not poor | 2,096 | 4.44 | 1.76* | 0.42 |
| Rural | 2,119 | 2.74 | Ref. | |
| Urban | 1,414 | 4.81 | 1.4 | 0.3 |

| | | | | |
|------|-------|------|------|------|
| 1996 | | | 4 | -- |
| 2006 | 2282 | 3.11 | Ref. | |
| 2016 | 1,251 | 4.4 | 1.51 | 0.32 |

*p<0.05; **p<0.01

¹Overweight is defined as a body mass index ≥ 25.0 kg/m² based on the IOTF sex and age-adjusted values

²Each adjusted prevalence ratio represents a separate modified Poisson model controlling for the over factors listed in the table, woman's age, country-specific sub-region and cluster

³Model was stratified by survey year when survey year was a significant (p<0.1) effect modifier of the relationship

⁴No adolescent girls were overweight in this survey

Supplemental table 3. Rate of change¹ in child weight-for-height z-score (WHZ) and prevalence of overweight, and adolescent and women body mass index (BMI), prevalence of overweight and prevalence of obese in Bangladesh, India and Nepal across survey years

| | Bangladesh | | | India | | | Nepal | | |
|--|------------|-------|-------|-------|-------|-------|-------|-------|--------|
| | 1997 | 2007 | 2014 | 1999 | 2006 | 2016 | 1996 | 2006 | 2016 |
| Children | | | | | | | | | |
| Mean WHZ | -0.99 | -1.04 | -0.88 | -0.88 | -1.01 | -1.02 | -0.8 | -0.84 | -0.65 |
| Rate of change | | 0 | -0.02 | | 0.02 | 0.001 | | 0 | -0.025 |
| Prevalence overweight (%) | 1.9 | 1 | 1.5 | 2.9 | 1.6 | 2.1 | 1 | 0.6 | 1.3 |
| Rate of change | | -0.06 | 0.06 | | -0.07 | 0.03 | | -0.05 | 0.08 |
| Adolescent girls | | | | | | | | | |
| Mean BMI (kg/m ²) | 18.6 | 19.6 | 20.2 | 19.1 | 19 | 19.4 | 19.6 | 19.9 | 20 |
| Rate of change | | 0.01 | 0 | | 0 | 0.002 | | 0 | 0.001 |
| Prevalence overweight ² (%) | 0.7 | 3.2 | 8.2 | 1.6 | 2.7 | 4.9 | 0 | 3 | 4.4 |
| Rate of change | | 0.16 | 0.14 | | 0.07 | 0.06 | | 3 | 0.04 |
| Prevalence obese ⁴ (%) | 0.7 | 0.1 | 1.3 | 0.1 | 0.3 | 0.9 | 0 | 0.1 | 0.4 |
| Rate of change | | -0.18 | 0.44 | | 0.15 | 0.12 | | 3 | 0.15 |
| Women | | | | | | | | | |
| Mean BMI (kg/m ²) | 18.9 | 20.8 | 22.5 | 20.4 | 20.8 | 22.4 | 19.8 | 20.8 | 22.7 |
| Rate of change | | 0.01 | 0.01 | | 0 | 0.007 | | 0 | 0.009 |
| Prevalence overweight ⁵ (%) | 3.2 | 12.9 | 25.6 | 11.4 | 15.1 | 24.1 | 1.9 | 10.4 | 26.8 |
| Rate of change | | 0.15 | 0.1 | | 0.04 | 0.05 | | 0.19 | 0.1 |
| Prevalence obese ⁶ (%) | 0.6 | 1.9 | 4.7 | 2.4 | 3.5 | 6.04 | 0.1 | 1.2 | 6.26 |

| | | | | | | |
|----------------|------|------|------|------|------|------|
| Rate of change | 0.12 | 0.14 | 0.05 | 0.06 | 0.28 | 0.18 |
|----------------|------|------|------|------|------|------|

¹Rate of change since previous time point

²Overweight among adolescents is defined as a body mass index ≥ 25.0 kg/m² based on the IOTF sex and age-adjusted values

³Could not be calculated as the prevalence at the previous time point was 0

⁴Obese among adolescents is defined as a body mass index ≥ 30.0 kg/m² based on the IOTF sex and age-adjusted values

