



Figure S1 Risks of mortality and major morbidities among SGA infants by gestational age. Multilevel mixed-effects logistic regression models were used accounting for the correlations among infants within hospitals. At the infant level, gestational age, Apgar score <3 at 1 and 5 minutes, TRIPS Score, cesarean, congenital anomalies, inborn status, primigravida, prenatal care, maternal hypertension, maternal diabetes and antenatal steroids were adjusted. aOR, adjusted odds ratio; BPD, bronchopulmonary dysplasia; ROP, retinopathy of prematurity; IVH, intraventricular hemorrhage; PVL, periventricular leukomalacia; NEC, necrotizing enterocolitis; SGA, small for gestational age; TRIPS Score, cesarean, congenital anomalies, inborn status, primigravida, prenatal care, maternal hypertension, maternal diabetes and antenatal steroids were adjusted.

Table S1 Logistic regression analyses comparing neonatal outcomes among SGA and non-SGA infants

Neonatal Outcomes	non-SGA	SGA	
		Crude OR (95% CI)	Adjusted OR (95% CI) [†]
Death or any morbidity	Reference	1.64 (1.48–1.82)	2.37 (2.08–2.71)
Death	Reference	1.77 (1.47–2.14)	2.66 (2.07–3.41)
BPD	Reference	1.96 (1.73–2.23)	3.14 (2.65–3.72)
ROP	Reference	0.90 (0.77–1.06)	2.80 (2.28–3.44)
Death or BPD	Reference	1.97 (1.75–2.23)	3.23 (2.75–3.80)
Death or ROP	Reference	1.46 (1.29–1.65)	3.17 (2.67–3.76)
IVH \geq grade III or PVL	Reference	0.97 (0.79–1.20)	1.40 (1.08–1.80)
NEC	Reference	1.51 (1.21–1.90)	1.64 (1.26–2.15)
Sepsis	Reference	1.57 (1.31–1.88)	1.87 (1.51–2.32)

[†], Multilevel mixed-effects logistic regression models were used accounting for the correlations among infants within hospitals. At the infant level, gestational age, sex, Apgar score <3 at 1 and 5 minutes, TRIPS Score, congenital anomalies, cesarean, inborn status, primigravida, prenatal care, maternal hypertension, maternal diabetes and antenatal steroids were adjusted. SGA, small for gestational age; BPD, bronchopulmonary dysplasia; ROP, retinopathy of prematurity; IVH, intraventricular hemorrhage; PVL, periventricular leukomalacia; NEC, necrotizing enterocolitis.

Table S2 Neonatal outcomes for SGA or non-SGA infants born at 28–33 weeks by gestational age

