

## SUPPLEMENTAL MATERIAL

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**Table S1.** Feeding initiation, exclusivity, difficulties, and counseling

n (%) infants for whom breastfeeding was initiated within 1 hour of birth	Preterm SGA N=124 29 (23.4%)	Preterm AGA N=265 64 (24.2%)	Preterm LGA N=33 7 (21.2%)	Term SGA N=551 263 (47.7%)	Overall N=973 363 (37.3%)
n (%) infants exclusively breastfed to 4 months	Preterm SGA N=137 79 (57.7%)	Preterm AGA N=282 177 (62.8%)	Preterm LGA N=32 25 (78.1%)	Term SGA N=517 295 (57.1%)	Overall N=968 576 (59.5%)
n (%) infants exclusively breastfed to 6 months	Preterm SGA N=132 62 (47.0%)	Preterm AGA N=277 128 (46.2%)	Preterm LGA N=31 13 (41.9%)	Term SGA N=531 222 (41.8%)	Overall N=971 425 (43.8%)
n (%) infants who mothers reported feeding difficulties* during first 6 months	Preterm SGA N=151 81 (53.6%)	Preterm AGA N=327 153 (46.8%)	Preterm LGA N=37 16 (43.2%)	Term SGA N=597 243 (40.7%)	Overall N=1112 493 (44.3%)
n (%) infants who mothers reported feeding difficulties* during first 2 weeks	Preterm SGA N=151 55 (36.4%)	Preterm AGA N=327 100 (30.6%)	Preterm LGA N=37 11 (29.7%)	Term SGA N=597 137 (22.9%)	Overall N=1112 303 (27.2%)
n (%) infants who mothers reported feeding difficulties* during first 4 weeks	Preterm SGA N=129 59 (45.7%)	Preterm AGA N=283 109 (38.5%)	Preterm LGA N=32 11 (34.4%)	Term SGA N=509 155 (30.5%)	Overall N=953 304 (31.9%)
n (%) infants who mothers reported feeding difficulties* from 6 weeks tot 6 months	Preterm SGA N=151 48 (31.8%)	Preterm AGA N=327 77 (23.5%)	Preterm LGA N=37 6 (16.2%)	Term SGA N=597 163 (27.3%)	Overall N=1112 294 (26.4%)
n (%) infants who received feeding counseling/support at baseline†	Preterm SGA N=151 118 (78.2%)	Preterm AGA N=327 267 (81.7%)	Preterm LGA N=37 27 (73.0%)	Term SGA N=594 443 (74.6%)	Overall N=1109 855 (77.1%)

\*Feeding difficulties included perception of insufficient milk, distracted baby, long time for milk to come in, no milk let down, breast pain, trouble sucking/latching on, etc.

†Within 72 hours of birth.

