If we have only spirometry as asthma assessment tool in the pediatric practice
Stamatios Priftis

S Lazova1, S Priftis2, A Yanakieva2, G Petrova1, D Miteva1, H Rafailova1, P Perenovska1, S Georgieva2
1Pediatric Clinic, UMHAT “Alexandrovska”, Medical University, Sofia, Bulgaria
2Faculty of Public Health, Medical University, Sofia, Bulgaria
Contact: stamatios.priftis@gmail.com

Background
NICE guidelines from 2015 define forced expiratory volume in 1 s/forced vital capacity (FEV1/FVC) ratio of less than 70% as a positive test for obstructive airway disease (obstructive spirometry). The bronchodilator response (BDR) in children with FEV1 improvement of 12% or more is postulated as a positive for asthma test. For children with BDR less than 12% FeNO level examination is recommended. In most pediatric practices in Bulgaria the only accessible asthma test is spirometry.

Methods
We analyzed the results of spirometry and BDR test of 209 children (mean age 10.2 ± 0.65 years) with chronic cough. We followed up all the patients for one year, and reevaluate their health and therapy.

Results
From the total of 209 children with chronic cough 104 were diagnosed as asthma patients due to high BDR results. From the rest 105 children 46 had BDR ≤ 12% but >8%. Those children also were consequently diagnosed as asthmatic due to repetitive bronchial obstruction and variable FEV1 results. They had very good effect from therapy for asthma, although their BDR test was never over 12%. From all children with BDR >8% no one had other disease that could explain the chronic cough better than asthma.

Conclusions
Following strictly high threshold for BDR in children with chronic cough could lead to significant misdiagnosis of children that have asthma symptoms and benefit from anti-asthmatic treatment.

Key message:
- Lowering the BDR cut-off from 12% to 8% in children under 16 years of age as an asthma marker could lead to improved asthma detection.