Outcome	Gestational age	non-SGA	SGA	P value
Death or morbidity, n/N (%)	28 ⁺⁰ –29 ⁺⁶	1,362/3,753 (36.3)	84/121 (69.4)	<0.001
	30 ⁺⁰ –31 ⁺⁶	1,470/6,949 (21.2)	214/511 (41.9)	<0.001
	32 ⁺⁰ –33 ⁺⁶	1,149/10,845 (10.6)	247/1,221 (20.2)	<0.001
Death, n/N (%)	28 ⁺⁰ –29 ⁺⁶	301/3,753 (8.0)	38/121 (31.4)	<0.001
	30 ⁺⁰ –31 ⁺⁶	241/6,949 (3.5)	52/511 (10.2)	<0.001
	32 ⁺⁰ –33 ⁺⁶	154/10,845 (1.4)	32/1,221 (2.6)	0.001
BPD, n/N (%)	28 ⁺⁰ –29 ⁺⁶	717/3,753 (19.1)	58/121 (47.9)	<0.001
	30 ⁺⁰ –31 ⁺⁶	615/6,949 (8.9)	141/511 (27.6)	<0.001
	32 ⁺⁰ –33 ⁺⁶	451/10,845 (4.2)	120/1,221 (9.8)	<0.001
ROP, n/N (%)	28 ⁺⁰ –29 ⁺⁶	862/3,059 (28.2)	32/76 (42.1)	0.008
	30 ⁺⁰ –31 ⁺⁶	497/4,496 (11.1)	104/417 (24.9)	<0.001
	32 ⁺⁰ –33 ⁺⁶	165/3,664 (4.5)	64/828 (7.7)	<0.001
Death or BPD, n/N (%)	28 ⁺⁰ –29 ⁺⁶	807/3,753 (21.5)	73/121 (60.3)	<0.001
	30 ⁺⁰ –31 ⁺⁶	710/6,949 (10.2)	154/511 (30.1)	<0.001
	32 ⁺⁰ –33 ⁺⁶	512/10,845 (4.7)	133/1,221 (10.9)	<0.001
Death or ROP, n/N (%)	28 ⁺⁰ –29 ⁺⁶	1162/3,753 (31.0)	69/121 (57.0)	<0.001
	30 ⁺⁰ –31 ⁺⁶	737/6,949 (10.6)	156/511 (30.5)	<0.001
	32 ⁺⁰ –33 ⁺⁶	317/10,845 (2.9)	95/1,221 (7.8)	<0.001
NEC, n/N (%)	28 ⁺⁰ –29 ⁺⁶	227/3,753 (6.0)	11/121 (9.1)	0.17
	30 ⁺⁰ –31 ⁺⁶	249/6,949 (3.6)	32/511 (6.3)	0.002
	32 ⁺⁰ –33 ⁺⁶	170/10,845 (1.6)	44/1,221 (3.6)	<0.001
IVH ≥ grade III or PVL, n/N (%)	28 ⁺⁰ –29 ⁺⁶	334/3,506 (9.5)	10/102 (9.8)	0.93
	30 ⁺⁰ –31 ⁺⁶	413/6,595 (6.3)	32/427 (6.8)	0.65
	32 ⁺⁰ –33 ⁺⁶	315/9,767 (3.2)	56/1,150 (4.9)	0.004
	32 ⁺⁰ –33 ⁺⁶	170/10,845 (1.6)	44/1,221 (3.6)	<0.001
Sepsis, n/N (%)	28 ⁺⁰ –29 ⁺⁶	344/3,753 (9.2)	20/121 (16.5)	0.006
	30 ⁺⁰ –31 ⁺⁶	368/6,949 (5.3)	57/511 (11.2)	<0.001
	32 ⁺⁰ –33 ⁺⁶	249/10,845 (2.3)	60/1,221 (4.9)	<0.001

SGA, small for gestational age; BPD, bronchopulmonary dysplasia; ROP, retinopathy of prematurity; NEC, necrotizing enterocolitis; IVH, intraventricular hemorrhage; PVL, periventricular leukomalacia.

Table S3 Logistic regression analyses comparing neonatal outcomes among infants with different birthweight percentile

Neonatal Outcomes	non-SGA	SGA			
		Birth Weight <3 percentile		Birth Weight within 3rd–10th percentile	
		Crude OR (95% CI)	aOR [†] (95% CI)	Crude OR (95% CI)	aOR [†] (95% CI)
Death or any morbidity	Reference	2.11 (1.75–2.54)	3.10 (2.50–3.85)	1.49 (1.32–1.68)	2.10 (1.80–2.45)
Death	Reference	2.39 (1.75–3.26)	3.87 (2.67–5.60)	1.56 (1.24–1.96)	2.19 (1.62–2.96)
BPD	Reference	2.72 (2.21–3.38)	5.02 (3.87–6.50)	1.71 (1.47–1.99)	2.50 (2.04–3.06)
ROP	Reference	0.99 (0.75–1.32)	3.79 (2.73–5.26)	0.87 (0.73–1.05)	2.45 (1.93–3.12)
Death or BPD	Reference	2.79 (2.29–3.39)	5.46 (4.26–6.99)	1.67 (1.44–1.93)	2.50 (2.06–3.04)
Death or ROP	Reference	1.76 (1.42–2.17)	4.63 (3.54–6.06)	1.34 (1.15–1.57)	2.65 (2.16–3.25)
IVH ≥ grade III or PVL	Reference	1.12 (0.77–1.64)	1.58 (1.02–2.46)	1.47 (0.96–2.27)	1.37 (1.01–1.84)
NEC	Reference	1.59 (1.06–2.40)	1.65 (1.03–2.62)	1.48 (1.14–1.93)	1.64 (1.21–2.23)
Sepsis	Reference	1.86 (1.36–2.56)	2.33 (1.66–3.26)	1.46 (1.17–1.81)	1.69 (1.31–2.18)

