THE LANCET
Global Health

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Ford ND, Behrman JR, Hoddinott JF. Exposure to improved nutrition from conception to age 2 years and adult cardiometabolic disease risk: a modelling study. *Lancet Glob Health* 2018; **6:** e875–84.

Supplemental Table 1. Characteristics of Participants Lost to Follow Up. INCAP Nutrition Supplementation Trial Longitudinal Cohort, Guatemala, 1969-2017

	Death		International Migration		Did Not Otherwise Participate in 2015-17 Study Wave		Participated in 2015-17 Study Wave		Total	
	n		n		n		n		n	
Female	369	39·6	249	37·0	613	36·7	1,161	60·2	2,392	48·6
Exposed to *Atole* from conception to age 2 y	369	25·6	249	25·3	613	20·1	1,161	22·4	2,392	22·6
Childhood household SES	369	0·006 (-0·51, 0·46)	249	0·10 (-0·40, 0·64)	613	-0·07 (-0·53, 0·22)	1,161	-0·02 (-0·52, 0·46)	2,392	-0·02 (-0·51, 0·46)
Maternal age, y	358	26·0 (21·0, 34·0)	283	25·0 (21·0, 32·0)	573	26·0 (21·0, 32·0)	921	26·0 (21·0, 32·0)	2,315	26·0 (21·0, 32·0)
Maternal height, cm	282	148·3 (145·2, 152·3)	186	149·8 (146·6, 153·0)	410	149·1 (145·3, 152·5)	921	148·6 (145·4, 152·3)	1,799	148·6 (145·5, 152·5)
Maternal schooling, y	320	0·0 (0·0, 2·0)	225	2·0 (0·0, 2·0)	504	1·0 (0·0, 2·0)	1,120	0·0 (0·0, 2·0)	2,169	1·0 (0·0, 2·0)

Values presented are medians (25^{th}, 75^{th} percentiles) or percents.

Abbreviations: INCAP, Institute of Nutrition for Central America and Panama.

Supplemental Table 2. Selected Characteristics of the Study Population, by Supplement Type and Age at Exposure to the Intervention, for men and women. INCAP Nutrition Supplementation Trial Longitudinal Cohort, Guatemala, 1969-2017

	Women								Men							
	Atole		Fresco		Exposed to Intervention During Full Period Conception – 2 y		Other Timing of Exposure to Intervention		Atole		Fresco		Exposed to Intervention During Full Period Conception – 2 y		Other Timing of Exposure to Intervention	
	n		n		n		n		n		n		n		n	
Age at follow-up, y	377	45·0 (42·0, 49·0)	307	45·0 (41·0, 49·0)	242	43·0 (41·0, 44·0)	442	47·0 (42·0, 50·0)	242	44·0 (41·0, 48·0)	213	45·0 (42·0, 48·0)	153	43·0 (42·0, 44·0)	302	47·0 (41·0, 49·0)
Childhood household SES	377	-0·02 (-0·51,·0 42)	307	-0·07 (-0·79,·0 53)	242	-0·02 (-0·51,·0 56)	442	-0·07 (-0·58,·0 17)	242	0·02 (-0·49,·0 46)	213	-0·03 (-0·60,·0 57)	153	0·02 (-0·51,·0 54)	302	-0·01 (-0·51,·0 31)
Maternal age, y	373	26·0 (21·0, 31·0)	298	26·0 (21·0, 33·0)	238	26·5 (21·0, 32·0)	433	26·0 (21·0, 32·0)	240	25·0 (21·0, 33·0)	208	26·0 (21·0, 32·0)	153	25·0 (21·0, 32·0)	295	26·0 (22·0, 33·0)
Maternal height, cm	288	149·3 (145·6, 152·7)	255	148·5 (144·9, 151·7)	214	148·6 (145·8, 155·2)	329	148·8 (144·9, 152·2)	191	148·2 (146·2, 152·7)	166	148·2 (146·0, 152·7)	140	149·2 (146·4, 152·5)	217	148·2 (146·0, 152·7)
Maternal schooling, y	371	0·0 (0·0, 2·0)	294	1·0 (0·0, 3·0)	239	1·0 (0·0, 2·0)	426	0·0 (0·0, 2·0)	237	0·0 (0·0, 2·0)	196	2·0 (0·0, 3·0)	150	1·0 (0·0, 2·0)	283	1·0 (0·0, 3·0)
Residing in Guatemala City, %	377	19.4	307	16.6	242	18.6	442	17.9	242	13.6	213	23.9	153	15.0	302	20.2
SES tertile, %	377		307		242		442		242		213		153		302	
Poorest		33.2		30.9		32.6		31.9		39.3		29.6		37.2		33.4
Middle		29.7		42.0		33.9		36.0		28.9		30.5		24.2		32.4
Wealthiest		37·1		27·0		33·5		32·1		31·8		39·9		38·6		34·1
Total grades completed	370	3·0 (2·0, 6·0)	297	5·0 (3·0, 6·0)	241	4·0 (2·0, 6·0)	426	4·0 (2·0, 6·0)	236	3·0 (2·0, 6·0)	201	6·0 (4·0, 7·0)	153	6·0 (2·0, 6·0)	284	6·0 (2·0, 6·0)
Height, cm	376	152·2 (148·7, 155·7)	307	150·6 (147·3, 153·9)	242	150·9 (147·8, 155·2)	441	151·7 (148·4, 155·0)	241	163·7 (159·3, 168·0)	213	164·6 (160·1, 167·8)	153	164·0 (159·9, 167·9)	301	164·2 (159·8, 167·8)
BMI, kg/m^2	376	28·7 (25·7, 31·7)	307	28·7 (25·6, 32·8)	242	29·1 (26·2, 32·2)	441	28·4 (25·4, 32·2)	241	25·6 (22·9, 28·3)	213	26·8 (24·7, 30·1)	153	26·0 (23·5, 33·0)	301	26·4 (23·9, 29·3)
Obesity[1], %	376	39·8	307	41·0	242	41·7	441	39·6	241	12·8	213	25·3	153	13·7	301	21·2
Waist circumference, cm	376	100·0 (93·6, 107·8)	307	100·6 (93·2, 110·3)	242	101·1 (94·3, 108·0)	441	99·9 (93·0, 108·8)	241	91·8 (84·3, 97·6)	213	96·5 (90·5, 103·3)	153	93·1 (86·9, 98·6)	301	94·0 (88·0, 101·3)
Waist-height ratio	376	0·66 (0·62, 0·71)	307	0·67 (0·62, 0·73)	242	0·67 (0·62, 0·72)	441	0·66 (0·61, 0·72)	241	0·56 (0·51, 0·59)	213	0·59 (0·55, 0·63)	153	0·57 (0·52, 0·61)	301	0·58 (0·54, 0·61)
Body fat, %	363	41·9 (38·5, 45·4)	299	43·0 (39·3, 46·9)	236	42·9 (38·9, 45·9)	426	42·2 (38·9, 46·3)	229	28·2 (23·5, 31·4)	206	30·9 (26·3, 35·2)	148	28·6 (23·4, 28·8)	287	29·3 (25·4, 34·0)
Triglycerides (mg/dL)	370	205·7 (151·3,	300	198·5 (155·4,	239	198·9 (155·2,	431	204·0 (151·3,	227	193·0 (148·6,	208	209·6 (148·9,	146	198·1 (138·3,	289	205·9 (151·1, 286·2)

TC (mg/dL)	370	278·6) 192·0 (167·9, 219·0)	300	266·4) 184·7 (159·5, 206·3)	239	267·9) 184·6 (160·7, 211·9)	431	276·6) 188·7 (166·1, 213·6)	227	296·3) 182·1 (150·5, 202·5)	208	287·4) 174·4 (152·8, 198·6)	146	301·6) 171·2 (146·2, 197·3)	289	180·5 (155·8, 201·9)
HDL-c (mg/dL)	370	35·9 (30·0, 43·0)	300	35·0 (29·4, 42·3)	239	34·6 (29·6, 42·5)	431	35·9 (29·9, 43·0)	227	34·0 (28·1, 42·0)	208	30·9 (26·3, 35·2)	146	33·1 (25·7, 41·0)	289	32·4 (26·4, 40·2)
Non-HDL-c[2] (mg/dL)	370	154·0 (132·0, 178·5)	300	147·3 (124·2, 169·2)	239	150·1 (128·3, 174·0)	431	151·3 (128·3, 174·8)	227	145·6 (116·5, 168·9)	208	141·9 (121·9, 167·5)	146	138·4 (113·1, 166·9)	289	146·1 (123·4, 168·9)
HbA1c, %	370	5·8 (5·6, 6·2)	302	5·9 (5·6, 6·2)	240	5·8 (5·5, 6·1)	432	5·9 (5·6, 6·2)	227	5·7 (5·5, 5·9)	208	5·8 (5·5, 6·1)	146	5·7 (5·5, 6·0)	289	5·7 (5·5, 6·0)
FBG (mg/dL)	370	99·7 (92·3, 111·3)	300	100·2 (93·7, 108·6)	239	98·2 (91·6, 107·4)	431	101·0 (93·7, 111·7)	227	97·5 (91·5, 103·6)	208	98·4 (93·6, 106·1)	146	97·6 (92·7, 103·7)	289	98·1 (93·3, 105·2)
2-h PCG[3] (mg/dL)	336	116·3 (102·3, 132·2)	272	119·1 (105·4, 132·3)	219	114·0 (101·8, 129·9)	389	118·9 (104·4, 133·6)	218	98·8 (88·3, 113·2)	197	106·5 (93·9, 120·6)	141	101·0 (88·8, 116·4)	274	102·6 (90·8, 117·3)
SBP, mmHg	377	121·0 (113·5, 134·0)	306	120·3 (111·0, 130·5)	242	120·5 (110·5, 130·0)	441	121·0 (113·5, 133·5)	242	120·8 (114·0, 130·0)	213	123·0 (113·0, 132·5)	153	122·0 (114·0, 131·0)	302	122·0 (113·0, 131·0)
DBP, mmHg	377	74·5 (69·0, 81·0)	306	72·0 (66·0, 79·0)	242	73·0 (67·0, 80·5)	441	73·5 (68·0, 80·5)	242	73·3 (67·0, 79·0)	213	72·5 (66·5, 79·0)	153	73·5 (67·5, 78·5)	302	72·5 (66·5, 80·0)
Pre-hypertension[4], %	377	40·6	306	36·0	242	40·5	441	37·4	242	52·1	213	48·8	153	52·9	302	49·3
Hypertension[5], %	377	18·0	306	19·3	242	14·5	441	20·9	242	5·0	213	9·4	153	6·5	302	7·3
Pre-diabetes[6], %	370	32·1	300	40·4	239	29·7	431	39·1	227	31·8	208	29·1	146	30·7	289	30·5
Diabetes[7], %	370	17·5	300	15·0	239	15·7	431	16·7	227	5·4	208	12·2	146	8·5	289	8·6
MetS[8], %	370	78.7	299	77.6	239	75·7	430	79·5	227	32·2	208	45·2	146	34·9	289	40·1
MetS components																
Central obesity, %	376	91·2	307	88·0	242	90·5	441	89·4	241	12·4	213	30·5	153	18·3	301	22·2
High FBG/medication use, %	370	48·7	300	53·3	239	43·5	431	54·8	227	39·2	208	41·4	146	41·1	289	39·8
High triglycerides/statin use, %	370	77·0	300	78·3	239	78·7	431	77·0	227	73·6	208	75·5	146	70·5	289	76·5
Low HDL-c, %	370	87·8	300	88·0	239	89·1	431	87·2	227	67·0	208	80·8	146	71·2	289	74·7
High BP/medication use, %	377	36·6	306	33·3	242	30·6	441	37·6	242	26·0	213	32·9	153	31·1	302	28·8

Values presented are medians (25^{th}, 75^{th} percentiles) or percents.