**Table S2.** Feeding profile by site and study visit

	Baseline	Week 1	Week 2	Week 4	Week 6	Week 10	Week 14	Week 18	Week 26
<b>Pooled</b>	N=1114	N=1049	N=1039	N=1033	N=1025	N=1008	N=985	N=969	N=984
Only human milk	990 (88.9%)	1021 (97.3%)	998 (96.1%)	986 (95.5%)	961 (93.8%)	892 (88.5%)	826 (83.9%)	697 (71.9%)	75 (7.6%)
Mixed milk feeding	26 (2.3%)	25 (2.4%)	36 (3.5%)	40 (3.9%)	56 (5.5%)	105 (10.4%)	148 (15.0%)	257 (26.5%)	890 (90.4%)
No human milk	4 (0.4%)	2 (0.2%)	5 (0.5%)	7 (0.7%)	8 (0.8%)	11 (1.1%)	11 (1.1%)	15 (1.5%)	19 (1.9%)
No food given yet, baseline only	94 (8.4%)	1 (0.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<b>India-Karnataka</b>	N=309	N=300	N=297	N=295	N=287	N=286	N=276	N=274	N=286
Only human milk	270 (87.4%)	298 (99.3%)	288 (97.0%)	278 (94.2%)	265 (92.3%)	248 (86.7%)	228 (82.6%)	192 (70.1%)	19 (6.6%)
Mixed milk feeding	8 (2.6%)	2 (0.7%)	9 (3.0%)	16 (5.4%)	22 (7.7%)	36 (12.6%)	46 (16.7%)	80 (29.2%)	264 (92.3%)
No human milk	1 (0.3%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	2 (0.7%)	2 (0.7%)	2 (0.7%)	3 (1.0%)
No food given yet, baseline only	30 (9.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<b>India-Odisha</b>	N=197	N=184	N=178	N=176	N=181	N=172	N=160	N=148	N=158
Only human milk	177 (89.8%)	174 (94.6%)	168 (94.4%)	167 (94.9%)	167 (92.3%)	140 (81.4%)	118 (73.8%)	103 (69.6%)	5 (3.2%)
Mixed milk feeding	15 (7.6%)	10 (5.4%)	9 (5.1%)	9 (5.1%)	13 (7.2%)	32 (18.6%)	40 (25.0%)	42 (28.4%)	146 (92.4%)
No human milk	3 (1.5%)	0 (0%)	1 (0.6%)	0 (0%)	1 (0.6%)	0 (0%)	2 (1.2%)	3 (2.0%)	7 (4.4%)
No food given yet, baseline only	2 (1.0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<b>Malawi</b>	N=300	N=262	N=263	N=261	N=258	N=254	N=252	N=251	N=245
Only human milk	292 (97.3%)	258 (98.5%)	254 (96.6%)	253 (96.9%)	240 (93.0%)	227 (89.4%)	210 (83.3%)	181 (72.1%)	46 (18.8%)
Mixed milk feeding	1 (0.3%)	4 (1.5%)	9 (3.4%)	7 (2.7%)	16 (6.2%)	25 (9.8%)	40 (15.9%)	68 (27.1%)	196 (80.0%)
No human milk	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	2 (0.8%)	2 (0.8%)	2 (0.8%)	2 (0.8%)	3 (1.2%)
No food given yet, baseline only	7 (2.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<b>Tanzania</b>	N=308	N=303	N=301	N=301	N=299	N=296	N=297	N=296	N=295
Only human milk	251 (81.5%)	291 (96.0%)	288 (95.7%)	288 (95.7%)	289 (96.7%)	277 (93.6%)	270 (90.9%)	221 (74.7%)	5 (1.7%)
Mixed milk feeding	2 (0.7%)	9 (3.0%)	9 (3.0%)	8 (2.7%)	5 (1.7%)	12 (4.1%)	22 (7.4%)	67 (22.6%)	284 (96.3%)
No human milk	0 (0%)	2 (0.7%)	4 (1.3%)	5 (1.7%)	5 (1.7%)	7 (2.4%)	5 (1.7%)	8 (2.7%)	6 (2.0%)
No food given yet, baseline only	55 (17.9%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

**Table S3.** Feeding of prelacteal feeds, expressed human milk, and donor human milk in the first month of life

		Baseline	Week 1	Week 2	Week 4
<b>Prelacteal Feeds</b>		N=1114	N=1049	N=1039	N=1033
Infants fed prelacteal feeds, n (%)*		4 (0.4%)	1 (0.1%)	0 (0%)	0 (0%)
<b>Human milk expression</b>		N=1017	N=1041	N=1032	N=1025
Infants fed expressed human milk, n (%)		264 (26.0%)	313 (30.1%)	246 (23.8%)	182 (17.8%)
Method of feeding used, n (%)	Cup/spoon/palladai	253 (98.5%)	292 (93.3%)	239 (97.2%)	179 (98.4%)
	Bottle	1 (0.4%)	4 (1.3%)	1 (0.4%)	2 (1.1%)
	Nasogastric tube	5 (1.9%)	9 (2.9%)	1 (0.4%)	0 (0%)
	Syringe	1 (0.4%)	1 (0.3%)	0 (0%)	0 (0%)
	Other	2 (0.8%)	6 (1.9%)	1 (0.4%)	2 (1.1%)
Method of expression, n (%)	Electric breast pump	0 (0%)	16 (5.1%)	1 (0.4%)	0 (0%)
	Battery-operated breast pump	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Manual breast pump	0 (0%)	7 (2.2%)	1 (0.4%)	2 (1.1%)
	By hand (no pump)	0 (0%)	290 (92.7%)	240 (97.6%)	180 (98.9%)
	Not known	264 (100.0%)	3 (1.0%)	3 (1.2%)	0 (0%)
<b>Donor human milk (DHM)</b>		N=1017	N=1042	N=1033	N=1025
Infants fed DHM, n (%)		14 (1.4%)	5 (0.5%)	3 (0.3%)	0 (0%)
Method of feeding used, n (%)	Cup/spoon/palladai	13 (92.9%)	4 (80.0%)	3 (100.0%)	0 (0%)
	Bottle	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Nasogastric tube	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Syringe	1 (7.1%)	0 (0%)	0 (0%)	0 (0%)
	Other	0 (0%)	1 (20.0%)	0 (0%)	0 (0%)

