

TABLE 1. General characteristics of the study population

		EP-BPD	EP-noBPD	MLP	EP-BPD	EP-BPD	EP-noBPD
		n = 92	n = 92	n = 102	vs EP-noBPD	vs MLP	vs MLP
					p values		
Perinatal period							
GA (weeks)		26.1 (1.36)	27.0 (0.91)	34.0 (1.13)	< 0.001		
Birth weight (g)		839 (188)	1004 (220)	1983 (526)	< 0.001		
Female sex		42 (45.7)	41 (44.6)	46 (45.1)	0.88	0.94	0.94
Smoking in pregnancy		23 (25.0)	16 (17.6)	27 (26.5)	0.22	0.82	0.14
Prenatal steroids		62 (67.4)	57 (62.0)	31 (30.4)	0.44		
Surfactant		86 (93.5)	61 (67.0)	4 (4.0)	< 0.001		
Invasive ventilation ^a		15 (4,30)	1 (0,3.75)	0 (0,0)	< 0.001		
Early follow-up ^b							
Inhaled corticosteroids ^c		51 (55.4)	34 (37.8)	29 (28.4)	0.017	< 0.001	0.17
Any hospital admission		49 (53.3)	35 (38.0)	28 (27.5)	0.038	< 0.001	0.12
Any ICU admission		13 (14.1)	9 (9.78)	2 (1.96)	0.36	0.002	0.019
At time of study							
Age (years)		14.1 (0.71)	14.2 (0.61)	14.5 (0.68)	0.74	< 0.001	0.001
zBMI		-0.40 (0.99)	-0.04 (1.16)	0.15 (1.23)	0.10	0.002	0.70
Positive skin prick test ^d		22 (24.2)	29 (32.2)	55 (55.0)	0.23	< 0.001	< 0.001
Parental smoking	Mother	21 (23.3)	30 (33.3)	28 (27.5)	0.14	0.51	0.38
	Father	22 (24.4)	26 (28.6)	30 (30.0)	0.53	0.39	0.83
Parental asthma/ atopy	Mother	21 (23.3)	27 (29.3)	30 (29.4)	0.36	0.34	0.99
	Father	14 (15.8)	18 (19.6)	19 (18.8)	0.50	0.58	0.89

Descriptive data are presented as the mean (standard deviation) or n (%) unless indicated otherwise. ^a Median number

of days (1st and 3rd quartiles). ^b Refers to the first 6 years of life (data obtained from medical records and parents/caregivers interviews) ^c Periods > 3 months. ^d Missing data = 5 (1 from EP-BPD, 2 from EP-noBPD, and 2 from MLP group). EP: Extremely preterm; BPD: Bronchopulmonary dysplasia; MLP: Moderate-late preterm; GA: Gestational age; ICU: Intensive care unit; zBMI: Body mass index (z-score).

TABLE 2. Spirometry results and between-group comparisons

	EP-BPD n = 92	EP- noBPD n = 92	MLP n = 102	EP-BPD vs EP-noBPD	EP-BPD vs MLP	EP-noBPD vs MLP
FEV ₁ %pred	85.4 (15.2)	94.7 (12.5)	97.0 (14.2)	-9.31 (-14.3, -4.32) ‡	-11.6 (-16.4, -6.71) ‡	-2.27 (-7.14, 2.60)
zFEV ₁	-1.22 (1.25)	-0.46 (1.05)	-0.29 (1.19)	-0.76 (-1.18, -0.35) ‡	-0.93 (-1.33, -0.52) ‡	-0.16 (-0.57, 0.24)
FEV ₁ % Bdt ^{a,b}	5.57 (6.44)	4.37 (5.06)	3.54 (6.14)	1.20 (-0.92, 3.32)	2.03 (-0.02, 4.09)	0.83 (-1.24, 2.90)
FEV ₁ < LLN	30 (32.6)	13 (14.1)	15 (14.7)	2.94 (1.41, 6.10) †	2.81 (1.39, 5.63) †	0.95 (0.43, 2.13)
Positive Bdt	15 (16.3)	6 (6.52)	8 (7.84)	2.76 (0.94, 8.13)	1.93 (0.76, 4.90)	0.70 (0.22, 2.22)
FVC %pred	91.7 (14.9)	97.4 (11.9)	97.7 (14.1)	-5.67 (-10.53, -0.80) *	-6.00 (-10.8, -1.25) †	-0.34 (-5.08, 4.41)
zFVC	-0.71 (1.29)	-0.25 (1.00)	-0.22 (1.21)	-0.46 (-0.88, -0.05)	-0.51 (-0.91, -0.10) †	-0.04 (-0.45, 0.36)
FVC < LLN	24 (26.1)	8 (8.70)	10 (9.80)	3.70 (1.56, 8.77) †	3.24 (1.46, 7.25) †	0.88 (0.33, 2.32)
FEV ₁ /FVC ^c	81.8 (9.48)	85.3 (7.95)	86.7 (7.33)	-3.51 (-6.44, -0.57) †	-4.91 (-7.77, -2.04) ‡	-1.40 (-4.26, 1.46)
zFEV ₁ /FVC	-0.82 (1.31)	-0.31 (1.18)	-0.11 (1.16)	-0.51 (-0.94, -0.07) *	-0.71 (-1.13, -0.29) ‡	-0.21 (-0.63, 0.21)
FEV ₁ /FVC < LLN	28 (30.4)	12 (13.0)	12 (11.8)	2.92 (1.55, 6.94) †	3.28 (1.55, 6.93) †	1.12 (0.48, 2.64)
FEF ₂₅₋₇₅ %pred	69.6 (23.4)	82.7 (22.6)	89.5 (24.5)	-13.1 (-21.5, -4.74) ‡	-19.9 (-28.1, -11.7) ‡	-6.80 (-1.36, 15.0)
zFEF ₂₅₋₇₅	-1.49 (1.31)	-0.89 (1.13)	-0.57 (1.15)	-0.60 (-1.03, -0.18) †	-0.93 (-1.34, -0.51) ‡	-0.32 (-0.74, 0.09)