1. Obesity defined as BMI ≥30 kg/m^2.
2. Non-HDL-c defined as LDL-c + IDL-c + VLDL.
3. Meal challenge limited to participants without known diabetes and who had fasting blood glucose <180 mg/dL.
4. Pre-hypertension defined as systolic blood pressure 120-139 mmHg and/or diastolic blood pressure 80-89 mmHg among participants without hypertension medication use.

5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.
6. Pre-diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose 100-125 mg/dL and/or 2-hour post challenge glucose 140-199 mg/dL among participants not reporting diabetes medication use.
7. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or 2-h post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
8. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria based on presence ≥3 of the following: central obesity (waist circumference >88 cm for women and >102 cm for men); fasting plasma glucose ≥110 mg/dL or medication; triglycerides ≥150 mg/dL or medication; HDL-c <50 mg/dL for women and <40 mg/dL for men; and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or medication use.

Abbreviations: ADA, American Diabetes Association; DBP, diastolic blood pressure; BMI, body mass index; FBG, fasting blood glucose; HLD-c, high density lipoprotein cholesterol; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; LDL-c, low density lipoprotein cholesterol; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; MetS, metabolic syndrome; PCG, post-challenge glucose; SBP, systolic blood pressure; SES, socioeconomic status; TC, total cholesterol.

Supplemental Table 3. Selected Characteristics of the Study Population, by Supplement Type and Age at Exposure to the Intervention, for men and women. INCAP Nutrition Supplementation Trial Longitudinal Cohort, Guatemala, 1969-2017

	Pooled							
	Atole		Fresco		Exposed to Intervention During Full Period Conception – 2 y		Other Timing of Exposure to Intervention	
	n		n		n		n	
Age at follow-up, y	619	45·0 (41·0, 49·0)	520	45·0 (41·5, 48·0)	395	43·0 (42·0, 44·0)	744	47·0 (41·0, 50·0)
Childhood household SES	619	-0·01 (-0·51, 0·46)	520	-0·07 (-0·71, 0·55)	395	0·02 (-0·50, 0·55)	744	-0·02 (-0·56, 0·22)
Maternal age, y	613	26·0 (21·0, 32·0)	506	26·0 (21·0, 32·0)	391	26·0 (21·0, 32·0)	728	26·0 (21·0, 32·0)
Maternal height, cm	479	148·7 (145·9, 152·7)	421	148·7 (145·2, 151·8)	354	148·9 (145·8, 152·2)	546	148·5 (145·2, 152·4)
Maternal schooling, y	608	0·0 (0·0, 2·0)	490	1·0 (0·0, 3·0)	389	1·0 (0·0, 2·0)	709	0·0 (0·0, 2·0)
Residing in Guatemala City, %	619	17·1	520	19·6	395	17·2	744	18·8
SES tertile, %	619		520		395		744	
Poorest		35·4		30·4		34·4		32·5
Middle		29·4		37·3		30·1		34·5
Wealthiest		35·1		32·3		35·4		32·9
Total grades completed	606	3·0 (2·0, 6·0)	498	6·0 (3·0, 6·0)	394	5·0 (2·0, 6·0)	710	4·0 (2·0, 6·0)
Height, cm	617	155·6 (150·8, 162·1)	520	155·1 (149·8, 162·8)	395	155·3 (149·6, 162·7)	742	155·4 (150·4, 162·5)
BMI, kg/m^2	617	27·6 (24·5, 30·8)	520	27·9 (25·0, 31·8)	395	28·0 (24·8, 30·8)	742	27·5 (24·7, 31·1)
Obesity[1], %	617	29·2	520	34·6	395	30·9	744	32·1
Waist circumference, cm	617	96·5 (90·1, 104·5)	520	98·5 (91·6, 107·3)	395	97·5 (90·5, 105·5)	742	97·4 (90·6, 105·5)
Waist-height ratio	617	0·62 (0·57, 0·68)	520	0·63 (0·58, 0·69)	395	0·63 (0·57, 0·69)	742	0·62 (0·58, 0·68)
Body fat, %	592	37·8 (29·3, 43·2)	505	38·5 (31·8, 44·2)	384	38·2 (30·9, 43·8)	713	37·8 (30·7, 43·7)
Triglycerides (mg/dL)	597	203·3 (150·5, 283·1)	508	204·1 (151·1, 276·2)	385	198·3 (150·5, 275·7)	720	204·4 (151·3, 279·5)
TC (mg/dL)	597	186·9 (162·2, 213·0)	508	180·8 (155·8, 203·8)	385	181·6 (155·7, 206·3)	720	184·9 (161·1, 210·6)
HDL-c (mg/dL)	597	35·4 (29·3, 42·7)	508	32·9 (27·1, 40·5)	385	33·9 (28·5, 41·9)	720	34·9 (28·4, 42·0)
Non-HDL-c[2] (mg/dL)	597	150·6 (125·2, 174·8)	508	146·1 (123·7, 168·3)	385	147·2 (122·9, 169·4)	720	149·9 (126·0, 172·9)
HbA1c, %	597	5·8 (5·5, 6·1)	510	5·8 (5·6, 6·1)	386	5·8 (5·5, 6·0)	721	5·8 (5·6, 6·1)
FBG (mg/dL)	597	98·7 (91·8, 107·4)	508	99·4 (93·7, 107·5)	385	98·0 (91·8, 105·5)	720	99·5 (93·5, 108·8)
2-h PCG[3] (mg/dL)	554	109·0 (95·2, 124·1)	469	114·3 (100·3, 128·3)	360	110·0 (96·6, 123·3)	663	112·0 (98·4, 126·9)
SBP, mmHg	619	121·0 (113·5, 131·5)	519	121·0 (112·0, 131·5)	395	121·0 (112·5, 130·5)	743	121·0 (113·5, 132·0)
DBP, mmHg	619	74·0 (68·0, 80·5)	519	72·0 (66·0, 79·0)	395	73·0 (67·0, 80·0)	743	73·0 (67·0, 80·0)
Pre-hypertension[4], %	619	45·1	519	41·2	395	45·3	743	42·3
Hypertension[5], %	619	12·9	519	15·2	395	11·4	743	15·3
Pre-diabetes[6], %	597	32·0	520	35·8	385	30·1	720	35·6
Diabetes[7], %	597	12·8	520	13·9	385	12·9	720	13·4
MetS[8], %	597	61.0	507	64.3	385	60.3	719	63.7
MetS components								
Central obesity, %	617	60·4	520	64·4	395	62·5	744	62.1
High FBG/medication use, %	597	45·1	508	48·4	385	42·6	720	48.8
High triglycerides/statin use, %	597	75·7	508	77·2	385	75·6	720	76.8
Low HDL-c, %	597	79·9	508	85·0	385	82·3	720	82.2
High BP/medication use, %	619	32·5	519	33·1	395	30·4	743	34.1

Values presented are medians (25th, 75th percentiles) or percents.

1. Obesity defined as BMI ≥30 kg/m^2.
2. Non-HDL-c defined as LDL-c + IDL-c + VLDL.
3. Meal challenge limited to participants without known diabetes and who had fasting blood glucose <180 mg/dL.

4. Pre-hypertension defined as systolic blood pressure 120-139 mmHg and/or diastolic blood pressure 80-89 mmHg among participants without hypertension medication use.
5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.
6. Pre-diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose 100-125 mg/dL and/or 2-hour post challenge glucose 140-199 mg/dL among participants not reporting diabetes medication use.
7. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or 2-h post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
8. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria based on presence ≥3 of the following: central obesity (waist circumference >88 cm for women and >102 cm for men); fasting plasma glucose ≥110 mg/dL or medication; triglycerides ≥150 mg/dL or medication; HDL-c <50 mg/dL for women and <40 mg/dL for men; and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or medication use.

Abbreviations: ADA, American Diabetes Association; DBP, diastolic blood pressure; BMI, body mass index; FBG, fasting blood glucose; HLD-c, high density lipoprotein cholesterol; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; LDL-c, low density lipoprotein cholesterol; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; MetS, metabolic syndrome; PCG, post-challenge glucose; SBP, systolic blood pressure; SES, socioeconomic status; TC, total cholesterol.

Supplemental Table 4. Multivariate generalized linear regression difference-in-difference models to predict cardio-metabolic risk factors in 2015-17 based on exposure to Atole from conception to age 2 y in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

		Women Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Men Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Pooled Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other		
Cardio-metabolic risk factor		**β**	**95% CI**	***P***	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***
BMI, kg/m^2										
	Model 1	1·40	-0·30, 3·10	0·1	0·93	-0·73, 2·60	0·2	1·23	0·003, 2·46	0·04
	Model 2	1·30	-0·40, 3·00	0·1	0·99	-0·69, 2·66	0·2	1·26	0·04, 2·49	0·04
	Model 3	1·35	-0·33, 3·03	0·1	1·19	-0·41, 2·80	0·1	1·29	0·08, 2·50	0·03
Waist circumference, cm										
	Model 1	2·29	-1·67, 6·25	0·2	2·81	-1·37, 7·00	0·1	2·59	-0·34, 5·52	0·08
	Model 2	2·41	-1·55, 6·37	0·2	2·84	-1·40, 7·07	0·1	2·84	-0·08, 5·77	0·05
	Model 3	2·52	-1·40, 6·44	0·2	3·22	-0·88, 7·33	0·1	2·86	-0·04, 5·77	0·05
Waist-height ratio										
	Model 1	0·02	-0·006, 0·04	0·1	0·01	-0·01, 0·03	0·4	0·02	-0·002, 0·03	0·08
	Model 2	0·02	-0·009, 0·04	0·1	0·01	-0·01, 0·03	0·4	0·01	-0·003, 0·03	0·1
	Model 3	0·02	-0·007, 0·04	0·1	0·01	-0·01, 0·04	0·3	0·02	-0·003, 0·03	0·09
Body fat, %										
	Model 1	1·13	-0·72, 2·98	0·2	2·32	-0·34, 4·99	0·08	1·64	0·09, 3·18	0·03
	Model 2	1·21	-0·66, 3·07	0·2	2·30	-0·39, 4·99	0·09	1·72	0·18, 3·27	0·02
	Model 3	1·24	-0·46, 3·27	0·1	2·55	-0·02, 5·11	0·05	1·73	0·20, 3·26	0·02
Triglycerides, mg/dL										
	Model 1	-1·15	-36·49, 34·19	0·9	25·96	-38·08 90·01	0·4	9·28	-23·54, 42·09	0·5
	Model 2	-2·60	-36·83, 31·64	0·8	27·91	-36·80, 92·61	0·4	9·29	-22·94, 41·54	0·5
	Model 3	-2·45	-36·55, 31·66	0·8	28·04	-35·79, 91·88	0·7	9·29	-22·94, 41·54	0·5
	Model 4	-5·42	-38·95, 28·10	0·7	10·49	-48·47, 69·46		2·27	-28·78, 33·32	0·8
Total cholesterol, mg/dL										
	Model 1	2·56	-9·62, 14·74	0·6	18·64	3·05, 32·22	0·01	9·07	-0·51, 18·66	0·06
	Model 2	4·53	-7·55, 16·60	0·4	18·81	3·57, 34·05	0·01	10·21	0·69, 19·73	0·03
	Model 3	4·48	-7·37, 16·33	0·4	20·91	6·25, 35·58	0·005	10·54	1· 19, 19·88	0·02
	Model 4	4·32	-7·51, 16·15	0·4	19·69	5·20, 34·17	0·007	10·10	0·80, 19·40	0·03
HDL-c, mg/dL										
	Model 1	-1·08	-4·57, 2·41	0·5	-1·38	-5·56, 2·80	0·5	-1·27	-3·95, 1·41	0·3
	Model 2	-0·47	-4·02, 3·07	0·7	-1·70	-5·86, 2·46	0·4	-1·19	-3·90, 1·51	0·3
	Model 3	-0·56	-4·05, 2·92	0·7	-1·53	-5·55, 2·49	0·4	-1·14	-3·82, 1·54	0·4
	Model 4	-0·02	-3·38, 3·33	0·9	-0·15	-3·91, 3·61	0·9	-0·31	-2·86, 2·24	0·8
Non-HDL-c^2, mg/dL										
	Model 1	3·64	-7·90, 15·18	0·5	20·01	4·51, 35·51	0·01	10·35†	1·08, 19·61	0·02
	Model 2	5·00	-6·43, 16·43	0·3	20·51	5·34, 35·68	0·008	11·40	2·22, 20·59	0·01
	Model 3	5·04	-5·23, 16·31	0·3	22·45	8·02, 36·87	0·002	11·67	2·64, 20·70	0·01
	Model 4	4·34	-6·86, 15·55	0·4	19·84	5·86, 33·82	0·005	10·41†	1·51, 19·31	0·02
HbA1c, %										
	Model 1	-0·20	-0·68, 0·28	0·4	0·05	-0·47, 0·56	0·8	-0·09	-0·44, 0·27	0·6
	Model 2	-0·23	-0·71, 0·25	0·3	0·05	-0·47, 0·56	0·8	-0·10	-0·45, 0·26	0·5
	Model 3	-0·23	-0·70, 0·25	0·3	0·06	-0·43, 0·56	0·7	-0·09	-0·45, 0·26	0·6