[†], Multilevel mixed-effects logistic regression models were used accounting for the correlations among infants within hospitals. At the infant level, gestational age, sex, Apgar score <3 at 1 and 5 minutes, TRIPS Score, cesarean, congenital anomalies, inborn status, primigravida, prenatal care, maternal hypertension, maternal diabetes and antenatal steroids were adjusted. SGA, small for gestational age; aOR, adjusted odds ratio; BPD, bronchopulmonary dysplasia; ROP, retinopathy of prematurity; IVH, intraventricular hemorrhage; PVL, periventricular leukomalacia; NEC, necrotizing enterocolitis.

Table S4 Care practice in NICUs for SGA and non-SGA infants at 28-33 weeks by gestational age

Care Practice	Gestational age (weeks)	non-SGA	SGA	P value
Surfactant, n/N (%) &	28 ⁺ –29 ⁺	1,435/2,785 (51.5)	66/4 (70.2)	<0.001
	30 ⁺ –31 ⁺	1,593/5,087 (31.3)	150/376 (39.9)	<0.001
	32 ⁺ –33 ⁺	1,218/7,155 (16.0)	129/1,347 (14.3)	0.19
Mechanical ventilation, n/N (%)	28 ⁺ –29 ⁺	1,620/3,753 (43.2)	81/121 (66.9)	<0.001
	30 ⁺ –31 ⁺	1,777/6,949 (25.6)	181/511 (35.4)	<0.001
	32 ⁺ –33 ⁺	1,708/10,845 (15.7)	183/1,221 (15.0)	0.49
Duration of invasive ventilation, median (IQR)	28 ⁺ –29 ⁺	4 (2, 8)	5 (2, 10)	0.62
	30 ⁺ –31 ⁺	4 (2, 6)	4 (2, 8)	0.003
	32 ⁺ –33 ⁺	4 (2, 6)	4 (3, 7)	0.033
Non-Invasive Ventilation, n/N (%)	28 ⁺ –29 ⁺	3,199/3,753 (85.2)	100/121 (82.6)	0.43
	30 ⁺ –31 ⁺	4,783/6,949 (68.8)	411/511 (80.4)	<0.001
	32 ⁺ –33 ⁺	4,930/10,845 (45.5)	630/1,221 (51.6)	<0.001
Duration of non-Invasive ventilation, median (IQR)	28 ⁺ –29 ⁺	12 (6, 23)	18 (7, 32)	<0.001
	30 ⁺ –31 ⁺	6 (4, 10)	9 (5, 17)	<0.001
	32 ⁺ –33 ⁺	4 (3, 6)	5 (3, 10)	<0.001
Central Venous Line, n/N (%)	28 ⁺ –29 ⁺	2,738/3,753 (73.0)	94/121 (77.7)	0.25
	30 ⁺ –31 ⁺	2,834/6,949 (40.8)	401/511 (78.5)	<0.001
	32 ⁺ –33 ⁺	1,536/10,845 (14.2)	704/1,221 (57.7)	<0.001
Duration of Central Venous Line, median (IQR)	28 ⁺ –29 ⁺	24 (14, 34)	30 (21, 41)	<0.001
	30 ⁺ –31 ⁺	18 (11, 27)	25 (16, 36)	<0.001
	32 ⁺ –33 ⁺	13 (9, 19)	18 (12, 26)	<0.001
Vasopressors use, n/N (%)	28 ⁺ –29 ⁺	1,028/3,753 (27.4)	54/121 (44.6)	<0.001
	30 ⁺ –31 ⁺	1,274/6,949 (18.3)	153/511 (29.9)	<0.001
	32 ⁺ –33 ⁺	1,168/10,845 (10.8)	202/1,221 (16.5)	<0.001
