

## Babies who eat fish before nine months are less likely to suffer pre-school wheeze

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Children who started eating fish before nine months of age are less likely to suffer from pre-school wheeze, but face a higher risk if they were treated with broad spectrum antibiotics in the first week of life or their mother took paracetamol during pregnancy. Those are the key findings from a large-scale Swedish study published in the December issue of *Acta Paediatrica*.

Researchers analysed responses from 4,171 randomly selected families, who answered questions when their child was six months, 12 months and four-and-a-half years of age.

"Recurrent [wheeze](#) is a very common clinical problem in [preschool children](#) and there is a need for better [medical treatment](#) and improved understanding of the underlying mechanisms" says lead author Dr Emma Goksor from the Queen Silvia Children's Hospital, University of Gothenburg, Sweden. "The aim of our study was to identify both important risk factors and protective factors for the disease.

"Our demographic analysis suggests that the responses we received were largely representative of the population as a whole and we believe our findings provide useful information on three important factors involved in pre-school wheeze."

The study examined children who had had three or more episodes of wheezing in the last year, including those who did and did not use [asthma medication](#) (inhaled corticosteroid), comparing them with children who

did not wheeze. The wheezy sample was further broken down into children who only developed episodic viral wheeze when they had colds and multiple trigger wheeze, where children also wheezed when they didn't have a [cold](#), reacting to factors such as [allergens](#), [tobacco smoke](#) or exercise.

Key findings of the study include:

### **Overall prevalence**

- One in five of the children had at least one episode of wheezing and one in 20 had recurrent wheeze (three or more episodes) over the last year. Of these, three-quarters had used asthma medication and just over half reported doctor-diagnosed asthma.
- More than half of the children with recurrent wheeze had episodic viral wheeze (57%) and 43% had multiple-trigger wheeze.

### **Fish consumption before nine months of age**

- Eating fish before the age of nine months almost halved the likelihood of suffering recurrent wheeze at 4.5 years. The fish most commonly eaten was white fish, followed by salmon and flat fish.
- The authors have previously reported that fish, which is thought to contain properties that reduce allergy risks, is beneficial in both eczema in infancy and allergic rhinitis at pre-school age. Other research has suggested a protective effect on the development of asthma.

### **Antibiotic treatment in the first week of life**

- Being treated with [broad-spectrum antibiotics](#) in the first week was associated with double the risk of recurrent wheeze at 4.5 years. Just 3.6% of the children in the no wheeze group had received antibiotics, compared with 10.7% of those who had experienced three or more episodes.
- When this was broken down into subgroups, the risk was even higher in children with multiple-trigger wheeze, while the risk of episodic viral wheeze was not statistically increased.

### **Use of paracetamol during pregnancy**

- Less than a third of the mothers (28.4%) had taken some medication during pregnancy, with 7.7% of the total taking paracetamol and 5.3% only taking paracetamol.
- The prevalence of prenatal paracetamol exposure in the wheeze group using asthma medication was 12.4% and taking paracetamol during pregnancy increased the risk by 60%.
- The effect was particularly noticeable in the multiple-trigger wheeze group, where it more than doubled the risk.

"The aim of this study was to determine the [risk factors](#) for pre-school wheeze, with particular reference to prenatal paracetamol use, early exposure to antibiotics and fish consumption. A secondary aim was to analyse possible differences between multiple-trigger wheeze and episodic viral wheeze.

"Our findings clearly show that while fish has a protective effect against developing pre-school wheeze, [children](#) who had antibiotics in the first week of life and whose mothers took paracetamol during pregnancy faced an increased risk, particularly of multiple-trigger wheeze."

**More information:** Preschool wheeze – impact of early fish introduction and neonatal antibiotics. Goksör et al. *Acta Paediatrica*. 100, pp1561-1566. (December 2011) [DOI: 10.1111/j.1651-2227.2011.02411.x](https://doi.org/10.1111/j.1651-2227.2011.02411.x)

Prenatal paracetamol exposure and risk of wheeze at preschool age. Goksör et al. *Acta Paediatrica*. 100, pp 1567-1571. (December 2011) [DOI: 10.1111/j.1651-2227.2011.02403.x](https://doi.org/10.1111/j.1651-2227.2011.02403.x)

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