	Model 4	-0·24	-0·71, 0·23	0·3	0·0001	-0·47, 0·47	0·9	-0·12	-0·47, 0·22	0·4
Fasting glucose, mg/dL										
	Model 1	-7·12	-20·88, 6·65	0·3	3·65	-9·39, 16·68	0·5	-2·12	-12·14, 7·90	0·6
	Model 2	-7·66	-21·44, 6·13	0·2	3·49	-9·73, 16·72	0·6	-2·58	-12·58, 7·42	0·6
	Model 3	-7·48	-21·21, 6·24	0·2	3·92	-8·93, 16·78	0·5	-2·53	-12·49, 7·42	0·6
	Model 4	-7·70	-21·33, 5·93	0·2	2·21	-9·68, 14·11	0·7	-3·11	-12·85, 6·63	0·5
2-h post-challenge glucose, mg/dL										
	Model 1	0·09	-8·38, 8·56	0·9	-12·36	-23·30, -1·42	0·02	-4·86†	-11·70, 1·98	0·1
	Model 2	0·65	-8·00, 9·30	0·8	-11·85	-22·93, -0·78	0·03	-4·43†	-11·26, 2·40	0·2
	Model 3	0·82	-7·69, 8·04	0·8	-12·06	-23·07, -1·04	0·03	-4·80†	-11·60, 2·00	0·1
	Model 4	-0·19	-8·63, 8·24	0·9	-13·10	-23·64, -2·56	0·01	-5·84†	-12·51, 0·83	0·08
Systolic blood pressure, mmHg										
	Model 1	3·52	-1·95, 9·00	0·2	1·53	-3·61, 6·68	0·5	2·79	-1·01, 6·69	0·1
	Model 2	3·55	-1·97, 9·06	0·2	1·82	-3·31, 6·95	0·4	2·81	-1·09, 6·72	0·1
	Model 3	3·54	-1·95, 9·03	0·2	2·40	-2·67, 7·46	0·3	2·89	-0·99, 6·78	0·1
	Model 4	2·86	-2·52, 8·25	0·2	0·90	-3·90, 5·69	0·7	1·98	-1·80, 5·77	0·3
Diastolic blood pressure, mmHg										
	Model 1	1·32	-2·07, 4·71	0·4	2·43	-0·97, 5·84	0·1	1·85	-0·61, 4·32	0·1
	Model 2	1·54	-1·86, 4·95	0·3	2·69	-0·70, 6·09	0·1	2·06	-0·40, 4·52	0·1
	Model 3	1·61	-1·72, 4·94	0·3	3·50	0·20, 6·79	0·03	2·28	-0·14, 4·69	0·06
	Model 4	1·06	-2·18, 4·30	0·5	2·49	-0·66, 5·64	0·1	1·59	-0·74, 3·92	0·1

1. Sample sizes were 683 and 454 (BMI, waist circumference, waist-height ratio), 662 and 435 (body fat percentage), 670 and 435 (triglycerides, total cholesterol, HDL-c, non-HDL-c, fasting blood glucose), 672 and 435 (hbA1c), 608 and 415 (2-h post-challenge glucose), and 683 and 455 (systolic and diastolic blood pressure) for women and men, respectively. Estimates are the coefficients for the interaction term specifying exposure to *Atole* from conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs other) and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for systolic blood pressure and diastolic blood pressure additionally controlled for current height and hypertension medication use. Models for HbA1c, fasting blood glucose, and post-challenge glucose additionally controlled for diabetes medication use. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level. † $P < 0{\cdot}10$ for the interaction of sex and exposure to *Atole* from conception to age 2 y.
2. Non-HDL-c defined as LDL-c + IDL + VLDL.

Abbreviations: CI, confidence interval; HbA1c, glycated hemoglobin; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; SES, socioeconomic status.

Supplemental Table 5. Multivariate binomial logistic difference-in-difference regression predicting obesity, hypertension, diabetes, and metabolic syndrome in 2015-17 based on Atole exposure from conception to age 2 y in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

		Women Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Men Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Pooled Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other		
Cardio-metabolic risk factor		**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Obesity[3]										
	Model 1	1·84 (0·96, 3·53)	0·06	0·56	1·40 (0·47, 4·20)	0·5	0·64	1·83 (1·06, 3·17)	0·03	0·65
	Model 2	1·85 (0·95, 3·57)	0·06	0·58	1·45 (0·47, 4·48)	0·5	0·67	1·91 (1·10, 3·33)	0·02	0·66
	Model 3	1·88 (0·97, 3·66)	0·06	0·61	1·86 (0·56, 6·18)	0·3	0·72	1·94 (1·11, 3·40)	0·01	0·68
Diabetes[4]										
	Model 1	0·53 (0·22, 1·27)	0·1	0·63	0·17 (0·03, 0·98)	0·04	0·68	0·43 (0·20, 0·91)	0·02	0·65
	Model 2	0·51 (0·21, 1·26)	0·1	0·65	0·16 (0·03, 1·02)	0·05	0·74	0·44 (0·21, 0·93)	0·02	0·66
	Model 3	-[6]	-		0·16 (0·02, 0·99)	0·04	0·78	0·45 (0·21, 0·96)	0·03	0·68
	Model 4	-	-		0·17 (0·03, 1·09)	0·06	0·79	0·46 (0·21, 0·97)	0·04	0·70
Hypertension[5]										
	Model 1	1·12 (0·47, 2·67)	0·7	0·64	2·21 (0·47, 10·48)	0·3	0·65	1·25 (0·58, 2·68)	0·5	0·69
	Model 2	1·16 (0·48, 2·82)	0·7	0·66	2·83 (0·57, 14·02)	0·2	0·71	1·29 (0·59, 2·82)	0·5	0·70
	Model 3	1·17 (0·48, 2·85)	0·7	0·69	3·31 (0·61, 17·75)	0·1	0·74	1·35 (0·61, 2·97)	0·4	0·71
	Model 4	1·15 (0·47, 2·80)	0·7	0·73	3·06 (0·45, 20·89)	0·2	0·81	1·31 (0·59, 2·91)	0·5	0·76
Metabolic syndrome[6]										
	Model 1	1·49 (0·69, 3·21)	0·3	0·64	0·93 (0·40, 2·16)	0·8	0·60	1·24 (0·70, 2·18	0·4	0·74
	Model 2	1·43 (0·66, 3·12)	0·3	0·61	1·04 (0·44, 2·46)	0·9	0·64	1·27 (0·71, 2·26)	0·4	0·74
	Model 3	1·48 (0·60, 3·26)	0·3	0·65	1·15 (0·47, 2·79)	0·7	0·68	1·27 (0·71, 2·27	0·4	0·75
	Model 4	1·22 (0·55, 2·72)	0·6	0·77	0·59 (0·19, 1·82)	0·3	0·86	0·88 (0·47, 1·65)	0·6	0·86

1. Sample sizes were 670 and 435 (diabetes) 683 and 455 (hypertension), and 669 and 435 (metabolic syndrome) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction term specifying exposure to *Atole* from conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs other) and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2) SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for hypertension and metabolic syndrome additionally controlled for current height. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.
2. C statistic values >0.70 indicate good model fit.
3. Obesity defined as BMI ≥30 kg/m^2.
4. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.

6. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria as presence of ≥3 of: central obesity (waist circumference >88 cm for women and >102 cm for men); fasting plasma glucose ≥110 mg/dL or diabetes medication use; triglycerides ≥150 mg/dL or lipid medication use; HDL-c <50 mg/dL (women) and <40 mg/dL (men); and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or hypertension medication use.
7. - Maximum likelihood estimation resulted in a non-positive definite solution.

Abbreviations: ADA, American Diabetes Association; CI, confidence interval; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 6. Multivariate binomial logistic difference-in-difference regression models predicting metabolic syndrome components in 2015-17 based on Atole exposure from conception to age 2 y in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

