

# CLAHRC BITE

## Asthma control in London secondary school children May 2017

Suboptimal asthma control and poor knowledge of asthma are common in London secondary school students.

Summary of an observational study of secondary school children in London with doctor-diagnosed asthma, looking at their levels of asthma control, medication adherence, and knowledge of their asthma medication.

### Background

Compared to other European countries, the UK has relatively high rates of morbidity and mortality in children with asthma. Poor understanding of the potential risks of asthma conditions are thought to be associated with deaths in children and young people with asthma. Previous studies of **asthma control** in children have identified overoptimistic perception of asthma control by both children and their parents. However, there has been no prior research in the UK on the level of asthma control or asthma knowledge in adolescents in schools.

#### Asthma control

The aim of asthma therapy is to reduce morbidity and mortality by achieving good control of asthma symptoms. The most common forms of therapy are 'reliever' (short-acting  $\beta_2$  agonists [SABA]) inhalers and 'preventer' (ICS $\pm$ LABA) inhalers, often used with a tool called a spacer to aid inhalation.



#### Aims of the study

This study aimed to assess asthma control in London schoolchildren, aged 11 to 18 years, using an online questionnaire incorporating the Asthma Control Test (see below). The researchers also investigated knowledge of asthma therapies, adherence to asthma therapies and the impact of asthma on school life.

#### The Asthma Control Test

The Asthma Control Test (ACT) is a validated tool for assessing asthma control in adolescents and adults. The 5 questions of the test cover: frequency of asthma symptoms, use of 'reliever', and the individual's own rating of their control in the past month. A score is then calculated, with a maximum of 25. Scores of **19 and lower** are seen as an indicator of **suboptimal** control of asthma symptoms.

### Key Findings

- Almost half of the students reported suboptimal asthma control: 30% made an unplanned visit to the GP in the last month due to asthma.
- Students did not always have a good understanding of their level of asthma control: more than half of students with suboptimal control considered their asthma to be 'well' or 'completely' controlled.
- Over 40% of students reported feeling somewhat comfortable, 'hardly comfortable' or 'not at all comfortable' using their reliever inhaler at school.
- Students who felt uncomfortable with using their reliever inhaler were more likely to have suboptimal asthma control.
- 'Forgetfulness' was the main reason many students gave for not always using their preventer inhaler.
- Knowledge of how to use the preventer inhaler was low, however we could not conclude that this was a predictor of suboptimal asthma control.

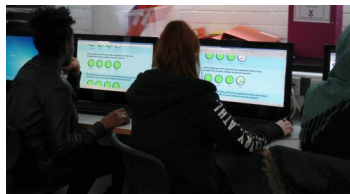
## What we did

The team conducted a study of London secondary school students aged 11-18 years old who were registered with their school as having asthma. The study ran between October 2014 and October 2015, with almost 800 students from 24 schools taking part.

The participating students each answered a short online questionnaire (approx. 15 minutes long) on the Asthma & You website, designed by the project team. The questionnaire incorporated the 5-part Asthma Control Test, along with questions about use of medication, unplanned use of health-care facilities, school attendance, smoking behaviour and knowledge of the role of the spacer and preventer inhaler.

Design of the questionnaire and website involved four focus groups of young people with and without asthma, to test the design and acceptability of the materials. The questionnaire included pictures of medication to help identification, and both research and school staff were on hand to answer any questions.

The final data analysis included data from 689 students, after removing students who had not answered all 5 of the questions from the ACT, and those who self-reported not taking medication for asthma.



## Recommendations for Policy and Practice

- There is a need for interventions aimed at identifying and addressing poor asthma control in UK schoolchildren.
- Schools can provide a good 'third space' for implementing interventions to improve asthma control.
- Future school-based interventions should aim to address asthma knowledge, peer pressure around inhaler use and establishing a regular preventer inhaler habit.

## References:

- Asthma control in London secondary school children.** Kate Harris, Gioia Mosler, Samson Williams, Abigail Whitehouse, Rosalind Raine, Jonathan Grigg. Journal of Asthma. 2017 March; 23:1-8.  
<http://clahrc-norththames.nihr.ac.uk/wp-content/uploads/2017/03/Journal-of-Asthma-paper-1.pdf>
- Improving child health services in the UK: insights from Europe and their implications for the NHS reforms.** Wolfe I, Cass H, Thompson MJ, Craft A, Peile E, Wiegiersma PA, et al. British Medical Journal 2011;342 doi: <https://doi.org/10.1136/bmj.d1277>
- Evaluation of the asthma control test: a reliable determinant of disease stability and a predictor of future exacerbations.** Ko FW, Hui DS, Leung TF, Chu HY, Wong GW, Tung AH, Ngai JC, Ng SS, Lai CK. Respirology. 2012 January; 17: 370-378 doi: [10.1111/j.1440-1843.2011.02105.x](https://doi.org/10.1111/j.1440-1843.2011.02105.x)

## Useful links:

**Asthma & You website:**

<http://www.myasthmaproject.co.uk/>

**Reducing asthma admissions using a**

**school-based intervention Team:** [http://clahrc-norththames.nihr.ac.uk/child\\_and\\_adolescent\\_health\\_theme/reducing-asthma-admissions-using-a-school-based-intervention/](http://clahrc-norththames.nihr.ac.uk/child_and_adolescent_health_theme/reducing-asthma-admissions-using-a-school-based-intervention/)

**CLAHRC Child and Adolescent Health Theme:** [http://clahrc-norththames.nihr.ac.uk/child\\_and\\_adolescent\\_health\\_theme/](http://clahrc-norththames.nihr.ac.uk/child_and_adolescent_health_theme/)

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