\*All prelacteal feeds were formula.

Methods of feeding expressed or donor human milk (cup/spoon/palladia, bottle, nasogastric tube, syringe and other) are not mutually exclusive.

**Table S4.** Type of human milk fed by mother by visit week

Type of human milk	Baseline (N=1008)	Week 1 (N=1044)	Week 2 (N=1032)	Week 4 (N=1026)	Week 6 (N=1016)	Week 10 (N=996)	Week 14 (N=974)	Week 18 (N=954)	Week 26 (N=965)
Direct from breast only, n (%)	744 (73.8%)	731 (70.0%)	786 (76.2%)	844 (82.3%)	931 (91.6%)	964 (96.8%)	961 (98.7%)	946 (99.2%)	962 (99.7%)
Expressed only, n (%)	23 (2.3%)	33 (3.2%)	24 (2.3%)	9 (0.9%)	2 (0.2%)	1 (0.1%)	1 (0.1%)	1 (0.1%)	0 (0%)
Direct from breast and expressed, n (%)	241 (23.9%)	280 (26.8%)	222 (21.5%)	173 (16.9%)	83 (8.2%)	31 (3.1%)	12 (1.2%)	7 (0.7%)	3 (0.3%)

**Table S5.** Formula and animal milk feeding by visit week

	Baseline	Week 1	Week 2	Week 4	Week 6	Week 10	Week 14	Week 18	Week 26	
<b>Formula</b>	N=1070	N=1044	N=1040	N=1032	N=1024	(N=1006)	N=981	N=969	N=983	
Infants fed formula, n (%)	20 (1.9%)	22 (2.1%)	30 (2.9%)	28 (2.7%)	36 (3.5%)	59 (5.9%)	61 (6.2%)	87 (9.0%)	143 (14.6%)	
Method of feeding used, n (%)	Cup/spoon/palladai	18 (90.0%)	13 (59.1%)	17 (56.7%)	11 (39.3%)	14 (38.9%)	21 (35.6%)	19 (31.2%)	34 (39.1%)	84 (58.7%)
	Bottle	2 (10.0%)	9 (40.9%)	13 (43.3%)	17 (60.7%)	24 (66.7%)	38 (64.4%)	43 (70.5%)	55 (63.2%)	58 (40.6%)
	Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.7%)
Type of formula fed, n (%)	Preterm	0 (0%)	5 (22.7%)	8 (26.7%)	4 (14.3%)	3 (8.3%)	2 (3.4%)	8 (13.1%)	7 (8.1%)	1 (0.7%)
	Term	0 (0%)	5 (22.7%)	6 (20.0%)	9 (32.1%)	21 (58.3%)	32 (54.2%)	31 (50.8%)	57 (65.5%)	106 (74.1%)
	Powdered	0 (0%)	8 (36.4%)	12 (40.0%)	5 (17.9%)	17 (19.4%)	18 (30.5%)	28 (45.9%)	24 (27.6%)	22 (15.4%)
	Ready-made	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (5.6%)	0 (0%)	0 (0%)	0 (0%)	3 (2.1%)
	Not known	20 (100.0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.7%)
<b>Animal milk</b>	N=1073	N=1041	N=1033	N=1028	N=1020	N=1003	N=978	N=968	N=983	
Infants fed animal milk, n (%)	2 (0.2%)	5 (0.5%)	16 (1.6%)	17 (1.7%)	18 (1.8%)	38 (3.8%)	34 (3.5%)	50 (5.2%)	138 (14.0%)	

Methods of feeding formula and types of formula are not mutually exclusive, respectively.