Descriptive data are presented as the mean (standard deviation) or n (%). Between-group comparisons are presented as post-hoc mean differences (95% CI) or odds ratio for categorical variables (95% CI). ^a% change after bronchodilator test (Bdt). ^bMissing data = 3 (all 3 from the EP-noBPD group). ^cActual value. EP: Extremely preterm; BPD: Bronchopulmonary dysplasia; MLP: Moderate-late preterm; FEV₁: forced expiratory volume in one second; z: z-score; LLN: lower limit of normal; FVC: forced vital capacity; FEF: Forced expiratory flow. *p < 0.05/3. †p < 0.01. ‡p < 0.001.

TABLE 3. Prevalence of asthma symptoms based on the GAN questionnaire and between-group comparisons by logistic regression (adjusted data).

	EP-BPD n = 92	EP-noBPD n = 92	MLP n = 102	EP-BPD vs EP-noBPD	EP-BPD vs MLP	EP-noBPD vs MLP
Lifetime wheezing	52 (56.5)	43 (46.7)	45 (44.1)	1.46 (0.79, 2.71)	2.02 (1.08, 3.77) *	1.38 (0.75, 2.53)
Lifetime asthma	30 (32.6)	26 (28.3)	28 (27.5)	1.29 (0.64, 2.61)	1.72 (0.85, 3.52)	1.33 (0.67, 2.66)
Wheezing past 12 months	9 (9.78)	8 (8.70)	12 (11.8)	0.97 (0.31, 3.04)	0.83 (0.28, 2.46)	0.86 (0.32, 2.30)
Inhaled therapy past 12 months	15 (16.3)	13 (14.1)	24 (23.5)	1.45 (0.57, 3.72)	0.92 (0.39, 2.16)	0.63 (0.28, 1.45)
Nocturnal cough past 12 months	27 (29.3)	20 (21.7)	26 (25.5)	1.53 (0.75, 3.13)	1.23 (0.61, 2.44)	0.80 (0.39, 1.62)
Exercise-induced wheeze past 12 months	12 (13.0)	9 (9.8)	19 (18.6)	1.47 (0.52, 4.18)	0.84 (0.34, 2.13)	0.57 (0.23, 1.43)
Awakening with wheezing past 12 months	7 (7.61)	9 (9.78)	12 (11.8)	0.81 (0.27, 2.48)	0.72 (0.25, 2.14)	0.89 (0.34, 2.32)

Data are presented as n of affirmative responses (%). Between-group comparisons are presented as adjusted odds ratios (95% CI). The model was controlled for allergic sensitization, sex, parental history of asthma and atopy, and parental smoking. GAN: Global Asthma

Network; EP: Extremely preterm; BPD: Bronchopulmonary dysplasia; MLP: Moderate-late preterm. *p < 0.05.

TABLE 4. Quality of life scores (Kiddo-KINDL® questionnaire) and between-group comparisons.

	EP-BPD	EP-noBPD	MLP	EP-BPD	EP-BPD	EP-noBPD
	n = 92	n = 92	n = 102	vs EP-noBPD	vs MLP	vs MLP
Sub-scales						
Physical well-being	77.4 (15.3)	79.1 (13.7)	75.9 (17.7)	-1.63 (-7.22, 3.96)	1.57 (-3.88, 7.02)	3.20 (-2.25, 8.66)
Emotional well-being	79.6 (14.9)	81.4 (11.4)	79.3 (14.1)	-1.74 (-6.56, 3.08)	0.37 (-4.33, 5.07)	2.11 (-2.58, 6.82)
Self-esteem	74.8 (19.4)	76.7 (19.3)	70.0 (18.8)	-1.84 (-8.65, 4.98)	4.89 (-1.77, 11.6)	6.72 (0.08, 13.4)
Family	82.4 (14.3)	80.4 (15.4)	79.8 (17.2)	2.00 (-3.59, 7.59)	2.62 (-2.85, 8.08)	0.61 (-4.87, 6.09)
Friends	84.0 (17.6)	85.8 (13.9)	83.3 (14.2)	-1.89 (-7.24, 3.64)	0.68 (-4.65, 6.02)	2.49 (-2.83, 7.80)
School	59.2 (18.7)	60.7 (18.6)	62.0 (17.8)	-1.56 (-8.07, 4.95)	-2.83 (-9.20, 3.53)	-1.27 (-5.09, 7.63)
Total	76.1 (10.9)	77.4 (10.3)	74.8 (10.3)	-1.26 (-4.96, 2.44)	1.08 (-2.54, 4.69)	2.34 (-1.28, 5.95)

Data, which were transformed to 0–100, are presented as the mean (standard deviation). Between-group comparisons are presented as post-hoc mean difference (95% CI). A higher score represents a better quality of life. EP: Extremely preterm; BPD: Bronchopulmonary dysplasia; MLP: Moderate-late preterm.

