



RESEARCH NEWS

Sugar intake in pregnancy is linked to child's allergy and allergic asthma

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Pregnant women who consume high levels of free sugars during pregnancy are more likely to give birth to a child with allergy or allergic asthma, a study published in the *European Respiratory Journal* suggests.¹

The researchers used data from the Avon Longitudinal Study of Parents and Children (ALSPAC), which looks at the offspring of predominantly white women living in Avon, UK, who were due to give birth from 1 April 1991 to 31 December 1992.

They analysed associations between maternal intake of free sugar (sugar that is added to foods or naturally present in honey, syrups, and fruit juice) during pregnancy and asthma diagnoses, wheezing, hay fever, eczema, atopy, serum total IgE, and lung function in children aged 7-9 years.

Of the 13 972 singleton or twin children alive at age 1, information on maternal diet was available from 12 078, including information on at least one of the outcomes of interest in 8956.

The researchers found only weak evidence of a link between free sugar intake in pregnancy and asthma or wheezing (odds ratio comparing highest v lowest quintile of sugar intake were 1.31 (95% confidence interval 0.98 to 1.75; per quintile p-trend=0.09) and 1.42 (1.05 to 1.92; per quintile p-trend=0.08), but the association was much stronger with atopy at age 7 (1.38 (1.06 to 1.78); per quintile p-trend=0.006) and atopic asthma (2.01 (1.23 to 3.29); per quintile p-trend=0.004). No association was found between maternal free sugar intake and eczema, hay fever, total IgE, or lung function.

The analyses took account of numerous potential confounders, such as background maternal characteristics, social factors, and other aspects of maternal diet, including foods and nutrients that have previously been linked to childhood asthma and allergy. Importantly, the associations were independent of the offspring's free sugar intake in early childhood.

The lead researcher, Seif Shaheen, of Queen Mary University of London, said, "We cannot say on the basis of these

observations that a high intake of sugar by mothers in pregnancy is definitely causing allergy and allergic asthma in their offspring. However, given the extremely high consumption of sugar in the West, we will certainly be investigating this hypothesis further with some urgency.

"The first step is to see whether we can replicate these findings in a different cohort of mothers and children. If we can, then we will design a trial to test whether we can prevent childhood allergy and allergic asthma by reducing the consumption of sugar by mothers during pregnancy. In the meantime, we would recommend that pregnant women follow current guidelines and avoid excessive sugar consumption."

Rahul Chodhari, consultant paediatrician at the Royal Free London Foundation NHS Trust and spokesperson for the Royal College of Paediatrics and Child Health, said that, while it was well known that maternal health and wellbeing had a profound impact on child health, this was the first study to identify a potential association between sugar intake in pregnancy and allergy or allergic asthma in children, adding that further research was needed.

"The ALSPAC is a strong, population based birth cohort resource with a fairly large sample size," he said. "However, most births in the cohort took place before we saw significant rises in atopy rates among children, and the period of this study misses potential improvements in lowering sugar intake that we might have made through public health campaigns more generally."

He added that measuring sugar intake can be difficult and that multiple factors are associated with increased allergic disorders.

1 Bédard A, Northstone K, Henderson AJ, Shaheen SO. Maternal intake of sugar during pregnancy and childhood respiratory and atopic outcomes. *Eur Respir J* 2017;358:1700073. doi:10.1183/13993003.00073-2017.

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