

Table D1: Multivariable association of BPD, defined as oxygen supplementation for ≥ 28 days of life (a), and its severity defined at 36 (b-d) and 40 (e-g) weeks' PMA and results of Bayley-II test at mean (SD) corrected age 23.1 (3.6) months. Models were adjusted for variables that were significantly unequally distributed among infants with and without BPD.

a) Multivariate association of BPD, defined as oxygen supplementation for ≥ 28 days of life, and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
BPD (vs no BPD)	1.5 0.8-2.5	0.136	0.180
Gestational age	1.0 0.8-1.2	0.105	0.832
Male sex	2.0 1.2-3.1	0.249	0.010
Birthweight z-score	0.8 0.6-1.1	0.150	0.192
Intraventricular haemorrhage > grade 2	2.9 1.4-6.2	0.384	0.005
Persistent ductus arteriosus	1.0 0.6-1.7	0.254	0.978
Days of mechanical ventilation	1.0 0.9-1.0	0.009	0.925
Surfactant	0.8 0.5-1.4	0.259	0.516
Sepsis	1.0 0.5-1.8	0.307	0.962

b) Multivariate association of mild BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Mild BPD vs no BPD	1.1 0.6-2.1	0.330	0.722
Gestational age	1.1 0.8-1.4	0.132	0.536
Male sex	1.2 0.7-2.1	0.298	0.547
Birthweight z-score	0.994 0.7-1.4	0.189	0.976
Intraventricular haemorrhage > grade 2	2.0 0.7-5.5	0.518	0.180
Persistent ductus arteriosus	1.0 0.5-1.8	0.318	0.912
Days of mechanical ventilation	1.0 0.9-1.1	0.022	0.070
Surfactant	1.0 0.5-1.9	0.333	0.977
Sepsis	0.9 0.4-2.1	0.452	0.760

c) Multivariate association of moderate BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Moderate BPD vs no BPD	1.5 0.7-3.4	0.425	0.324
Gestational age	1.1 0.8-1.5	0.163	0.663
Male sex	2.7 1.3-5.6	0.367	0.007
Birthweight z-score	1.0 0.7-1.6	0.209	0.833
Intraventricular haemorrhage > grade 2	5.4 1.8-15.6	0.543	0.002
Persistent ductus arteriosus	1.3 0.7-2.7	0.361	0.409
Days of mechanical ventilation	1.0 0.9-1.1	0.031	0.445
Surfactant	0.7 0.3-1.5	0.390	0.331
Sepsis	0.7 0.3-2.0	0.516	0.564

d) Multivariate association of severe BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Severe BPD vs no BPD	5.6 2.0-15.9	0.538	0.001
Gestational age	1.2 0.9-1.7	0.175	0.223
Male sex	3.6 1.7-7.7	0.385	0.001
Birthweight z-score	1.0 0.6-1.5	0.219	0.979
Intraventricular haemorrhage > grade 2	4.3 1.0-17.6	0.721	0.043
Persistent ductus arteriosus	0.7 0.3-1.6	0.390	0.464
Days of mechanical ventilation	1.0 0.9-1.0	0.011	0.731
Surfactant	0.8 0.4-1.8	0.410	0.632
Sepsis	0.9 0.3-2.4	0.494	0.838

e) Multivariate association of mild BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Mild BPD vs no BPD	1.2 0.6-2.1	0.303	0.599
Gestational age	1.1 0.9-1.4	0.119	0.497
Male sex	1.6 0.9-2.8	0.272	0.065
Birthweight z-score	0.9 0.7-1.3	0.166	0.574
Intraventricular haemorrhage > grade 2	2.8 1.2-6.4	0.422	0.015
Persistent ductus arteriosus	1.2 0.7-2.0	0.288	0.609
Days of mechanical ventilation	1.0 0.9-1.1	0.019	0.157
Surfactant	0.9 0.5-1.7	0.293	0.868
Sepsis	0.8 0.4-1.7	0.390	0.532

f) Multivariate association of moderate BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Moderate BPD vs no BPD	2.2 0.6-8.1	0.657	0.213
Gestational age	1.2 0.8-1.8	0.407	0.032
Male sex	2.4 1.1-5.3	0.407	0.032
Birthweight z-score	1.0 0.6-1.7	0.248	0.895
Intraventricular haemorrhage > grade 2	6.6 1.7-25.9	0.696	0.007
Persistent ductus arteriosus	0.9 0.4-2.2	0.422	0.890
Days of mechanical ventilation	1.0 0.9-1.1	0.028	0.263
Surfactant	0.7 0.3-1.8	0.469	0.474
Sepsis	0.8 0.2-3.0	0.652	0.747

g) Multivariate association of severe BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Severe BPD vs no BPD	16.6 4.6-59.9	0.655	< 0.001
Gestational age	1.2 0.8-1.7	0.193	0.381
Male sex	2.5 1.1-5.5	0.404	0.024
Birthweight z-score	1.1 0.7-1.8	0.237	0.622
Intraventricular haemorrhage > grade 2	3.6 0.8-16.3	0.772	0.097
Persistent ductus arteriosus	0.7 0.3-1.7	0.420	0.471
Days of mechanical ventilation	0.9 0.9-1.0	0.012	0.464
Surfactant	0.9 0.4-2.2	0.449	0.824
Sepsis	1.1 0.4-3.5	0.574	0.805

