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## ASSESSMENT OF PULMONARY FUNCTION INDICES (PEF, FEV1) IN NORMAL SCHOOL AGED GREEK CHILDREN

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Pulmonary expiratory flow (PEF) and forced expiratory volume in 1sec (FEV1) constitute useful markers in the evaluation of pulmonary function.

The purpose of our study was to assess PEF and FEV1 of normal school aged children and determine their relationship to sex, age, chest circumference (C.C), height and body mass index (BMI) values.

**METHOD:** Spirometric measurements (using one flow tester ATS 94) were carried out in 1644 children 7-12 years old (833 boys-811 girls). Children with a history of bronchial asthma and those who couldn't cooperate were excluded from the study. Height, weight and chest circumference measurements were performed and BMI values (kg/m<sup>2</sup>) calculated.

**RESULTS:** At all ages PEF (lt/min) and FEV1(lt) values were significantly higher in boys than in girls (p<0.001) (PEF-boys :193±34.18, 211.17±29.5, 226±40.4, 243±56, 270±46.44, 289±67.42, ages 7-12, respectively, FEV1-boys: 1.34±0.24, 1.48±0.20, 1.62±0.32, 1.77±0.31, 1.91±0.33, 2.02±0.47, PEF-girls: 174±31.15, 195±33.27, 215±35.42, 229±46.73, 262±45.58, 293±50.77, FEV1-girls: 1.24±0.21, 1.35±0.27, 1.50±0.26, 1.64±0.32, 1.76±0.37, 2.00±0.33). Additionally, PEF and FEV1 were significantly positively correlated to BMI, C.C, age and height at all ages (p<0.001).

On examining FEV1 and PEF (dependent variables) using multiple linear regression analysis, we found 50.5% of the total variance in the model accounted for by height (49.5% in PEF), whereas age, C.C and BMI accounted only for the remaining 3.8% of the variance (2.7% of PEF).

**CONCLUSION:** Respiratory function indices are significantly higher in normal boys than girls. Clearly, height is the single most important predictor that positively correlates with PEF and FEV1 values of normal children.