**Table S6.** Feeding difficulties and lactation support/ feeding counseling

		<b>India-Karnataka</b>	<b>India-Odisha</b>	<b>Malawi</b>	<b>Tanzania</b>	<b>Pooled</b>
n (%) infants who mothers reported feeding difficulties during first 6 months		<b>N=309</b>	<b>N=197</b>	<b>N=300</b>	<b>N=308</b>	<b>N=1114</b>
	Overall	138 (44.7%)	42 (21.3%)	139 (46.3%)	176 (57.1%)	495 (44.4%)
	Preterm SGA	21 (50.0%)	9 (60.0%)	16 (42.1%)	35 (62.5%)	81 (53.6%)
	Preterm AGA	27 (43.6%)	7 (25.0%)	46 (43.0%)	73 (56.2%)	153 (46.8%)
	Preterm LGA	1 (50.0%)	0 (0%)	5 (31.3%)	10 (55.6%)	16 (43.2%)
	Term SGA	89 (43.8%)	26 (17.0%)	71 (51.5%)	57 (55.3%)	243 (40.7%)
n (%) infants who received lactation support/ feeding counseling at baseline*		<b>N=308</b>	<b>N=197</b>	<b>N=298</b>	<b>N=308</b>	<b>N=1111</b>
	Overall	245 (79.6%)	109 (55.3%)	258 (86.6%)	254 (79.6%)	857 (77.1%)
	Preterm SGA	33 (78.6%)	7 (46.7%)	34 (89.5%)	44 (78.6%)	118 (78.2%)
	Preterm AGA	44 (71.0%)	13 (46.4%)	98 (91.6%)	112 (86.2%)	267 (81.7%)
	Preterm LGA	2 (100%)	1 (100%)	13 (81.3%)	11 (61.1%)	27 (73.0%)
	Term SGA	166 (82.2%)	88 (57.5%)	112 (82.4%)	77 (74.8%)	443 (74.6%)
Among those who received support at baseline, n (%) infants by type of support received		<b>N=245</b>	<b>N=109</b>	<b>N=258</b>	<b>N=254</b>	<b>N=857</b>
	Talking about proper latch and positioning	228 (93.1%)	108 (99.1%)	174 (67.4%)	243 (99.2%)	753 (87.9%)
	Support with positioning mom/baby	183 (74.7%)	31 (28.4%)	102 (39.5%)	240 (98.0%)	556 (64.9%)
	Support with latching	86 (35.1%)	7 (6.4%)	109 (42.2%)	194 (79.2%)	396 (46.2%)
	Support with expressing breastmilk	30 (12.2%)	0 (0%)	158 (61.2%)	179 (73.1%)	367 (42.8%)
	Support for feeding with bottle/cup/palladai	8 (3.3%)	1 (0.9%)	104 (40.3%)	158 (64.5%)	271 (31.6%)
	Other	1 (0.4%)	0 (0%)	51 (19.8%)	0 (0%)	52 (6.1%)
Among those who received support at baseline, n (%) infants by who provided support		<b>N=245</b>	<b>N=109</b>	<b>N=258</b>	<b>N=254</b>	<b>N=857</b>
	Healthcare provider (doctor, nurse, midwife)	242 (98.8%)	67 (61.5%)	252 (97.7%)	245 (100%)	806 (94.1%)
	Lactation consultant	11 (4.5%)	0 (0%)	4 (1.6%)	6 (2.5%)	21 (2.5%)
	Community health workers	7 (2.9%)	13 (11.9%)	2 (0.8%)	0 (0%)	22 (2.6%)
	Family member	61 (24.9%)	44 (40.4%)	41 (15.9%)	1 (0.4%)	147 (17.2%)
	Friend	0 (0%)	0 (0%)	15 (5.8%)	0 (0%)	15 (1.8%)
	Other	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.1%)

\*Within 72 hours of birth.

