Anthropometric measurements

Height (cm) was measured with a stadiometer and data entered with one decimal. Weight (kg) was measured electronically, and data entered with one decimal. Height and weight were primarily presented as z-scores (Table 2), corrected for gender and age (1). Growth after 19 years of age is marginal, and this method considered adequate for the age groups in question. The raw-data (split by gender) is available online (Table 2E). Age (years) was calculated electronically, based on date of birth and date of examination, using SPSS, and data entered with one decimal.

Lung function differences between the two birth-cohorts, both measured at age 18 years

Subjects from both birth-cohorts were seen at the age of 18 years approximately seven years apart and data are presented in Table 4 and 4E (online only). Mostly, results were similar at this age for each BPD subgroup; however for preterm born subjects with m/s BPD, mean z-FVC was lower in the 1982-85 cohort (z-FVC difference: – 1.01; 95 % CI: -1.84, -0.17; p=0.020) and z-FEV1/FVC was higher (z-FEV1/FVC difference: 1.02; 95 % CI: 0.01, 2.03; p=0.049).

Background variables vs. lung function.

As evident from Table 1, mothers of preterms tended to smoke more cigarettes while pregnant, while self-reported smoking was similarly distributed between preterm and term-borns; however, the rate of smokers was 40% among the oldest preterms vs. 21 % in term-borns (p=0.056). The prevalence of allergy was similar, whereas asthma, wheeze and use of asthma medication tended to be more prevalent in those born preterm.

In the 1991-92 cohort in the control group, none of the assessed background variables were associated with z-FEV_1 at 18 years of age. In the preterm group, use of asthma medication 12 months prior to visit 1 (at 10 years) (beta: -0.625; 95%CI: -2.121, -0.468; p=0.004; R^2=0.391) and current asthma at visit 2 (at 18 years) (beta: -0.528; 95%CI: -2.094, -0.268; p=0.014; R^2=0.278) were both significantly related to z-FEV_1 at visit 2 (at 18 years). Otherwise, there were no significant associations.

In the 1982-85 cohort in the term-born control group, allergy (beta: 0.320; 95%CI: 0.053, 1.190; p=0.033) and maternal smoking (beta: -0.309; 95%CI: -1.406, -0.026; p=0.042; R^2=0.352 for both) were associated with z-FEV_1 at visit 2 (at 25 years); otherwise there were no significant associations.

Neonatal variables vs. lung function

In the 1991-92 cohort, postnatal treatment with corticosteroids remained associated with z-FEV_1 at visit 2 (at 18 years) (beta: -0.625; 95%CI: -1.796, -0.626; p<0.001; R^2=0.391) in the final model. In the 1982-85 cohort, none of the assessed neonatal variables were related to z-FEV_1 at visit 2 (at 25 years).

Reference List

(1) Juliusson PB, Roelants M, Nordal E, Furevik L, Eide GE, Moster D, et al. Growth references for 0-19 year-old Norwegian children for length/height, weight, body mass index and head circumference. Ann Hum Biol 2013 Feb 18.