Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

bmjnph
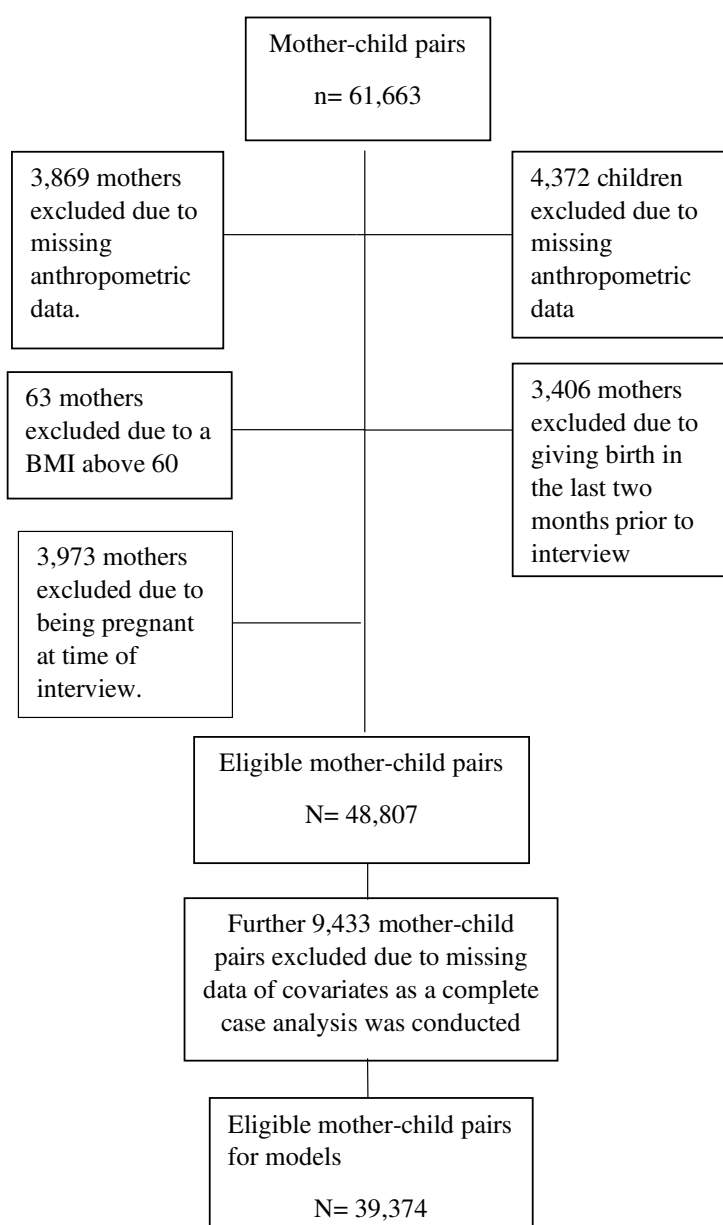
Supplementary material

Appendices

Appendix A

Figure 1. Participant Flow Diagram, n: total number of participants

Appendix B

Missing data explanation

Missing data	
BMI *(n= 3,932)*	o 3,869 missing data o 63 outside of plausible limits
Anaemia level mother *(n= 28,999)*	o No data for Colombia, Dominican Republic, and Nicaragua o 6,610 missing data
Anaemia level children *(n= 31,793)*	o No data for Colombia, Dominican Republic, and Nicaragua o 9,404 missing data o Only children aged 6-59 months included, so children younger than 6 months excluded
Stunting children *(n= 4,372)*	o 528 outside of plausible limits o 3,844 missing data
Wasting children *(n= 4,393)*	o 540 outside of plausible limits o 3,853 missing data
Age children *(n= 859)*	o 859 missing data
Husband at home *(n= 11,954)*	o 11,954 missing data
Mother working in last 12-months *(n=14)*	o 14 missing data