**Table S7.** Feeding difficulties in the first six months and poor growth outcomes at six months

	n (%) of poor growth outcomes among infants whose mothers ever reported feeding difficulties in first 6 months of the infant's life	Unadjusted			Adjusted*		
		N	RR (95% CI)	p-value	N	RR (95% CI)	p-value
Stunted at 6 months	153 (37.1%)	858	1.21 (0.99-1.48)	0.063	833	1.13 (0.92-1.39)	0.227
Underweight at 6 months	127 (30.6%)	860	1.55 (1.22-1.98)	<0.001	835	1.39 (1.09-1.78)	0.01
Wasted at 6 months	46 (11.1%)	859	1.49 (1.00-2.21)	0.05	834	1.36 (0.91-2.03)	0.134

\*Adjusted by maternal education, maternal age, parity, place of residence, wealth quintile, birthcount, sex, LBW type, site; and with cluster-robust standard errors for clustering by mother.



**Table S8.** Duration of exclusive breastfeeding and poor growth outcomes

	Exclusive breastfeeding to 6 months or duration of exclusive breastfeeding (in weeks)							
	n (%) of poor growth outcomes among infants		Unadjusted			Adjusted*		
	Exclusively breastfed to 6 months	Non-exclusively breastfed to 6 months	N	RR/Beta (95% CI)	p-value	N	RR/Beta (95% CI)	p-value
Stunted at 6 months	116 (32.0%)	158 (32.9%)	847	1.00 (0.81-1.24)	0.97	821	1.08 (0.88-1.31)	0.47
Underweight at 6 months	91 (25.1%)	127 (26.3%)	849	0.98 (0.77-1.26)	0.90	823	1.08 (0.86-1.36)	0.51
Wasted at 6 months	40 (11.0%)	45 (9.3%)	848	1.15 (0.77-1.73)	0.50	822	1.30 (0.86-1.95)	0.22
	Mean (SD) z-score among infants		Unadjusted			Adjusted*		
	Exclusively breastfed to 6 months	Not exclusively breastfed to 6 months	N	Beta (95% CI)	p-value	N	Beta (95% CI)	p-value
	LAZ at 6 months	-1.38 (1.32)	-1.45 (1.23)	847	0.04 (-0.14-0.22)	0.67	821	-0.03 (-0.19-0.14)
WAZ at 6 months	-1.20 (1.24)	-1.26 (1.18)	849	0.03 (-0.15-0.20)	0.76	823	-0.07 (-0.23-0.09)	0.37
WLZ at 6 months	-0.33 (1.31)	-0.32 (1.32)	848	-0.04 (-0.22-0.14)	0.69	822	-0.09 (-0.27-0.09)	0.31

\*Adjusted for maternal education, maternal age, parity, wealth quintile, residence, infant sex, birthcount, and LBW type; and with cluster-robust standard errors for clustering by mother.

**Table S9.** Duration of exclusive breastfeeding to six months and poor growth outcomes at six months by birthweight

Strata of birthweight	Stunted at 6 months		Underweight at 6 months		Wasted at 6 months	
	Crude RR (95% CI) EBF 6 months compared to non-EBF 6 months	Adjusted RR (95% CI) EBF 6 months compared to non-EBF 6 months	Crude RR (95% CI) EBF 6 months compared to non-EBF 6 months	Adjusted RR (95% CI) EBF 6 months compared to non-EBF 6 months	Crude RR (95% CI) EBF 6 months compared to non-EBF 6 months	Adjusted RR (95% CI) EBF 6 months compared to non-EBF 6 months
Birthweight <2.00kg	1.10 (0.82-1.47)	0.84 (0.57-1.25)	1.00 (0.42-2.38)	1.22 (0.90-1.66)	0.93 (0.63-1.36)	1.06 (0.44-2.59)
Birthweight ≥2.00 - <2.50kg	0.94 (0.72-1.23)	1.05 (0.78-1.43)	1.20 (0.76-1.89)	0.97 (0.76-1.25)	1.14 (0.86-1.51)	1.37 (0.87-2.16)
p-value for effect modification	0.43	0.37	0.72	0.24	0.39	0.62

EBF: exclusive breastfeeding.