	Women Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Men Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other			Pooled Difference-in-difference estimates for exposure to Atole from conception to age 2 y vs. other		
Cardio-metabolic risk factor	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Central obesity[3]									
Model 1	2·60 (0·86, 7·86)	0·08	0·60	2·06 (0·74, 5·76)	0·1	0·67	2·36 (1·12, 4·98)	0·02	0·87
Model 2	2·44 (0·80, 7·44)	0·1	0·64	2·24 (0·76, 6·61)	0·1	0·70	2·52 (1·18, 5·37)	0·01	0·88
Model 3	2·41 (0·77, 7·52)	0·1	0·69	2·49 (0·82, 7·60)	0·1	0·73	2·53 (1·18, 5·43)	0·01	0·89
Elevated fasting plasma glucose or medication use[4]									
Model 1	1·53 (0·80, 2·95)	0·2	0·63	1·14 (0·50, 2·60)	0·7	0·59	1·35 (0·81, 2·26)	0·2	0·62
Model 2	1·47 (0·75, 2·89)	0·2	0·66	1·15 (0·48, 2·57)	0·7	0·60	1·32 (0·78, 2·22)	0·2	0·64
Model 3	1·49 (0·76, 2·95)	0·2	0·67	1·17 (0·50, 2·78)	0·7	0·64	1·33 (0·79, 2·25)	0·2	0·64
Model 4	1·43 (0·72, 2·82)	0·3	0·69	1·01 (0·42, 2·45)	0·9	0·69	1·24 (0·73, 2·10)	0·4	0·67
Elevated triglycerides or medication use[5]									
Model 1	1·17 (0·54, 2·54)	0·6	0·54	1·92 (0·78, 4·73)	0·1	0·56	1·47 (0·82, 2·62)	0·1	0·54
Model 2	1·17 (0·53, 2·56)	0·6	0·57	-[6]	-		1·51 (0·84, 2·72)	0·1	0·58
Model 3	1·16 (0·53, 2·55)	0·7	0·60	-	-		1·47 (0·81, 2·67)	0·2	0·60
Model 4	1·05 (0·48, 2·31)	0·8	0·65	-	-		1·29 (0·71, 2·35)	0·4	0·67
Low HDL-c[6]									
Model 1	1·32 (0·49, 3·56)	0·5	0·57	1·52 (0·60, 3·86)	0·3	0·62	1·43 (0·73, 2·80)	0·2	0·65
Model 2	-[6]	-		1·68 (0·65, 4·34)	0·2	0·66	1·44 (0·73, 2·83)	0·2	0·66
Model 3	-	-		1·57 (0·61, 4·08)	0·3	0·68	1·38 (0·70, 2·73)	0·3	0·68
Model 4	-	-		1·18 (0·43, 3·28)	0·6	0·77	1·10 (0·55, 2·21)	0·7	0·75
Elevated blood pressure or medication use[7]									
Model 1	1·52 (0·76, 3·04)	0·2	0·61	0·70 (0·30, 1·68)	0·4	0·59	1·11 (0·64, 1·89)	0·7	0·59
Model 2	1·51 (0·75, 3·06)	0·2	0·63	0·76 (0·31, 1·83)	0·5	0·62	1·11 (0·64, 1·91)	0·7	0·61
Model 3	1·56 (0·76, 3·19)	0·2	0·66	0·81 (0·33, 1·98)	0·6	0·64	1·15 (0·67, 2·00)	0·6	0·63
Model 4	1·45 (0·71, 2·99)	0·3	0·69	0·60 (0·21, 1·62)	0·3	0·75	1·04 (0·59, 1·83)	0·8	0·69

1. Sample sizes were 683 and 454 (central obesity), 670 and 435 (elevated fasting plasma glucose, triglycerides, HDL-c) and 683 and 455 (elevated blood pressure) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction term specifying exposure to *Atole* from conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs other) and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for elevated blood pressure additionally controlled for current height. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.
2. C statistic values >0.70 indicate good model fit.

3. Central obesity defined as waist circumference >88 for women and>102 cm for men.
4. Elevated fasting plasma glucose (≥100 mg/dL) or diabetes medication use.
5. Elevated triglycerides defined as ≥150 mg/dL or lipid medication use.
6. Low HDL-c defined as HDL-c <50 mg/dL for women and <40 mg/dL for men.
7. Elevated blood pressure defined as systolic blood pressure ≥130 mmHg and/or diastolic blood pressure ≥85 mmHg and/or hypertension medication use.
8. Maximum likelihood estimation resulted in a non-positive definite solution.

Abbreviations: CI, confidence interval; HDL-c, high density lipoprotein cholesterol; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 7. Multivariate generalized linear difference-in-difference regression models to predict cardio-metabolic risk factors in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y or exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

	Women						Men					
	Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***
BMI, kg/m^2												
Model 1	1·57	-0·44, 3·57	0·1	0·37	-1·65, 2·39	0·7	0·44	-1·41, 2·30	0·6	-1·09	-2·90, 0·73	0·2
Model 2	1·43	-0·56, 3·14	0·1	0·27	-1·71, 2·26	0·7	0·57	-1·30, 2·44	0·5	-0·92	-2·75, 0·91	0·3
Model 3	1·50	-0·46, 3·47	0·1	0·33	-1·61, 2·27	0·7	0·57	-1·21, 2·35	0·5	-1·45	-3·23, 0·33	0·1
Waist circumference, cm												
Model 1	3·48	-1·21, 8·18	0·1	2·63	-2·10, 7·36	0·2	1·71	-2·93, 6·34	0·4	-2·51	-6·86, 1·85	0·2
Model 2	3·59	-1·06, 8·24	0·1	2·55	-2·09, 7·19	0·2	1·98	-2·71, 6·67	0·4	-1·90	-6·28, 2·47	0·3
Model 3	3·68	-0·92, 8·29	0·1	2·53	-2·02, 7·08	0·2	1·96	-2·53, 6·45	0·3	-2·97	-7·24, 1·30	0·1
Waist-height ratio												
Model 1	0·02	-0·006, 0·05	0·1	0·01	-0·02, 0·04	0·4	0·003	-0·02, 0·03	0·8	-0·01	-0·04, 0·01	0·2
Model 2	0·02	-0·008, 0·05	0·1	0·01	-0·02, 0·04	0·4	0·004	-0·02, 0·03	0·7	-0·01	-0·04, 0·01	0·3
Model 3	0·02	-0·007, 0·05	0·1	0·01	-0·02, 0·04	0·4	0·004	-0·02, 0·03	0·7	-0·02	-0·04, 0·006	0·1
Body fat, %												
Model 1	1·64	-0·50, 3·78	0·1	1·00	-1·35, 3·35	0·4	1·84	-1·08, 4·76	0·2	-1·07	-3·99, 1·85	0·4
Model 2	1·69	-0·45, 3·83	0·1	1·20	-1·40, 3·29	0·4	1·87	-1·04, 4·77	0·2	-0·97	-3·85, 1·90	0·5
Model 3	1·78	-0·35, 3·91	0·1	1·06	-1·23, 3·35	0·3	1·90	-0·85, 4·66	0·1	-1·55	-4·43, 1·35	0·2
Triglycerides, mg/dL												
Model 1	-2·74	-41·87, 36·38	0·8	-2·38	-44·77, 40·01	0·9	36·12	-37·00, 109·24	0·3	25·55	-37·35, 88·46	0·4
Model 2	-2·90	-41·54, 35·74	0·8	-0·07	-42·18, 42·04	0·9	44·41	-28·31, 117·14	0·2	40·49	-23·11, 104·04	0·2
Model 3	-3·36	-41·76, 35·04	0·8	-1·33	-43·07, 40·41	0·9	44·59	-27·61, 116·79	0·2	40·14	-28·32, 108·60	0·2
Model 4	-6·47	-44·53, 31·58	0·7	-1·55	-43·35, 40·25	0·9	34·87	-32·84, 102·58	0·3	58·30	-8·05, 124·65	0·08
Total cholesterol, mg/dL												
Model 1	3·35	-10·78, 17·48	0·6	1·16	-13·27, 15·59	0·8	21·14	3·61, 38·67	0·01	5·78	-10·77, 22·34	0·4
Model 2	5·83	-8·24, 19·89	0·4	2·32	-12·01, 16·65	0·7	21·78	4·57, 38·99	0·01	6·77	-10·05, 23·59	0·4
Model 3	6·26	-7·69, 20·21	0·3	3·41	-10·77, 17·59	0·6	22·05	5·60, 38·50	0·008	2·46	-14·21, 19·13	0·7
Model 4	6·09	-7·85, 20·03	0·3	3·40	-10·82, 17·61	0·6	21·35	5·06, 37·64	0·01	3·72	-13·01, 20·51	0·6
HDL-c, mg/dL												
Model 1	-1·33	-5·25, 2·60	0·5	-0·77	-5·28, 3·74	0·7	-0·26	-5·10, 4·59	0·9	2·38	-2·79, 7·54	0·3
Model 2	-0·65	-4·61, 3·30	0·7	-0·57	-5·03, 3·90	0·8	-1·28	-6·14, 3·57	0·6	0·73	-4·45, 5·91	0·7
Model 3	-0·68	-4·59, 3·24	0·7	-0·43	-4·76, 3·89	0·8	-1·28	-6·00, 3·43	0·5	0·44	-4·75, 5·63	0·8

Model 4	-0·04	-3·82, 3·73	0·9	-0·24	-4·52, 4·04	0·9	-0·54	-4·90, 3·82	0·7	-1·00	-5·79, 3·80	0·6
Non-HDL-c[2], mg/dL												
Model 1	4·68	-8·83, 18·20	0·4	1·93	-12·25, 16·12	0·7	21·40	3·99, 38·81	0·01	3·41	-12·70, 19·51	0·6
Model 2	6·48	-7·02, 19·97	0·3	2·88	-11·26, 17·03	0·6	23·06	6·09, 40·03	0·007	6·03	-10·01, 22·08	0·4
Model 3	6·93	-6·50, 20·37	0·2	3·84	-10·17, 17·86	0·5	23·33	7·26, 39·41	0·002	2·02	-14·01, 18·04	0·8
Model 4	6·14	-7·23, 19·51	0·3	3·63	-10·39, 17·66	0·6	21·89	6·23, 37·55	0·006	4·72	-11·21, 20·64	0·5
HbA1c, %												
Model 1	-0·34	-0·90, 0·23	0·2	-0·25	-0·85, 0·34	0·4	-0·04	-0·63, 0·54	0·8	-0·21	-0·79, 0·37	0·4
Model 2	-0·36	-0·93, 0·21	0·2	-0·25	-0·85, 0·35	0·4	-0·02	-0·61, 0·56	0·9	-0·16	-0·73, 0·42	0·5
Model 3	-0·36	-0·93, 0·21	0·2	-0·26	-0·86, 0·34	0·3	-0·04	-0·61, 0·54	0·9	-0·23	-0·81, 0·35	0·4
Model 4	-0·39	-0·96, 0·18	0·1	-0·28	-0·88, 0·32	0·3	-0·06	-0·61, 0·49	0·8	-0·15	-0·72, 0·42	0·6
Fasting glucose, mg/dL												
Model 1	-9·66	-25·21, 5·89	0·2	-4·18	-20·66, 12·31	0·6	0·72	-14·99, 16·44	0·9	-6·07	-22·29, 10·15	0·4
Model 2	-9·88	-25·71, 5·95	0·2	-3·82	-20·39, 12·76	0·6	0·80	-15·00, 16·00	0·9	-5·38	-21·26, 10·49	0·5
Model 3	-10·02	-25·77, 5·73	0·2	-4·34	-20·79, 12·12	0·6	0·65	-15·30, 16·34	0·9	-7·14	-23·20, 8·91	0·3
Model 4	-10·43	-26·18, 5·32	0·1	-4·78	-21·21, 11·66	0·6	-0·19	-14·98, 14·60	0·9	-5·35	-21·02, 10·31	0·5
2-h post-challenge glucose, mg/dL												
Model 1	-1·54	-11·70, 8·61	0·7	-3·04	-13·68, 7·59	0·5	-12·30	-24·03, -0·57	0·03	-0·09	-10·29, 10·46	0·9
Model 2	-0·64	-11·09, 9·81	0·9	-2·42	-13·06, 8·23	0·6	-10·88	-22·78, 1·02	0·07	2·10	-8·57, 12·77	0·6
Model 3	-0·66	-10·97, 9·64	0·9	-2·72	-13·27, 7·83	0·6	-11·04	-22·89, 0·81	0·06	2·15	-8·70, 13·00	0·6
Model 4	-2·04	-12·28, 8·20	0·6	-3·52	-13·97, 6·93	0·5	-11·39	-22·66, -0·12	0·04	3·71	-7·11, 14·53	0·5
Systolic blood pressure, mmHg												
Model 1	3·38	-3·13, 9·89	0·3	-0·21	-6·81, 6·39	0·9	0·93	-4·81, 6·68	0·7	-1·57	-8·05, 4·90	0·6
Model 2	3·47	-3·08, 10·02	0·2	-0·12	-6·72, 6·48	0·9	1·26	-4·52, 7·03	0·6	-1·45	-8·12, 5·21	0·6
Model 3	3·52	-3·00, 10·04	0·2	0·05	-6·47, 6·57	0·9	1·52	-4·20, 7·24	0·6	-2·24	-8·87, 4·39	0·5
Model 4	2·82	-3·55, 9·19	0·3	-0·009	-6·47, 6·45	0·9	0·61	-4·78, 6·00	0·8	-0·84	-6·98, 5·30	0·7
Diastolic blood pressure, mmHg												
Model 1	2·40	-1·57, 6·37	0·2	2·25	-1·64, 6·14	0·2	2·17	-1·73, 6·05	0·2	-0·68	-4·90, 3·53	0·7
Model 2	2·53	-1·42, 6·48	0·2	2·05	-1·81, 5·92	0·2	2·58	-1·33, 6·49	0·1	0·31	-4·62, 4·00	0·8
Model 3	2·71	-1·15, 6·58	0·1	2·35	-1·44, 6·13	0·2	2·91	-0·83, 6·66	0·1	-1·46	-5·64, 2·71	0·4
Model 4	2·14	-1·58, 5·86	0·2	2·28	-1·46, 6·01	0·2	2·30	-1·26, 5·87	0·2	0·53	-4·37, 3·30	0·7