Note. n: total missing values

Appendix C

Study Characteristics per Country

	Countries	Bolivia	Columbia	Dom. Rep.	Guatemala	Guyana	Honduras	Haiti	Nicaragua	Peru	Total
	Year	2008	2010	2013	2014-15	2009	2011-12	2016-17	2001	2012	
	Sample, total	5,163	11,688	2,287	7,970	1,042	7,220	2,545	3,867	7,025	48,807
	SCOM (%)	13.08	5.30	3.22	21.14	6.59	9.77	4.86	9.29	10.08	10.44
	Urban (%)	57.74	73.73	74.89	37.92	24.26	47.57	37.67	53.33	66.91	55.87
	Husband living at home (%)	91.47	93.41	91.48	84.75	88.71	91.81	66.85	93.06	94.25	89.00
	Mother working in last 12-months (%)	71.16	62.79	57.53	39.54	34.52	49.73	66.92	40.79	68.02	56.41
Mean Household Value	Wealth index (1-5)	2.85	2.77	2.85	2.80	2.80	2.37	2.89	2.82	2.79	2.82
	Maternal education level (0-3)	0.94	1.56	1.50	0.65	1.26	0.90	0.67	0.75	1.59	1.11

3

Number of children at home (0-11)	1.48	1.36	1.31	1.43	1.49	1.41	1.47	1.72	1.32	1.42
Age mother (13-49)	29.20	27.81	27.16	27.89	27.78	27.48	29.82	27.23	29.75	28.26
Children age (0-4)	1.98	2.03	2.01	1.99	1.87	1.93	1.99	1.97	2.02	1.99
Mean percentage girls	0.49	0.48	0.49	0.47	0.50	0.48	0.49	0.49	0.49	0.48

Note. SCOM: Overweight/obese mother with at least one stunted child.

4

Appendix D

Outcome Prevalence per Countries

	Overweight (mother)	Stunting	SCOM	wasting	WCOM	Anaemic (child)	ACOM	Overweight (child)	Anaemic (mother)	OCAM
%	49.56	25.03	10.44	1.74	0.48	42.20	19.39	6.93	22.51	5.76
missing	10,026 (16.26%)	4,372 (7.09%)	12,856 (20.85%)	4,399 (7.13%)	12,866 (20.87%)	31,792 (51.51%)	35,979 (58.35)	4,399 (7.13%)	28,999 (47.03%)	53,156 (86.20)
Bolivia	51.55	29.49	13.08	1.78	0.47	67.18	33.21	10.49	42.64	9.416
Columbia	44.12	13.91	5.30	1.06	0.23	/	/	5.56	/	/
Dom. Rep.	49.82	7.85	3.22	2.26	0.76	/	/	8.85	/	/
Guatemala	52.37	48.24	21.14	0.95	0.40	37.07	17.55	5.91	15.43	5.58
Guyana	48.32	20.55	6.59	6.08	1.41	42.39	20.52	8.39	38.24	3.73
Honduras	51.59	23.48	9.77	1.62	0.60	32.31	16.01	6.24	14.31	4.28
Haiti	34.74	23.35	4.89	4.58	1.23	69.99	23.33	4.32	49.15	4.5
Nicaragua	46.44	26.9	9.29	2.77	0.61	/	/	8.14	/	6/
Peru	59.57	18.55	10.08	0.79	0.27	34.99	19.63	8.25	19.7	6.62

Note. SCOM: Overweight/obese mother with at least one stunted child. WCOM: Overweight/obese mother with at least one wasted child. ACOM: Overweight/obese mother with at least one anaemic child. OCAM: Anaemic mother with at least one overweight/obese child

Appendix E

Prevalence (%) per outcome

	SCOM	WCOM	ACOM	OCAM
Total	48,807	48,797	25,684	8,507
Households with DBM	5,246	241	5,062	451
Prevalence (%)	10.44	0.48	19.39	5.76
Location of Residency; *p-value*	*<0.001*	*0.3056*	*0.1225*	*<0.001*
Urban	8.11	0.44	19.93	6.93
Rural	13.44	0.52	18.90	4.74
Maternal education level; *p-value*	*<0.001*	*0.1278*	*<0.001*	*<0.001*
No education/incomplete primary	17.79	0.58	20.87	5.50
Primary/incomplete secondary	8.99	0.51	19.03	4.55
Secondary	5.13	0.34	18.83	5.99
Higher	4.11	0.32	16.25	10.85
Wealth index, *p-value*	*<0.001*	*0.3293*	*<0.001*	*<0.001*
Poorest	14.82	0.55	17.61	5.05
Poorer	12.50	0.33	19.15	4.61
Middle	10.59	0.48	22.16	4.63
Richer	7.08	0.54	20.79	6.59
Richest	5.05	0.51	16.68	8.80
Mother working in last 12-months, *p-value*	*<0.001*	*0.5217*	*0.0902*	*0.8378*
No	11.47	0.51	18.83	5.69
Yes	9.65	0.48	19.86	5.82

Note. p-value: according to chi-square test (X^2), bold: significant ($p<0.05$). SCOM: Overweight/obese mother with at least one stunted child. WCOM: Overweight/obese mother with at least one wasted child. ACOM: Overweight/obese mother with at least one anaemic child. OCAM: Anaemic mother with at least one overweight/obese child.