Duration of Vasopressors use, median (IQR)	28 ⁺ –29 ⁺	4 (2, 8)	4 (1, 9)	0.30
	30 ⁺ –31 ⁺	4 (2, 7)	4 (2, 7)	0.62
	32 ⁺ –33 ⁺	4 (2, 6)	4 (2, 8)	0.076
Antibiotic treatment (days), median (IQR)	28 ⁺ –29 ⁺	19 (11, 29)	24.5 (17, 36.5)	<0.001
	30 ⁺ –31 ⁺	12 (8, 20)	18 (11, 30)	<0.001
	32 ⁺ –33 ⁺	8 (4, 12)	11 (6, 18)	<0.001
Parenteral Nutrition, n/N (%)	28 ⁺ –29 ⁺	3,504/3,753 (93.4)	111/121 (91.7)	0.48
	30 ⁺ –31 ⁺	6,471/6,949 (93.1)	481/511 (94.1)	0.38
	32 ⁺ –33 ⁺	9,617/10,845 (88.7)	1,153/1,221 (94.4)	<0.001
Duration of Parenteral Nutrition, median (IQR)	28 ⁺ –29 ⁺	24 (14, 35)	26 (5, 41)	0.34
	30 ⁺ –31 ⁺	16 (10, 24)	26 (15, 37)	<0.001
	32 ⁺ –33 ⁺	10 (6, 15)	17 (11, 24)	<0.001
Days of feeds initiation, median (IQR) †	28 ⁺ –29 ⁺	2 (2, 3)	3 (2, 4)	0.009
	30 ⁺ –31 ⁺	2 (2, 3)	2 (2, 4)	<0.001
	32 ⁺ –33 ⁺	2 (1, 3)	2 (2, 3)	<0.001
	28 ⁺ –29 ⁺			0.080
	<24 h	478/3,478 (13.7)	7/101 (6.9)	
	24–48 h	1,501/3,478 (43.2)	39/101 (38.6)	
	48–72 h	668/3,478 (19.2)	24/101 (23.8)	
	>72 h	831/3,478 (23.9)	31/101 (30.7)	
	30 ⁺ –31 ⁺			<0.001
	<24 h	1,367/6,566 (20.8)	52/471 (11.0)	
	24–48 h	3,114/6,566 (47.4)	205/471 (43.5)	
	48–72 h	963/6,566 (14.7)	73/471 (15.5)	
	>72 h	1,122/6,566 (17.1)	141/471 (29.9)	
	32 ⁺ –33 ⁺	2,933/1,0343 (28.4)	231/1,155 (20.0)	<0.001
	<24 h			
24–48 h	4,707/1,0343 (45.5)	564/1,155 (48.8)		
48–72 h	1,178/1,0343 (11.4)	141/1,155 (12.2)		
>72 h	1,525/1,0343 (14.7)	219/1,155 (19.0)		
Breastmilk, n/N (%)	28 ⁺ –29 ⁺	2,440/3,753 (65.0)	69/121 (57.0)	0.07
	30 ⁺ –31 ⁺	3,969/6,949 (57.1)	313/511 (61.3)	0.068
	32 ⁺ –33 ⁺	5,165/10,845 (47.6)	676/1,221 (55.4)	<0.001
NICU stay (days), median (IQR) ‡	28 ⁺ –29 ⁺	50 (41, 60)	73 (65, 87)	<0.001
	30 ⁺ –31 ⁺	32 (25, 41)	52 (44, 64)	<0.001
	32 ⁺ –33 ⁺	18 (13, 25)	34 (26, 43)	<0.001
PMA at Discharge (weeks), median (IQR) ‡	28 ⁺ –29 ⁺	36.1 (34.9, 37.4)	39.6 (37.7, 41.3)	<0.001
	30 ⁺ –31 ⁺	35.6 (34.6, 36.6)	38.3 (37.1, 39.9)	<0.001
	32 ⁺ –33 ⁺	35.4 (34.7, 36.3)	37.7 (36.7, 39.0)	<0.001

†, Days of feeds initiation were missing in 1,372 infants; ‡, Infants who died in the NICU were excluded. NICU, neonatal intensive care unit; SGA, small for gestational age; PMA, post menstrual age; IQR, interquartile range.