1. Sample sizes were 683 and 454 (BMI, waist circumference, waist-height ratio), 662 and 435 (body fat percentage), 670 and 435 (triglycerides, total cholesterol, HDL-c, non-HDL-c, fasting blood glucose), 672 and 435 (hbA1c), 608 and 415 (2-h post-challenge glucose), and 683 and 455 (systolic and diastolic blood pressure) for women and men, respectively. Estimates are the coefficients for the interaction specifying either exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during a partial period conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for systolic blood pressure and diastolic blood pressure additionally controlled for current height and hypertension

medication use. Models for HbA1c, fasting blood glucose, and post-challenge glucose additionally controlled for diabetes medication use. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.

2. Non-HDL-c defined as LDL-c + IDL + VLDL.

Abbreviations: CI, confidence interval; HbA1c, glycated hemoglobin; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; SES, socioeconomic status.

Supplemental Table 8. Multivariate generalized linear difference-in-difference regression models to predict cardio-metabolic risk factors in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y or exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=1139) [1].

	Pooled					
	Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***
BMI, kg/m^2						
Model 1	1·16	-0·25, 2·57	0·1	-0·17	-1·58, 1·24	0·8
Model 2	1·16	-0·24, 2·57	0·1	-0·23	-1·65, 1·18	0·7
Model 3	1·16	-0·22, 2·55	0·1	-0·29	-1·68, 1·10	0·6
Waist circumference, cm						
Model 1	2·99	-0·37, 6·35	0·08	0·89	-2·46, 4·23	0·6
Model 2	3·25	-0·11, 6·61	0·05	0·89	-2·45, 4·22	0·6
Model 3	3·21	-0·12, 6·54	0·05	0·77[†]	-2·54, 4·08	0·6
Waist-height ratio						
Model 1	0·02	-0·004, 0·04	0·1	0·003	-0·02, 0·02	0·7
Model 2	0·02	-0·005, 0·04	0·1	0·002	-0·02, 0·02	0·8
Model 3	0·02	-0·005, 0·04	0·1	0·001	-0·02, 0·02	0·9
Body fat, %						
Model 1	1·79	0·06, 3·53	0·04	0·33	-1·52, 2·18	0·7
Model 2	1·85	0·11, 3·58	0·03	0·25	-1·59, 2·09	0·7
Model 3	1·84	0·13, 3·54	0·03	0·22	-1·58, 2·03	0·8
Triglycerides, mg/dL						
Model 1	14·32	-23·25, 51·89	0·4	10·67	-25·41, 46·73	0·5
Model 2	16·64	-20·61, 53·90	0·3	14·00	-22·37, 50·38	0·4
Model 3	16·28	-20·77, 53·33	0·3	14·62	-22·10, 51·35	0·4
Model 4	9·73	-26·10, 45·56	0·5	15·68	-20·78, 52·14	0·3
Total cholesterol, mg/dL						
Model 1	10·69	-0·27, 21·65	0·05	3·38	-7·52, 14·28	0·5
Model 2	12·32	1·40, 23·24	0·02	4·47	-6·40, 15·33	0·4
Model 3	12·52	1·81, 22·24	0·02	4·21	-6·44, 14·87	0·4
Model 4	12·11	1·42, 22·80	0·02	4·26	-6·43, 14·95	0·4
HDL-c, mg/dL						
Model 1	-1·20	-4·24, 1·84	0·4	0·14	-3·28, 3·57	0·9
Model 2	-1·13	-4·22, 1·96	0·4	0·13	-3·30, 3·56	0·9
Model 3	-1·15	-4·21, 1·91	0·4	-0·02	-3·42, 3·38	0·9
Model 4	-0·35	-3·25, 2·55	0·8	-0·07	-3·38, 3·22	0·9
Non-HDL-c[2], mg/dL						
Model 1	11·89	1·24, 22·53	0·02	3·24	-7·46, 13·93	0·5
Model 2	13·45	2·86, 24·03	0·01	4·33	-6·31, 14·98	0·4
Model 3	13·67	3·28, 24·06	0·009	4·23	-6·25, 14·72	0·4
Model 4	12·45	2·18, 22·73	0·01	4·34	-6·13, 14·81	0·4
HbA1c, %						
Model 1	-0·18	-0·60, 0·24	0·4	-0·19	-0·63, 0·24	0·3
Model 2	-0·18	-0·60, 0·24	0·4	-0·17	-0·61, 0·27	0·4
Model 3	-0·18	-0·60, 0·24	0·4	-0·17	-0·61, 0·27	0·4
Model 4	-0·21	-0·63, 0·20	0·3	-0· 91	-0·63, 0·25	0·3
Fasting glucose, mg/dL						
Model 1	-3·57	-15·00, 7·87	0·5	-3·06	-15·20, 9·09	0·6
Model 2	-3·67	-15·14, 7·80	0·5	-2·31	-14·49, 9·87	0·7
Model 3	-3·67	-15·12, 7·78	0·5	-2·39	-14·57, 9·79	0·7
Model 4	-4·53	-15·81, 6·75	0·4	-3·00	-15·08, 9·08	0·6
2-h post-challenge glucose, mg/dL						
Model 1	-5·74	-13·58, 2·10	0·1	-1·87	-9·54, 5·80	0·6
Model 2	-4·85	-12·74, 3·04	0·2	-0·90	-8·68, 6·89	0·8
Model 3	-5·09	-12·94, 2·76	0·2	-0·53	-8·31, 7·24	0·8
Model 4	-6·27	-13·97, 1·42	0·1	-0·85	-8·50, 6·79	0·8
Systolic blood pressure, mmHg						

	Model 1	2·43	-2·07, 6·94	0·2	-0·72	-5·35, 3·92	0·7
	Model 2	2·56	-1·99, 7·12	0·2	-0·51	-5·20, 4·18	0·8
	Model 3	2·56	-1·97, 7·09	0·2	-0·64	-5·33, 4·04	0·7
	Model 4	1·76	-2·63, 6· 51	0·4	-0·41	-4·98, 4·16	0·8
Diastolic blood pressure, mmHg							
	Model 1	2·19	-0·65, 5·02	0·1	0·73	-2·11, 3·58	0·6
	Model 2	2·45	-0·39, 5·29	0·09	0·85	-1·99, 3·70	0·5
	Model 3	2·57	-0·02, 5·35	0·06	0·67	-2·12, 3·46	0·6
	Model 4	1·95	-0·71, 4·60	0·1	0·80	-1·91, 3·51	0·5

1. Sample sizes were 1137 (BMI, waist circumference, waist-height ratio), 1097 (body fat percentage), 1105 (triglycerides, total cholesterol, HDL-c, non-HDL-c, fasting blood glucose), 1107 (hbA1c), 1023 (2-h post-challenge glucose), and 1138 (systolic and diastolic blood pressure). Estimates are the coefficients for the interaction specifying either exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during the partial period conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), sex, and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for systolic blood pressure and diastolic blood pressure additionally controlled for current height and hypertension medication use. Models for HbA1c, fasting blood glucose, and post-challenge glucose additionally controlled for diabetes medication use. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level. † $P < 0{\cdot}10$ for the interaction of sex and exposure to *Atole* for partial period from conception to age 2 y.
2. Non-HDL-c defined as LDL-c + IDL + VLDL.

Abbreviations: CI, confidence interval; HbA1c, glycated hemoglobin; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; SES, socioeconomic status.

Supplemental Table 9. Multivariate logistic difference-in-difference regression models to predict obesity, diabetes, hypertension, and metabolic syndrome in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y or exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

	Women						Men					
	Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Obesity[3]												
Model 1	1·91 (0·90, 4·07)	0·09	0·56	1·31 (0·70, 2·47)	0·3	0·56	1·12 (0·33, 3·74)	0·8	0·64	1·18 (0·55, 2·55)	0·6	0·64
Model 2	1·91 (0·89, 4·08)	0·09	0·59	1·34 (0·70, 2·56)	0·3	0·59	1·07 (0·31, 3·69)	0·9	0·68	1·26 (0·57, 3·69)	0·5	0·68
Model 3	1·95 (0·91, 4·20)	0·08	0·61	1·39 (0·71, 2·70)	0·3	0·61	1·20 (0·32, 4·48)	0·7	0·73	1·78 (0·79, 4·01)	0·1	0·73
Diabetes[4]												
Model 1	0·42 (0·15, 1·16)	0·09	0·64	2·30 (0·95, 5·61)	0·06	0·64	0·11 (0·02, 0·73)	0·02	0·69	1·51 (0·48, 4·75)	0·4	0·69
Model 2	0·41 (0·14, 1·18)	0·09	0·66	2·28 (0·93, 5·61)	0·07	0·66	0·12 (0·02, 0·78)	0·02	0·75	1·04 (0·35, 3·10)	0·9	0·75
Model 3	-[6]	-	-	-	-	-	0·11 (0·01, 0·76)	0·02	0·78	1·34 (0·41, 4·39)	0·6	0·78
Model 4	-	-	-	-	-	-	0·12 (0·02, 0·85)	0·03	0·80	1·43 (0·45, 4·58)	0·5	0·80
Hypertension[5]												
Model 1	1·03 (0·40, 2·67)	0·9	0·65	0·93 (0·42, 2·07)	0·8	0·65	1·47 (0·26, 8·31)	0·6	0·67	2·64 (0·76, 9·20)	0·1	0·67
Model 2	1·09 (0·41, 2·89)	0·8	0·66	0·84 (0·38, 1·87)	0·6	0·66	1·88 (0·30, 11·87)	0·5	0·73	2·78 (0·75, 10·30)	0·1	0·73
Model 3	1·12 (0·41, 3·00)	0·8	0·70	0·72 (0·32, 1·62)	0·4	0·70	2·19 (0·30, 15·73)	0·4	0·76	3·11 (0·77, 12·55)	0·1	0·76
Model 4	1·08 (0·40, 2·91)	0·8	0·73	0·69 (0·30, 1·58)	0·3	0·73	1·95 (0·21, 18·18)	0·5	0·69	3·74 (0·81, 17·28)	0·09	0·69
Metabolic syndrome[6]												
Model 1	1·26 (0·51, 3·13)	0·6	0·59	1·29 (0·60, 2·77)	0·5	0·59	0·60 (0·23, 1·55)	0·2	0·60	1·91 (0·93, 3·92)	0·07	0·60
Model 2	1·19 (0·47, 2·98)	0·7	0·61	1·29 (0·59, 2·82)	0·5	0·61	0·68 (0·26, 1·79)	0·4	0·64	1·77 (0·86, 3·68)	0·1	0·64
Model 3	1·25 (0·49, 3·19)	0·4	0·65	1·28 (0·57, 2·88)	0·6	0·65	0·71 (0·26, 1·92)	0·5	0·68	2·39 (1·11, 5·14)	0·02	0·68
Model 4	1·02 (0·40, 2·60)	0·9	0·77	1·27 (0·55, 2·96)	0·5	0·77	0·39 (0·11, 1·34)	0·1	0·86	2·69 (1·12, 6·45)	0·02	0·86

1. Sample sizes were 670 and 435 (diabetes) 683 and 455 (hypertension), and 669 and 435 (metabolic syndrome) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction term specifying either exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during the partial period conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for hypertension and metabolic syndrome additionally controlled for current height. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Because results from Models 1, 2 and 3 were statistically indistinguishable, we present the findings from Models 3 and 4. Confidence intervals account for clustering at the mother level.
2. C statistic values >0.70 indicate good model fit.