⁵Overweight among women is defined as a body mass index ≥ 25.0 kg/m²

⁶Obese among women is defined as a body mass index ≥ 30.0 kg/m²

Supplemental Table 4. Relationship between prevalence of overweight¹ among adult women and three key factors in Bangladesh, India and Nepal, presented pooled and stratified by survey year

| | Pooled | | | | Stratified by survey year ³ | | | | | | | | | | | | |
|-------------------|--------|------------------|------------------|------|--|------------------|------------------|------|-------|----------------------|------------------|------|--------|----------------------|------------------|------|--|
| | N | % overwei ght | APR ² | SE | 1996 | | | | 2007 | | | | 2014 | | | | |
| | | | | | N | % overw eight | APR ² | SE | N | % over weig ht | APR ² | SE | N | % over weig ht | APR ² | SE | |
| <i>Bangladesh</i> | | | | | | | | | | | | | | | | | |
| No education | 9,029 | 10.31 | Ref. | | 1,859 | 1.29 | Ref. | | 3,214 | 7.28 | Ref. | | 3,956 | 17.01 | Ref. | | |
| Some education | 18,336 | 24.45 | 1.74** | 0.06 | 1,518 | 5.8 | 2.91* | 0.62 | 5,817 | 19.29 | 2.08** | 0.16 | 11,001 | 29.76 | 1.56* | 0.06 | |
| Poor | 9,911 | 8 | Ref. | | 1,405 | 0.71 | Ref. | | 3,056 | 4.02 | Ref. | | 5,450 | 12.11 | Ref. | | |
| Not poor | 17,454 | 26.48 | 2.24** | 0.09 | 1,972 | 5.17 | 3.41* | 1.05 | 5,975 | 20.64 | 2.90** | 0.29 | 9,507 | 34.57 | 1.49* | 0.05 | |
| Rural | 18,098 | 13.64 | ref. | | 2,881 | 2.05 | ref. | | 5,503 | 8.54 | ref. | | 9,714 | 19.96 | ref. | | |
| Urban | 9,267 | 31.8 | 1.67** | 0.05 | 496 | 10.69 | 3.29* | 0.66 | 3,528 | 25.11 | 2.04** | 0.14 | 5,243 | 38.3 | 1.49* | 0.05 | |
| 1997 | 3,377 | 3.32 | ref. | | | | | | | | | | | | | | |
| 2007 | 9,031 | 15.01 | 2.91** | 0.32 | | | | | | | | | | | | | |
| 2014 | 14,957 | 26.39 | 5.35** | 0.58 | | | | | | | | | | | | | |
| | Pooled | | | | Stratified by survey year ³ | | | | | | | | | | | | |
| | N | % overwei | APR ² | SE | 1999 | | | | 2006 | | | | 2016 | | | | |
| | | | | | N | % overw | APR ² | SE | N | % over | APR ² | SE | N | % over | APR ² | SE | |

| | | | | | | | | | | | | | | | | |
|----------|--------|-------|--------|------|-------|------|-------|------|-------|-------|--------|------|-------|-------|------|------|
| Not poor | 9,299 | 17.26 | 2.03** | 0.13 | | | | | | | | | | | | |
| Rural | 10,113 | 7.09 | ref. | | 2,718 | 1.62 | ref. | | 5,648 | 6.41 | ref. | | 1,747 | 17.8 | ref. | |
| Urban | 5,607 | 22.61 | 1.51** | 0.11 | 254 | 7.09 | 2.80* | 0.82 | 2,186 | 17.66 | 1.94** | 0.21 | 3,167 | 27.28 | 1.11 | 0.08 |
| 1996 | 2,972 | 2.09 | ref. | | | | | | | | | | | | | |
| 2006 | 7,834 | 9.55 | 2.36** | 0.35 | | | | | | | | | | | | |
| 2016 | 4,914 | 23.91 | 6.05** | 0.95 | | | | | | | | | | | | |

*p<0.05; **p<0.01

¹Overweight is defined as a body mass index ≥ 25.0 kg/m²

²Each adjusted prevalence ratio (APR) represents a separate modified Poisson model controlling for the over factors listed in the table, woman's age, country-specific sub-region and cluster

³Model was stratified by survey year when survey year was a significant (p<0.1) effect modifier of the relationship