

Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

Reviewers

Addiction

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Respiratory disease

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Sexual health

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Smoking cessation

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Respiratory disease

Symptoms based approach to asthma may miss children at risk

Abnormal spirometry and FeNO results are common in children with asthma managed in primary care and relate poorly to symptom scores, a UK study has shown.

Children aged 5-16 years with an existing asthma diagnosis or receiving asthma medications (suspected asthma) were enrolled from ten general practices in the East Midlands in a prospective observational cohort study.

Training in performing and interpreting spirometry and FeNO was provided for clinical staff at each practice. Staff were trained to review treatment plans and adherence to asthma preventer medications in children with poor symptom control or abnormal objective test results.

Validated questionnaires were used to assess current asthma control and spirometry was performed. Where FEV₁ or FVC was < 80% predicted, or FEV₁/FVC < 80%, reversibility testing was carried out after administering salbutamol 400 µg via a spacer. FeNO measurements were attempted in all children following spirometry.

A total of 1,548 eligible children were identified, 1,097 (71%) were on a GP asthma register and 451 (29%) were not but had received asthma

medications in the previous 12 months. Results were analysed on 612 children who responded to the written invitation and attended clinics.

Acceptable spirometry was achieved in 575 (94.0%) children, and 135 (23.5%) had airflow obstruction. FeNO results were obtained from 472 (77.1%) children, 36.0% had raised FeNO (≥ 35 parts per billion) and 41.8% reported poor control. Almost half (46%) of children reporting good asthma control had abnormal spirometry and/or raised FeNO.

At follow-up, the mean number of unplanned healthcare attendances fell from 0.31/child in the six months preceding review to 0.20/child over the six months following review (P = 0.0004). Median asthma control test scores, for children aged > 12 years, improved from 20 to 22 (P = 0.032), and childhood asthma control test scores, for children aged 5-11 years, from 21 to 23 (P < 0.0001).

The research team comment: 'Given the association between abnormal spirometry and FeNO with poor asthma outcomes, the high prevalence of abnormal lung function and FeNO seen in our cohort highlights the need for objective measurements in asthma monitoring to fully appreciate the future risk of adverse asthma events.'

'We have shown that abnormal lung function and FeNO are highly prevalent in children who attend for asthma reviews in primary care, and correlates poorly with patient-reported symptom scores. Our data suggests that a symptoms based assessment alone is inadequate, and is likely to miss children at high risk of a near future severe asthma attack.'

DR PETER SAUL

Lo DKH, Beardsmore CS, Roland D et al. Lung function and asthma control in school-age children managed in UK primary care: a cohort study. *Thorax* Epub ahead of print 23 September 2019. doi:10.1136/thoraxjnl-2019-213068