3. Obesity defined as BMI ≥ 30 kg/m^2.
4. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.
6. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria as presence of ≥3 of: central obesity (waist circumference >99 cm for women and >102 cm for men); fasting plasma glucose ≥100 mg/dL or diabetes medication use; triglycerides ≥150 mg/dL or lipid medication use; HDL-c <50 mg/dL (women) and <40 mg/dL (men); and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or hypertension medication use.
7. Maximum likelihood estimation resulted in a non-positive definite solution.

Abbreviations: ADA, American Diabetes Association; CI, confidence interval; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 10. Multivariate logistic difference-in-difference regression models to predict obesity diabetes, hypertension, and metabolic syndrome in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y or exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=1139) [1].

		Pooled					
		Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor		Odds Ratio (95% CI)	*P*	C^2	Odds Ratio (95% CI)	*P*	C^2
Obesity[3]							
	Model 1	1·80 (0·96, 3·38)	0·06	0·65	1·22 (0·73, 2·02)	0·4	0·65
	Model 2	1·85 (0·98, 3·48)	0·05	0·66	1·27 (0·76, 2·13)	0·3	0·66
	Model 3	1·87 (0·99, 3·55)	0·05	0·68	1·37 (0·81, 2·32)	0·2	0·68
Diabetes[4]							
	Model 1	0·34 (0·15, 0·80)	0·01	0·66	1·87 (0·90, 3·90)	0·09	0·66
	Model 2	0·35 (0·15, 0·84)	0·01	0·67	1·80 (0·86, 3·81)	0·1	0·67
	Model 3	0·36 (0·15, 0·86)	0·02	0·68	1·75 (0·83, 3·71)	0·1	0·68
	Model 4	0·36 (0·15, 0·86)	0·02	0·70	1·79 (0·84, 3·82)	0·1	0·70
Hypertension[5]							
	Model 1	1·05 (0·46, 2·43)	0·8	0·69	1·24 (0·64, 2·40)	0·5	0·69
	Model 2	1·12 (0·47, 2·63)	0·8	0·70	1·15 (0·59, 2·24)	0·6	0·70
	Model 3	1·17 (0·49, 2·77)	0·7	0·71	1·15 (0·59, 2·24)	0·6	0·71
	Model 4	1·10 (0·46, 2·65)	0·8	0·76	1·15 (0·58, 2·30)	0·6	0·76
Metabolic syndrome[6]							
	Model 1	0·93 (0·49, 1·78)	0·8	0·74	1·54 (0·89, 2·66)	0·1	0·74
	Model 2	0·94 (0·49, 1·82)	0·8	0·74	1·55 (0·89, 2·69)	0·1	0·74
	Model 3	0·94 (0·48, 1·81)	0·8	0·75	1·68 (0·95, 2·99)	0·07	0·75
	Model 4	0·64 (0·32, 1·29)	0·2	0·86	1·83* (1·04, 3·22)	0·03	0·86

1. Sample sizes were 1105 (diabetes) 1138 (hypertension), and 1104 (metabolic syndrome). Estimates are odds ratios and 95% confidence intervals for the interaction term specifying either exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during the partial period conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), sex, and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for hypertension and metabolic syndrome additionally controlled for current height. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.
2. C statistic values >0.70 indicate good model fit.
3. Obesity defined as BMI ≥ 30 kg/m^2.
4. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.
6. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria as presence of ≥3 of: central obesity (waist circumference >88 cm for women and >102 cm for men); fasting plasma glucose ≥110 mg/dL or diabetes medication use; triglycerides ≥150 mg/dL or lipid medication use; HDL-c <50

mg/dL (women) and <40 mg/dL (men); and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or hypertension medication use.

Abbreviations: ADA, American Diabetes Association; CI, confidence interval; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 11. Multivariate logistic difference-in-difference regression models to predict components of metabolic syndrome in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y, exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

	Women						Men					
	Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Central obesity[3]												
Model 1	2·46 (0·70, 8·62)	0·1	0·61	0·91 (0·35, 2·34)	0·8	0·61	1·42 (0·45, 4·47)	0·5	0·67	1·68 (0·79, 3·56)	0·1	0·67
Model 2	2·33 (0·65, 8·34)	0·1	0·64	0·81 (0·30, 2·21)	0·6	0·64	1·46 (0·44, 4·82)	0·5	0·71	1·56 (0·73, 3·32)	0·2	0·71
Model 3	2·33 (0·64, 8·45)	0·1	0·69	0·83 (0·30, 2·28)	0·7	0·69	1·51 (0·44, 5·17)	0·5	0·74	2·14 (0·98, 4·66)	0·05	0·74
Elevated fasting plasma glucose or medication use[4]												
Model 1	1·06 (0·50, 2·24)	0·8	0·64	2·04 (1·04, 4·02)	0·03	0·64	1·00 (0·40, 2·53)	0·9	0·59	1·12 (0·53, 2·34)	0·7	0·59
Model 2	1·03 (0·48, 2·21)	0·9	0·67	1·93 (0·97, 3·82)	0·06	0·67	0·97 (0·38, 2·51)	0·9	0·61	1·09 (0·52, 2·30)	0·8	0·61
Model 3	1·03 (0·48, 2·22)	0·9	0·68	2·04 (1·02, 4·10)	0·04	0·68	0·97 (0·37, 2·58)	0·9	0·64	1·33 (0·62, 2·87)	0·4	0·64
Model 4	0·95 (0·44, 2·06)	0·9	0·70	2·08 (1·02, 4·25)	0·04	0·70	0·90 (0·33, 2·42)	0·8	0·69	1·36 (0·63, 2·94)	0·4	0·69
Elevated triglycerides or medication use[5]												
Model 1	1·22 (0·50, 2·97)	0·6	0·54	0·90 (0·43, 1·87)	0·7	0·54	2·24 (0·79, 6·37)	0·1	0·58	0·56 (0·23, 1·35)	0·1	0·58
Model 2	1·22 (0·49, 3·01)	0·6	0·57	0·88 (0·42, 1·84)	0·7	0·57	-[7]	-	-	-	-	-
Model 3	1·22 (0·49, 3·03)	0·6	0·60	0·90 (0·42, 1·92)	0·7	0·60	-	-	-	-	-	-
Model 4	1·10 (0·44, 2·74)	0·8	0·65	0·91 (0·42, 1·98)	0·8	0·65	-	-	-	-	-	-
Low HDL-c[6]												
Model 1	1·17 (0·38, 3·57)	0·7	0·58	1·45 (0·56, 3·77)	0·4	0·58	1·33 (0·46, 3·82)	0·6	0·63	0·90 (0·35, 2·33)	0·8	0·63
Model 2	-[7]	-		-	-		1·64 (0·55, 4·93)	0·3	0·67	0·67 (0·24, 1·86)	0·4	0·67
Model 3	-	-		-	-		1·66 (0·55, 4·95)	0·3	0·68	0·66 (0·23, 1·87)	0·4	0·68
Model 4	-	-		-	-		1·44 (0·46, 4·49)	0·5	0·77	0·59 (0·21, 1·71)	0·3	0·77
Elevated blood pressure or medication use[7]												
Model 1	1·82 (0·83, 3·97)	0·1	0·61	0·71 (0·37, 1·35)	0·2	0·61	0·51 (0·19, 1·35)	0·1	0·61	1·96 (0·89, 4·29)	0·09	0·61
Model 2	1·80 (0·82, 3·96)	0·1	0·63	0·67 (0·35, 1·30)	0·2	0·63	0·52 (0·19, 1·43)	0·2	0·63	1·97 (0·89, 4·40)	0·09	0·63
Model 3	1·90 (0·85, 4·24)	0·1	0·66	0·69 (0·35, 1·35)	0·2	0·66	0·54 (0·20, 1·49)	0·2	0·65	2·28 (1·00, 5·16)	0·04	0·65
Model 4	1·77 (0·73, 3·94)	0·1	0·69	0·67 (0·33, 1·33)	0·2	0·69	-[7]	-	-	-	-	-

1. Sample sizes were 670 and 435 (diabetes) 683 and 455 (hypertension), and 669 and 435 (metabolic syndrome) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction terms either specifying exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during the partial period conception to age 2 y controlling for: fixed effects of birth village and treatment

assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for elevated blood pressure additionally controlled for current height. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.

2. C statistic values >0.70 indicate good model fit.
3. Central obesity defined as waist circumference >88 cm for women and >102 cm for men.
4. Elevated fasting plasma glucose (≥100 mg/dL) or diabetes medication use.
5. Elevated triglycerides defined as ≥150 mg/dL or lipid medication use.
6. Low HDL-c defined as HDL-c <50 mg/dL for women and <40 mg/dL for men.
7. Elevated blood pressure defined as systolic blood pressure ≥130 mmHg and/or diastolic blood pressure ≥85 mmHg and/or hypertension medication use.
8. Maximum likelihood estimation resulted in a non-positive definite solution..

Abbreviations: CI, confidence interval; HDL-c, high density lipoprotein cholesterol; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 12. Multivariate logistic difference-in-difference regression models to predict components of metabolic syndrome in 2015-17 based on exposure to Atole (exposure during the full period from conception to age 2 y, exposure during the partial period from conception to age 2 y versus no exposure during the period from conception to age 2 y) in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=1139) [1].