Table D2: Multivariable association of BPD, defined as oxygen supplementation for ≥ 28 days of life (h), and its severity defined at 36 (i-k) and 40 (l-n) weeks' PMA and results of Bayley-II test at mean (SD) corrected age 23.1 (3.6) months. Models were adjusted for known neonatal predictors of poor neurodevelopment.

h) Multivariate association of BPD, defined as oxygen supplementation for ≥ 28 days of life, and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
BPD (vs no BPD)	1.5 0.8-3.1	0.156	0.172
Gestational age	1.1 0.8-1.4	0.118	0.540
Male sex	2.7 1.5-4.8	0.299	0.001
Necrotizing enterocolitis	2.9 0.8-10.3	0.641	0.092
Retinopathy of Prematurity	5.3 1.5-19.1	0.656	0.011
Major brain lesion	3.8 1.6-8.2	0.424	0.003
Sepsis	0.9 0.4-13.9	0.369	0.809
Socioeconomic score	1.12 1.1-1.3	0.058	0.003

i) Multivariate association of mild BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Mild BPD vs no BPD	1.4 0.6-3.2	0.407	0.417
Gestational age	1.1 0.8-1.6	0.156	0.365
Male sex	1.5 0.7-2.9	0.354	0.278
Necrotizing enterocolitis	4.6 1.1-18.6	0.712	0.032
Retinopathy of Prematurity	8.8 1.6-47.7	0.861	0.012
Major brain lesion	3.9 1.3-11.4	0.551	0.014
Sepsis	0.9 0.3-2.6	0.515	0.915
Socioeconomic score	1.2 1.0-1.4	0.073	0.013

j) Multivariate association of moderate BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Moderate BPD vs no BPD	1.8 0.7-4.4	0.459	0.201
Gestational age	0.9 0.7-1.3	0.175	0.713
Male sex	5.8 2.2-15.7	0.503	0.001
Necrotizing enterocolitis	6.9 1.5-31.6	0.779	0.013
Retinopathy of Prematurity	4.9 0.9-26.1	0.850	0.060
Major brain lesion	9.2 2.8-30.5	0.611	< 0.001
Sepsis	0.7 0.2-2.2	0.570	0.566
Socioeconomic score	1.3 1.1-1.5	0.083	0.004

k) Multivariate association of severe BPD versus no BPD, defined at 36 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Severe BPD vs no BPD	5.1 1.5-17.4	0.621	0.008
Gestational age	1.2 0.8-1.7	0.205	0.479
Male sex	5.2 2.0-13.7	0.493	0.001
Necrotizing enterocolitis	6.9 1.42-33.9	0.808	0.017
Retinopathy of Prematurity	34.7 4.8-250.8	1.009	< 0.001
Major brain lesion	5.7 1.3-25.0	0.749	0.020
Sepsis	0.745 0.218-2.542	0.627	0.638
Socioeconomic score	1.3 1.0-1.5	0.091	0.012

I) Multivariate association of mild BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Mild BPD vs no BPD	1.4 0.7-2.8	0.350	0.379
Gestational age	1.1 0.8-1.4	0.133	0.494
Male sex	2.2 1.2-4.1	0.325	0.015
Necrotizing enterocolitis	3.2 0.9-11.5	0.649	0.071
Retinopathy of Prematurity	4.4 0.9-19.9	0.765	0.051
Major brain lesion	4.1 1.7-10.2	0.459	0.002
Sepsis	0.9 0.4-2.1	0.421	0.834
Socioeconomic score	1.2 1.0-1.3	0.063	0.005

m) Multivariate association of moderate BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Moderate BPD vs no BPD	3.8 0.8-18.3	0.763	0.096
Gestational age	1.1 0.7-1.7	0.225	0.723
Male sex	3.5 1.3-9.5	0.511	0.014
Necrotizing enterocolitis	14.1 2.2-90.9	0.949	0.005
Retinopathy of Prematurity	18.4 2.5-138.4	1.028	0.005
Major brain lesion	11.5 2.5-53.2	0.782	0.002
Sepsis	0.3 0.053-2.0	0.920	0.220
Socioeconomic score	1.3 1.1-1.6	0.101	0.005

n) Multivariate association of severe BPD versus no BPD, defined at 40 weeks' PMA and neurodevelopmental impairment (NDI) at mean (SD) corrected age 23.1 (3.6) months.

	OR (95% CI)	SE	p-value
Severe BPD vs no BPD	17.5 3.3-91.7	0.830	0.001
Gestational age	1.1 0.7-1.7	0.232	0.639
Male sex	3.7 1.3-10.6	0.536	0.013
Necrotizing enterocolitis	10.6 1.8-61.3	1.075	0.002
Retinopathy of Prematurity	28.3 3.4-232.7	1.075	0.002
Major brain lesion	7.5 1.4-38.9	0.843	0.017
Sepsis	0.8 0.2-3.4	0.734	0.777
Socioeconomic score	1.3 1.0-1.6	0.103	0.016

NDI, neurodevelopmental impairment; BPD, bronchopulmonary dysplasia; PMA, postmenstrual age; OR, odds ratio; 95% CI, 95% confidence interval; SE, standard error.