Respiratory disease

Overweight adolescents consult more frequently for respiratory symptoms

Overweight teenagers are more likely to consult their GP for asthma, and other respiratory symptoms, than those of normal weight, a study from the Netherlands has found.

A total of 617 children, aged 2 to 18 years, were recruited to a prospective cohort study from 71 GP practices across the country. Height and weight were measured at recruitment and other health and social data collated from questionnaires sent to patients/parents. Children with disabilities or conditions affecting their weight were excluded. Details of subsequent consultations were obtained from the medical records.

At baseline, 115 (18.6%) children were underweight, 391 (63.4%) normal weight, and 111 (18.0%) overweight. Underweight children tended to be younger (6.77 vs 8.05 years, P = 0.017) and were more likely to have been breastfed (85.4% vs 68.6%, P = 0.025) than those of normal weight.

During the two-year follow-up, 279 (45.2%) children consulted their GP at least once for a respiratory complaint. For asthma-like symptoms, inflammatory respiratory complaints, and respiratory allergy-related symptoms, the respective figures were: 47 (7.6%), 168 (27.2%), and 81 (13.1%) children.

When the data were analysed across the entire age range (2 to 18 years) overweight children in general were found to consult significantly more often with respiratory allergy-related symptoms than children of normal weight (0.4 vs 0.2); odds ratio (OR) 1.65 (95% CI: 1.06-2.57). No significant differences between the weight status groups were found with respect to consultations for asthma or for inflammatory respiratory problems.

The researchers further evaluated the data for three different age groups (2 to <6, 6 to <12, and 12 to 18 years).

Overweight children aged 12 to 18 years had significantly more GP consultations for any respiratory symptoms than their peers of normal weight; 1.87 vs 0.93; OR 2.14 (95% CI: 1.14-4.01).

Overweight children in this age group also had more asthma-related consultations (0.48 vs 0.20); OR 3.94 (95% CI: 1.20-12.88) and more respiratory allergy-related consultations (0.78 vs 0.31); OR 3.14 (95% CI: 1.25-7.86) than those of the same age but normal weight.

Children's weight has a U-shaped association with the prevalence of asthma. It has been postulated that obesity is associated with increased inflammatory activity at a cellular level and relative fat deposition can influence airway efficiency.

The authors suggest that obesity may have an impact on respiratory health later in childhood because the effects may take time to have a clinical impact. The relationship with obesity may be inverse, in other words, having asthma may make the child more likely to be obese.

They suggest that further research is needed to confirm whether weight loss would improve asthma symptoms.

Addressing childhood obesity may help with asthma and allergic conditions, but there are probably other factors also involved.

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van Leeuwen J, El Jaouhari Z, Paulis WD et al. Differences in respiratory consultations in primary care between underweight, normal-weight, and overweight children. *Primary Care Respiratory Medicine* 2019;29:15; https://doi.org/10.1038/s41533-019-0131-0