	Pooled					
	Difference-in-difference estimates for exposure to Atole for full period from conception to age 2 y vs. no exposure during the period			Difference-in-difference estimates for exposure to Atole for partial period from conception to age 2 y vs. no exposure during the period		
Cardio-metabolic risk factor	**Odds Ratio (95% CI)**	***P***	**C[2]**	**Odds Ratio (95% CI)**	***P***	**C[2]**
Central obesity[3]						
Model 1	1·86 (0·81, 4·26)	0·1	0·87	1·40 (0·68, 2·89)	0·3	0·87
Model 2	1·89 (0·81, 4·39)	0·1	0·88	1·42 (0·68, 2·95)	0·3	0·88
Model 3	1·84 (0·79, 4·25)	0·1	0·89	1·70 (0·81, 3·58)	0·1	0·89
Elevated fasting plasma glucose[4]						
Model 1	1·04 (0·58, 1·85)	0·9	0·62	1·59 (0·99, 2·58)	0·05	0·62
Model 2	1·00 (0·56, 1·81)	0·9	0·64	1·55 (0·95, 2·53)	0·07	0·64
Model 3	1·00 (0·55, 1·81)	0·9	0·65	1·70 (1·03, 2·79)	0·03	0·65
Model 4	0·91 (0·50, 1·66)	0·7	0·68	1·74 (1·05, 2·87)	0·03	0·68
Elevated triglycerides[5]						
Model 1	1·64 (0·83, 3·24)	0·1	0·55	0·69 (0·40, 1·22)	0·2	0·55
Model 2	1·74 (0·87, 3·48)	0·1	0·58	0·68 (0·39, 1·19)	0·1	0·58
Model 3	1·73 (0·86, 3·46)	0·1	0·60	0·70 (0·39, 1·24)	0·2	0·60
Model 4	1·54 (0·77, 3·10)	0·2	0·67	0·69 (0·38, 1·23)	0·2	0·67
Low HDL-c[6]						
Model 1	1·30 (0·60, 2·81)	0·5	0·65	1·05 (0·53, 2·07)	0·8	0·65
Model 2	1·32 (0·60, 2·88)	0·4	0·66	1·02 (0·51, 2·06)	0·9	0·66
Model 3	1·30 (0·59, 2·87)	0·5	0·68	0·94 (0·46, 1·92)	0·8	0·68
Model 4	1·08 (0·48, 2·39)	0·8	0·75	0·93 (0·45, 1·89)	0·8	0·75
Elevated blood pressure[7]						
Model 1	1·08[†] (0·59, 1·98)	0·7	0·59	1·08[†] (0·66, 1·77)	0·7	0·59
Model 2	1·09[†] (0·59, 2·01)	0·7	0·61	1·05[†] (0·63, 1·72)	0·8	0·61
Model 3	1·12[†] (0·61, 2·07)	0·7	0·63	1·14[†] (0·69, 1·89)	0·6	0·63
Model 4	1·03[†] (0·54, 1·94)	0·9	0·69	1·14[†] (0·67, 1·91)	0·6	0·69

1. Sample sizes were 1105 (diabetes) 1138 (hypertension), and 1104 (metabolic syndrome). Estimates are odds ratios and 95% confidence intervals for the interaction terms either specifying exposure to *Atole* during the full period from conception to age 2 y or exposure to *Atole* during the partial period conception to age 2 y controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed for full period vs no exposure during the period; exposed for partial period vs no exposure during the period), sex, and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for elevated blood pressure additionally controlled for current height. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level. [†]$P < 0{\cdot}10$ for the interaction of sex and exposure to *Atole* for partial period from conception to age 2 y.
2. C statistic values >0.70 indicate good model fit.
3. Central obesity defined as waist circumference >88 for women and >102 cm for men.
4. Elevated fasting plasma glucose (≥100 mg/dL) or diabetes medication use.
5. Elevated triglycerides defined as ≥150 mg/dL or lipid medication use.
6. Low HDL-c defined as HDL-c <50 mg/dL for women and <40 mg/dL for men.
7. Elevated blood pressure defined as systolic blood pressure ≥130 mmHg and/or diastolic blood pressure ≥85 mmHg and/or hypertension medication use.

Abbreviations: CI, confidence interval; HDL-c, high density lipoprotein cholesterol; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 13. Multivariate generalized linear difference-in-difference regression models to predict cardio-metabolic risk factors in 2015-17 based on exposure to Atole from 36 to 72 months in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

		Women Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Men Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Pooled Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other		
Cardio-metabolic risk factor		**β**	**95% CI**	***P***	**β**	**95% CI**	***P***	**β**	**95% CI**	***P***
BMI, kg/m^2										
	Model 1	0·73	-0·99, 2·44	0·4	-0·66	-2·27, 0·94	0·4	0·23	-0·98, 1·45	0·7
	Model 2	0·73	-0·98, 2·44	0·4	-0·55	-2·15, 1·05	0·5	0·28	-0·94, 1·50	0·6
	Model 3	0·86	-0·83, 2·56	0·3	-0·66	-2·19, 0·85	0·3	0·34	-0·85, 1·54	0·5
Waist circumference, cm										
	Model 1	2·30	-1·73, 6·33	0·2	-2·70	-6·73, 1·31	0·1	0·44[†]	-2·50, 3·38	0·7
	Model 2	2·59	-1·39, 6·58	0·2	-2·31	-6·37, 1·75	0·2	0·79[†]	-2·14, 3·73	0·5
	Model 3	2·71	-1·23, 6·65	0·1	-2·54	-6·44, 1·35	0·2	0·90[†]	-2·00, 3·81	0·5
Waist-height ratio										
	Model 1	0·02	-0·01, 0·04	0·2	-0·008	-0·03, 0·01	0·4	0·007	-0·01, 0·02	0·4
	Model 2	0·01	-0·01, 0·04	0·2	-0·009	-0·03, 0·01	0·4	0·007	-0·01, 0·02	0·4
	Model 3	0·01	-0·01, 0·04	0·2	-0·01	-0·03, 0·01	0·4	0·007	-0·01, 0·02	0·4
Body fat, %										
	Model 1	0·49	-1·42, 2·40	0·6	-0·84	-3·58, 1·90	0·5	0·04	-1·56, 1·64	0·9
	Model 2	0·50	-1·43, 2·43	0·6	-0·76	-3·47, 1·95	0·5	0·08	-1·52, 1·68	0·9
	Model 3	0·73	-1·15, 2·62	0·4	-0·83	-3·42, 1·77	0·5	0·22	-1·34, 1·78	0·7
Triglycerides, mg/dL										
	Model 1	4·50	-34·34, 43·34	0·8	8·53	-49·38, 66·44	0·7	7·51	-25·02, 40·04	0·6
	Model 2	5·55	-33·18, 44·28	0·7	11·12	-47·05, 69·29	0·7	7·73	-24·83, 40·29	0·6
	Model 3	3·83	-35·08, 42·74	0·8	12·31	-45·62, 70·25	0·6	8·45	-24·34, 41·24	0·6
	Model 4	3·28	-35·39, 41·96	0·8	13·31	-40·64, 67·25	0·6	6·37	-25·59, 38·34	0·6
Total cholesterol, mg/dL										
	Model 1	-1·27	-14·54, 11·99	0·8	14·37	-1·07, 29·81	0·06	4·40	-5·65, 14·46	0·3
	Model 2	-0·02	-12·97, 12·92	0·9	13·94	-1·57, 29·45	0·07	5·07	-4·88, 15·02	0·3
	Model 3	1·90	-10·81, 14·61	0·7	13·02	-2·14, 28·19	0·09	5·88	-3·85, 15·61	0·2
	Model 4	1·86	-10·85, 14·57	0·7	13·26	-1·89, 28·41	0·08	5·72	-4·01, 15·46	0·2
HDL-c, mg/dL										
	Model 1	-0·71	-4·85, 3·42	0·7	4·95	0·71, 9·19	0·02	1·40[†]	-1·61, 4·41	0·3
	Model 2	-0·41	-4·53, 3·70	0·8	4·10	-0·09· 8·29	0·05	1·47[†]	-1·55, 4·49	0·3
	Model 3	0·02	-3·94, 3·99	0·9	3·82	-0·31, 7·96	0·07	1·41[†]	-1·57, 4·39	0·3
	Model 4	0·30	-3·58, 4·17	0·8	3·86	-0·05, 7·78	0·05	1·74	-1·14, 4·62	0·2
Non-HDL-c[2], mg/dL										
	Model 1	-0·56	-13·07, 11·95	0·9	9·42	-5·69, 24·54	0·2	3·01	-6·61, 12·63	0·5
	Model 2	0·39	-11·91, 12·69	0·9	9·84	-5·31, 25·00	0·2	3·60	-5·94, 13·14	0·4
	Model 3	1·87	-10·32, 14·07	0·7	9·20	-5·53, 23·94	0·2	4·46	-4·95, 13·88	0·3
	Model 4	1·56	-10·63, 13·75	0·8	9·40	-5·09, 23·89	0·2	3·98	-5·39, 13·35	0·4
HbA1c, %										
	Model 1	0·31	-0·21, 0·82	0·2	-0·06	-0·64, 0·52	0·8	0·15	-0·24, 0·54	0·4
	Model 2	0·28	-0·23, 0·80	0·2	0·02	-0·57, 0·61	0·9	0·16	-0·22, 0·55	0·4
	Model 3	0·26	-0·24, 0·77	0·3	-0·0007	-0·58, 0·57	0·9	0·16	-0·23, 0·55	0·4
	Model 4	0·24	-0·26, 0·75	0·3	-0·02	-0·59, 0·55	0·9	0·13	-0·25, 0·51	0·4

Fasting glucose, mg/dL									
Model 1	12·31	-2·41, 27·02	0·1	0·14	-15·48, 15·75	0·9	7·08	-3·96, 18·13	0·2
Model 2	11·93	-2·75, 26·61	0·1	1·61	-14·09, 17·30	0·8	7·26	-3·72, 18·25	0·1
Model 3	11·20	-3·41, 25·82	0·1	1·14	-14·27, 16·55	0·8	7·14	-3·86, 18·15	0·2
Model 4	10·80	-3·75, 25·36	0·1	0·07	-15·06, 15·21	0·9	6·28	-4·61, 17·18	0·2
2-h post-challenge glucose, mg/dL									
Model 1	8·48	-0·42, 17·39	0·06	0·62	-8·74, 9·99	0·8	5·07	-1·62, 11·77	0·1
Model 2	8·78	-0·17, 17·74	0·05	1·82	-7·73, 11·37	0·7	5·57	-1·19, 12·32	0·1
Model 3	9·02	0·03, 18·02	0·05	2·06	-7·34, 11·47	0·6	6·01	-0·77, 12·79	0·08
Model 4	8·64	-0·19, 17·47	0·05	1·45	-7·50, 10·40	0·7	5·53	-1·04, 12·10	0·09
Systolic blood pressure, mmHg									
Model 1	-0·78	-7·00, 5·44	0·8	-3·85	-9·64, 1·93	0·1	-1·92	-6·35, 2·50	0·3
Model 2	-0·70	-6·92, 5·52	0·8	-3·53	-9·34, 2·28	0·2	-1·64	-6·06, 2·78	0·4
Model 3	-0·22	-6·40, 5·96	0·9	-3·70	-9·45, 2·05	0·2	-1·52	-5·92, 2·87	0·4
Model 4	-0·52	-6·64, 5·59	0·8	-2·86	-8·30, 2·58	0·3	-1·68	-6·00, 2·63	0·4
Diastolic blood pressure, mmHg									
Model 1	-0·36	-4·01, 3·30	0·8	-1·68	-5·38, 2·02	0·3	-0·90	-3·57, 1·77	0·5
Model 2	-0·45	-4·10, 3·19	0·8	-1·43	-5·17, 2·31	0·4	-0·77	-3·43, 1·89	0·5
Model 3	-0·10	-3·67, 3·47	0·9	-1·72	-5·36, 1·91	0·3	-0·67	-3·27, 1·93	0·6
Model 4	-0·36	-3·88, 3·16	0·8	-1·05	-4·47, 2·36	0·5	-0·80	-3·34, 1·74	0·5

1. Sample sizes were 683 and 454 (BMI, waist circumference, waist-height ratio), 662 and 435 (body fat percentage), 670 and 435 (triglycerides, total cholesterol, HDL-c, non-HDL-c, fasting blood glucose), 672 and 435 (hbA1c), 608 and 415 (2-h post-challenge glucose), and 683 and 455 (systolic and diastolic blood pressure) for women and men, respectively. Estimates are the coefficients for the interaction term specifying exposure to *Atole* from 36 – 72 months controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed from 36 – 72 months vs other), birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for systolic blood pressure and diastolic blood pressure additionally controlled for current height and hypertension medication use. Models for HbA1c, fasting blood glucose, and post-challenge glucose additionally controlled for diabetes medication use. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level. † $P < 0{\cdot}10$ for the interaction of sex and exposure to *Atole* from 36 – 72 months.
2. Non-HDL-c defined as LDL-c + IDL + VLDL.

