EDITORIAL

Childhood asthma peaks at the start of the school year

AUTHOR
Dr Peter Saul
MB ChB DCH DRCOG FRCGP
GP Wrexham and Associate GP Dean for North Wales, UK

ASTHMA EXACERBATIONS INCREASE IN CHILDREN UNDER 15 YEARS, ESPECIALLY BOYS, WHEN children return to school in September after the summer holidays, a UK study has found.[1]

Consultation data from GP in-hours and out-of-hours systems and emergency department (ED) attendances, between April 2012 and December 2016, were collected through the Public Health England national syndromic surveillance service. GP in-hours consultations covered diagnoses of acutely presenting asthma, ED data diagnoses that specified asthma and GP out-of-hours consultations diagnoses that described acute asthma episodes.

Age- and sex-specific rates and time series of asthma peaks relative to the dates of the school term were determined. The timing of a back to school excess period and adjusted rates of asthma relative to the baseline period (the last four weeks of the summer holidays) were estimated. The data from each source were analysed to estimate the date at which the period of September excess activity started. The study period was continued until half term.

Analysis of the September back to school period was restricted to children aged up to 4 years and 5-14 years as these were the age groups in which an effect was most apparent in the time series plots. There was a wide variation in asthma attendances for children aged 15 years and over that did not appear closely correlated with the school term dates.

Each data source showed a similar age-sex distribution in the asthma burden; rates of a presenting asthma episode were 1.6 to 2.4 times higher in boys than girls in the 4 and under and 5-14 years age groups. In the 15 years and over group, this pattern was reversed, with rates among girls 1.2 to 2.0 times higher than among boys.

For GP in-hours consultations, there was evidence of a general back to school effect among children aged up to 4 and 5-14 years, characterised by falling rates during school holidays followed by an increase in the first 2-3 weeks of the term. This pattern was not seen in those aged 15 years and over. GP out-of-hours data gave similar results and ED asthma attendances by children aged up to 4 and 5-14 years showed a back to school effect at the start of the school year.

In all three systems, most of the peaks among children aged up to 4 and 5-14 years were driven by boys. Peaks in girls generally occurred at the same time but were of much smaller absolute magnitude. After controlling for age and sex differences, the adjusted daily rate of GP in-hours asthma consultations in children was 2.5 to 3 times higher in the back to school excess period than in the baseline period, with a significantly higher effect in children aged 4 years and under than in those aged 5-14 years. A significant effect of smaller magnitude was observed for GP out-of-hours consultations.

'The daily rate of GP in-hours asthma consultations in children was 2.5 to 3 times higher in the back to school period'

'The timing of the back to school asthma peak is concurrent with the start of seasonal increases in a number of respiratory pathogens in the UK, including rhinovirus, a pathogen closely associated with asthma exacerbations in children,' the study authors point out. However, they add that the aetiology is complex and other factors such as 'environmental determinants' are likely to be involved.

Earlier studies had shown a back to school peak in asthma in children at the start of the school year but this study has quantified the age distribution and magnitude of this effect, 'thereby supporting existing public health messaging about the management of asthma in children at this time of year,' the study authors say.

These findings highlight the importance of reminding our younger patients during the school holidays to continue to take their preventer medication according to their asthma plan at all times.

REFERENCE
1 Bundle N, Verlander NQ, Morbey R et al. Monitoring epidemiological trends in back to school asthma among preschool and school-aged children using real-time syndromic surveillance in England, 2012-2016. *J Epidemiol Community Health* 2019;73:825-31

We welcome your feedback

If you would like to comment on this article or have a question for the author, write to: **editor@thepractitioner.co.uk**