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

bmjnph

Appendix F

Distribution (%) per outcome across location of residency, maternal education level, wealth index, and whether the mother was working in the last 12-months (per column)

	SCOM	WCOM	ACOM	OCAM
% Location of Residency; *p-value*	***<0.001***	*0.3056*	*0.1225*	***<0.001***
Urban	43.8	52.28	49.15	56.04
Rural	56.2	47.72	50.85	43.96
% Maternal education level; *p-value*	***<0.001***	*0.1278*	***<0.001***	***<0.001***
No education/incomplete primary	54.13	38.39	39.09	34.7
Primary/incomplete secondary	31.72	39.24	38.72	30.94
Secondary	8.99	13	13.97	14.63
Higher	5.15	9.36	8.22	19.72
% Wealth index, *p-value*	***<0.001***	*0.3293*	***<0.001***	***<0.001***
Poorest	*31.81*	25.93	20.67	21.5
Poorer	25.99	14.94	21.26	16.48
Middle	21.77	21.29	24.08	16.19
Richer	13.18	21.79	21.27	21.69
Richest	7.25	16.05	12.72	24.13
% Mother working in last 12-months, *p-value*	***<0.001***	*0.5217*	*0.0902*	*0.8378*
No	47.56	45.82	43.89	44.33
Yes	52.44	54.18	56.11	55.67

Note. p-value: according to chi-square test (X²), bold: significant (p<0.05). SCOM: Overweight/obese mother with at least one stunted child. WCOM: Overweight/obese mother with at least one wasted child. ACOM: Overweight/obese mother with at least one anaemic child. OCAM: Anaemic mother with at least one overweight/obese child.

Appendix G

Age Stratified Multiple Logistic Regression Analysis with SCOM (Overweight/obese mother with at least one stunted child) as Outcome

	Model 1 (All ages) n: 39,374	Model 2 (Below two) n: 26,891	Model 3 (Three and above) n: 19,409
	OR (95%-CI)	OR (95%-CI)	OR (95%-CI)
Maternal education level			
No education/ incomplete primary	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)
Primary/incomplete secondary	0.72 (0.65-0.80)*	0.78 (0.73-0.84)*	0.69 (0.60-0.80)*
Secondary	0.47 (0.43-0.51)*	0.51 (0.49-0.54)*	0.41 (0.33-0.52)*
Higher	0.45 (0.34-0.59)*	0.49 (0.41-0.58)*	0.41 (0.23-0.74)*
Wealth index			
Poorest	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)
Poorer	0.94 (0.81-1.08)	0.99 (0.79-1.25)	0.97 (0.83-1.13)
Middle	0.80 (0.63- 1.02)	0.80 (0.57-1.14)	0.84 (0.65-1.10)
Richer	0.59 (0.43-0.81)*	0.76 (0.53-1.09)	0.47 (0.30-0.72)*
Richest	0.43 (0.35-0.55)*	0.53 (0.33-0.85)*	0.38 (0.31-0.47)*
Location of residency			
Urban	1.00 (Ref.)	1.0 Ref.)	1.00 (Ref.)
Rural	0.82 (0.70-0.96)*	0.77(0.67-0.90)*	0.88 (0.72-1.08)
Mother working in last 12-months			
No	1.00 (Ref.)	1.00 (Ref.)	1.0 (Ref.)
Yes	1.07 (0.94-1.20)	1.07 (0.90-1.28)	1.06 (0.95-1.20)

Note. OR: adjusted odds Ratio, *: statistically significant (p-value > 0.05), 95%-CI: 95% Confidence Intervals,

Ref.: reference category. The model is adjusted for the mean age of the mother's children, percentage of girls of

the mother's children, mothers age, number of children >5 living in households, whether the husband was living at home, and a country dummy.

9