Abbreviations: CI, confidence interval; HbA1c, glycated hemoglobin; IDL, intermediate density lipoprotein; INCAP, Institute of Nutrition for Central America and Panama; SES, socioeconomic status.

Supplemental Table 14. Multivariate binomial logistic difference-in-difference regression predicting obesity, diabetes, hypertension, and metabolic syndrome in 2015-17 based on Atole exposure from 36 – 72 months in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

		Women Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Men Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Pooled Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other		
Cardio-metabolic risk factor		**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Obesity[3]										
	Model 1	0·99 (0·51, 1·94)	0·9	0·55	1·04 (0·35, 3·08)	0·9	0·62	1·05 (0·60, 1·83)	0·8	0·54
	Model 2	0·99 (0·50, 1·96)	0·9	0·57	1·11 (0·37, 3·39)	0·8	0·66	1·07 (0·61, 1·89)	0·8	0·65
	Model 3	1·04 (0·52, 2·08)	0·9	0·60	1·11 (0·35, 3·52)	0·8	0·71	1·10 (0·62, 1·94)	0·7	0·67
Diabetes[4]										
	Model 1	1·38 (0·57, 3·35)	0·4	0·62	2·49 (0·58, 10·65)	0·1	0·66	1·52 (0·73, 3·17)	0·2	0·61
	Model 2	1·44 (0·58, 3·57)	0·4	0·64	3·43 (0·76, 15·41)	0·1	0·73	1·61 (0·76, 3·40)	0·2	0·66
	Model 3	-[6]	-	-	3·03 (0·62, 14·71)	0·1	0·77	1·67 (0·78, 3·55)	0·1	0·67
	Model 4	-	-	-	3·25 (0·68, 15·44)	0·1	0·79	1·63 (0·76, 3·50)	0·2	0·76
Hypertension[5]										
	Model 1	0·86 (0·37, 1·97)	0·7	0·64	0·77 (0·17, 3·49)	0·7	0·66	0·81 (0·39, 1·67	0·5	0·65
	Model 2	0·91 (0·39, 2·12)	0·8	0·66	0·85 (0·18, 3·96)	0·8	0·71	0·85 (0·41, 1·78)	0·6	0·70
	Model 3	1·03 (0·44, 2·42)	0·9	0·69	0·84 (0·17, 4·14)	0·8	0·75	0·90 (0·43, 1·89)	0·7	0·71
	Model 4	0·95 (0·39, 2·27)	0·9	0·73	0·79 (0·15, 4·24)	0·7	0·82	0·82 (0·38, 1·75)	0·6	0·76
Metabolic syndrome[6]										
	Model 1	0·67 (0·28, 1·57)	0·3	0·69	0·28 (0·12, 0·69)	0·005	0·61	0·44 (0·24, 0·82)	0·01	0·68
	Model 2	0·66 (0·28, 1·56)	0·3	0·61	0·30 (0·12, 0·74)	0·008	0·65	0·46 (0·24, 0·85)	0·01	0·74
	Model 3	0·71 (0·29, 1·70)	0·4	0·65	0·27 (0·11, 0·67)	0·004	0·68	0·45 (0·24, 0·85)	0·01	0·75
	Model 4	0·66 (0·26, 1·66)	0·3	0·77	0·19 (0·06, 0·55)	0·002	0·87	0·39 (0·20, 0·77)	0·006	0·86

1. Sample sizes were 670 and 435 (diabetes) 683 and 455 (hypertension), and 669 and 435 (metabolic syndrome) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction term specifying exposure to *Atole* from 36 – 72 months controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed from 36 – 72 months vs other), birth year, maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75, SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for hypertension and metabolic syndrome additionally controlled for current height. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level.
2. C statistic values >0.70 indicate good model fit.
3. Obesity defined as BMI ≥30 kg/m^2.
4. Diabetes defined according to the American Diabetes Association diagnostic criteria: fasting plasma glucose ≥126 mg/dL, and/or post-challenge glucose ≥200 mg/dL, and/or diabetes medication use.
5. Hypertension defined according to the Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or hypertension medication use.

6. Metabolic syndrome defined according to 2005 NCEP ATP III diagnostic criteria as presence of ≥3 of: central obesity (waist circumference >88 cm for women and >102 cm for men); fasting plasma glucose ≥100 mg/dL or diabetes medication use; triglycerides ≥150 mg/dL or lipid medication use; HDL-c <50 mg/dL (women) and <40 mg/dL (men); and blood pressure ≥130 mmHg systolic, ≥85 mmHg diastolic and/or hypertension medication use.
7. Maximum likelihood estimation resulted in a non-positive definite solution..

Abbreviations: ADA, American Diabetes Association; CI, confidence interval; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.

Supplemental Table 15. Multivariate binomial logistic difference-in-difference regression models predicting metabolic syndrome components in 2015-17 based on Atole exposure from 36 – 72 months in the INCAP Nutrition Supplementation Trial Longitudinal Cohort (n=684 women, n=455 men) [1].

	Women Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Men Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other			Pooled Difference-in-difference estimates for exposure to Atole from 36 - 72 months vs. other		
Cardio-metabolic risk factor	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**	**Odds Ratio (95% CI)**	***P***	**C^2**
Central obesity[3]									
Model 1	0·85 (0·29, 2·49)	0·7	0·58	0·60 (0·20, 1·75)	0·3	0·66	0·71 (0·32, 1·52)	0·3	0·52
Model 2	0·89 (0·30, 2·65)	0·8	0·63	0·67 (0·22, 2·02)	0·4	0·70	0·77 (0·36, 1·66)	0·5	0·88
Model 3	1·00 (0·34, 2·92)	0·9	0·68	0·66 (0·21, 2·06)	0·4	0·73	0·76 (0·35, 1·64)	0·4	0·89
Elevated fasting plasma glucose or medication use[4]									
Model 1	1·20 (0·61, 2·36)	0·5	0·61	0·99 (0·42, 2·32)	0·9	0·59	1·09 (0·64, 1·84)	0·7	0·60
Model 2	1·21 (0·60, 2·42)	0·5	0·65	0·99 (0·42, 2·35)	0·9	0·60	1·10 (0·65, 1·88)	0·7	0·63
Model 3	1·21 (0·60, 2·44)	0·5	0·67	0·99 (0·40, 2·29)	0·9	0·64	1·09 (0·64, 1·87)	0·7	0·64
Model 4	1·15 (0·56, 3·34)	0·7	0·69	0·92 (0·37, 2·30)	0·8	0·69	1·03 (0·59, 1·79)	0·9	0·67
Elevated triglycerides or medication use[5]									
Model 1	0·99 (0·43, 2·28)	0·9	0·55	0·92 (0·36, 2·38)	0·8	0·54	0·98 (0·53, 1·83)	0·9	0·53
Model 2	1·00 (0·43, 2·29)	0·9	0·56	-[7]	-	-	0·98 (0·53, 1·83)	0·9	0·57
Model 3	1·04 (0·44, 2·43)	0·9	0·61	-	-	-	1·02 (0·54, 1·91)	0·9	0·59
Model 4	1·02 (0·43, 2·41)	0·9	0·65	-	-	-	0·99 (0·52, 1·89)	0·9	0·67
Low HDL-c[6]									
Model 1	0·82 (0·31, 2·20)	0·7	0·58	0·37 (0·13, 1·06)	0·06	0·63	0·58 (0·28, 1·20)	0·1	0·57
Model 2	-	-	-	0·40 (0·14, 1·17)	0·09	0·66	0·58 (0·28, 1·19)	0·1	0·67
Model 3	-	-	-	0·43 (0·15, 1·24)	0·1	0·68	0·59 (0·28, 1·23)	0·1	0·68
Model 4	-	-	-	0·41 (0·13, 1·32)	0·1	0·78	0·58 (0·27, 1·23)	0·1	0·75
Elevated blood pressure or medication use[7]									
Model 1	1·37 (0·68, 2·74)	0·3	0·61	0·54 (0·22, 1·33)	0·1	0·60	0·99 (0·58, 1·71)	0·9	0·59
Model 2	1·37 (0·68, 2·77)	0·3	0·63	0·56 (0·22, 1·41)	0·2	0·63	1·03 (0·60, 1·78)	0·9	0·61
Model 3	1·47 (0·71, 3·02)	0·2	0·66	0·54 (0·21, 1·37)	0·1	0·65	1·03[†] (0·59, 1·79)	0·9	0·63
Model 4	1·39 (0·67, 2·89)	0·3	0·69	0·60 (0·23, 1·58)	0·3	0·74	0·99 (0·56, 1·76)	0·9	0·69

1. Sample sizes were 683 and 454 (central obesity, metabolic syndrome), 670 and 435 (elevated fasting plasma glucose, triglycerides, HDL-c) and 683 and 455 (elevated blood pressure) for women and men, respectively. Estimates are odds ratios and 95% confidence intervals for the interaction term specifying exposure to *Atole* from 36 – 72 months controlling for: fixed effects of birth village and treatment assignment (*Atole* vs. *Fresco*), age at intervention (exposed from 36 – 72 months vs other) and birth year (Model 1); maternal height, age at offspring's birth, and completed grades of schooling, and SES in 1967-75 (Model 2); SES in 2015-7, completed grades of schooling, and current residence (Guatemala City vs other) (Model 3); and current BMI and waist-height ratio (Model 4). Models for elevated blood pressure additionally controlled for current height. Pooled models controlled for sex. For missing covariates, we imputed sex-specific medians for continuous variables and sex-specific modes for discrete variables. We included dummy variables, coded as 1 if the data was missing or 0 otherwise, to account for the uncertainty in the imputed covariates. Confidence intervals account for clustering at the mother level. [†] $P < 0{\cdot}10$ for sex and exposure to *Atole* from 36 – 72 months interaction.

2. C statistic values >0.70 indicate good model fit.
3. Central obesity defined as waist circumference >88 cm for women and >102 cm for men.
4. Elevated fasting plasma glucose (≥100 mg/dL) or diabetes medication use.
5. Elevated triglycerides defined as ≥150 mg/dL or lipid medication use.
6. Low HDL-c defined as HDL-c <50 mg/dL for women and <40 mg/dL for men.
7. Elevated blood pressure defined as systolic blood pressure ≥130 mmHg and/or diastolic blood pressure ≥85 mmHg and/or hypertension medication use.
8. Maximum likelihood estimation resulted in a non-positive definite solution.

Abbreviations: CI, confidence interval; HDL-c, high density lipoprotein cholesterol; INCAP, Institute of Nutrition for Central America and Panama; NCEP ATP III, National Cholesterol Education Program Adult Treatment Panel III; SES, socioeconomic status.