Lung function and respiratory outcomes in teenage boys and girls born very prematurely

Christopher Harris, Sanja Zivanovic, Alan Lunt, Sandy Calvert, Neil Marlow, Janet L Peacock, Anne Greenough

Supplementary information

Table E1: Comparison of baseline characteristics between children recruited and not recruited at age 11 to 14 years

Table E2: Comparison of baseline characteristics between children with and without lung function assessments at age 11 to 14 years

Table E3: Lung function at age 11-14 years according to sex: sensitivity analyses with further adjustment for mother's ethnicity and smoking in pregnancy

Table E1: Comparison of baseline characteristics between children recruited and not recruited at age 11 to 14 years

The data are presented as the mean (SD) or number/total number (%)

	Recruited	Not recruited	p-value
N	319	219	
Male	162/319 (51%)	121/219 (55%)	0.31
White ethnicity (mother)	285/318 (90%)	162/218/203 (74%)	<0.001
Birth weight (g)	895 (209)	913 (202)	0.31
Birth weight z-score	-0.59 (1.03)	-0.43 (0.90)	0.06
Gestational age (weeks)	26.9 (1.33)	26.7 (1.38)	0.30
Multiple birth	76/319 (24%)	48/219 (22%)	0.61
Surfactant given	310/319 (97%)	217/219 (99%)	0.21
Mother smoked during pregnancy	69/292 (24%)	76/202 (38%)	0.001
Postnatal steroids	84/314 (27%)	67/218 (31%)	0.32
Oxygen dependency at 36 weeks postmenstrual age	183/319 (57%)	130/219 (59%)	0.65
Oxygen dependency at 28 days	262/319 (82%)	176/219 (80%)	0.61
Oxygen dependent at discharge	71/315 (23%)	48/219 (22%)	0.87

Table E2: Comparison of baseline characteristics between children with and without lung function assessments at age 11 to 14 years

The data are presented as the mean (SD) or number/total number (%)

	Recruited	Not recruited	p-value
N	248	290	
Male	127/248 (51%)	156/290 (54%)	0.55
White ethnicity (mother)	219/248 (88%)	228/288 (79%)	0.005
Birth weight (g)	908 (209)	895 (203)	0.48
Birth weight z-score	-0.60 (1.00)	-0.46 0.96)	0.09
Gestational age (weeks)	26.9 (1.32)	26.7 (1.38)	0.25
Multiple birth	66/290 (23%)	58/248 (23%)	0.86
Surfactant given	240/248 (97%)	287/290 (99%)	0.12
Mother smoked during pregnancy	55/229 (24%)	90/265 (34%)	0.015
Postnatal steroids	67/244 (27%)	84/288 (29%)	0.66
Oxygen dependency at 36 weeks postmenstrual age	135/248 (54%)	178/290 (61%)	0.10
Oxygen dependency at 28 days	199/248 (80%)	239/290 (82%)	0.52
Oxygen dependent at discharge	52/244 (21%)	67/290 (23%)	0.62

Table E3: Lung function at age 11-14 years according to sex: sensitivity analyses with further adjustment for mother's ethnicity and smoking in pregnancy

Lung function measure	Total	Difference (95% CI)[1] (males-females)	Adjusted Difference (95% CI)[2] (males-females)	Adjusted Difference (95% CI)[3] (males-females)	P value[3]
FEF_{75} z-score	248	-0.11 (-0.32, 0.11)	0.04 (-0.22, 0.30)	-0.003 (-0.27, 0.27)	0.98
FEF_{50} z-score	248	**-0.41 (-0.63, -0.19)**	-0.24 (-0.49, 0.00)	**-0.34 (-0.59, -0.08)**	**0.01**
FEF_{25} z-score	248	**-0.59 (-0.81, -0.37)**	**-0.31 (-0.55, -0.07)**	**-0.36 (-0.62, -0.11)**	**0.004**
FEF_{25-75} z-score	231	**-0.72 (-0.98, -0.46)**	**-0.46 (-0.76, -0.17)**	**-0.52 (-0.82, -0.21)**	**0.001**
FEV_1 z-score	248	**-0.57 (-0.83, -0.32)**	**-0.36 (-0.65, -0.06)**	**-0.42 (-0.71, -0.13)**	**0.005**
FVC z-score	248	**-0.33 (-0.57, -0.09)**	-0.28 (-0.58, 0.02)	**-0.31 (-0.60, -0.02)**	**0.036**
FEV_1/FVC z-score	248	-0.42 (-0.85, 0.02)	-0.04 (-0.53, 0.44)	-0.13 (-0.63, 0.38)	0.62
PEF % predicted	247	-2.46 (-6.29, 1.36)	0.37 (-4.15, 4.89)	-0.64 (-5.34, 4.05)	0.79
DLCO z-score	210	0.24 (-0.05, 0.53)	0.21 (-0.15, 0.57)	0.16 (-0.22, 0.54)	0.41
VA (litres)	210	**0.21 (0.05, 0.38)**	**0.29 (0.13, 0.45)**	**0.29 (0.12, 0.47)**	**0.001**
FRC_pleth z-score	218	0.29 (-0.04, 0.63)	0.08 (-0.32, 0.49)	0.17 (-0.25, 0.58)	0.43
FRC_he z-score	229	-0.12 (-0.39, 0.16)	-0.22 (-0.57, 0.12)	-0.20 (-0.56, 0.16)	0.27
RV z-score	211	**0.76 (0.43, 1.09)**	0.37 (-0.01, 0.75)	**0.44 (0.04, 0.85)**	**0.03**

TLC z-score	213	**0.30 (0.02, 0.59)**	0.08 (-0.27, 0.44)	0.12 (-0.24, 0.48)	0.50
Respiratory resistance % predicted at 5 Hz	237	5.35 (-0.27, 10.97)	-0.83 (-7.57, 5.90)	1.35 (-5.58, 8.28)	0.70
Respiratory resistance % predicted at 20 Hz	237	4.10 (-1.74, 9.94)	2.16 (-4.69, 9.00)	2.52 (-4.58, 9.62)	0.49

Notes: Totals vary due to missing data (see methods). [1] Unadjusted difference allowing for clustering due to presence of multiple births. [2] Adjusted difference: adjusted for antenatal steroid use, birthweight, oxygen dependency at 36 wks PMA, postnatal steroids, major neonatal neurological impairment mode of ventilation at birth, age at follow-up assessment, pubertal status, passive or active exposure to smoking, presence of a smoker in the home, clustering due to presence of multiple births. [3] Adjusted difference is additionally adjusted for mother's ethnicity and mother's smoking in pregnancy.