High Fruit Intake May Prevent Onset of Allergic Symptoms in Children

Food intake was categorized as low, medium, or high based on the amount consumed during the study period.

ATLANTA, GA—At the 2017 AAAAI Annual Meeting, researchers presented that schoolchildren with high fruit intake demonstrated significantly lower onset of allergic symptoms.

In order to assess the effect of diet on allergic symptoms among schoolchildren, Takashi Kusunoki, from the Department of Pediatrics at the Shiga Medical Center for Children, in Shiga, Japan, and colleagues administered questionnaires to caregivers of all 7-year-old children in every primary school in Omihachiman City, Shiga, Japan in 2011. The questionnaires inquired about the children's allergic symptoms (International Study of Asthma and Allergies in Childhood) and diet (brief-type self-administered 10-year diet history questionnaire) and were given for 4 consecutive years until the children were 10 years old in 2014. Additionally, measurements of IgE levels specific to four inhalant allergens were obtained and considered positive if ≥0.7 UA/mL.

To determine study groups, the authors arranged the children in order from smallest to largest food intake and divided them into four groups. Next, "children classified in the third quartile or higher every year and in the fourth quartile in at least 3 of the years were defined as high intake group, whereas those ranked in the second quartile or lower every year and in the first quartile in at least 3 of the years were defined as low intake group," the study authors explained. Patients that did not fit into either of these groups were designated as the medium intake group.

Of the total 759 children, 520 children whose caregivers responded were included in the analysis. The data showed that the rate of allergic symptoms (eg, asthma, ...
eczema, rhinitis) at 10 years old was significantly lower in children with high fruit intake vs. children with low and medium intake (25.8% vs. 47.6% and 48.0% respectively; \( P=0.005 \)). Additionally, multivariate odds ratio (OR) for the high intake group was reported as 0.32 (95% CI: 0.14, 0.70; \( P=0.005 \)).

Results of the study also found that the rate of new-onset allergic symptoms was significantly lower in the high fruit intake group compared to the low and medium fruit intake groups (14.3% compared to 33.3% and 28.3%, respectively; \( P=0.01 \)). The study authors also reported, "that the sensitization rate of ragweed antigen was significantly lower with higher amounts of fruit intake", where 13.6% of patients in the high fruit intake group had a positive rate compared to 26.3% and 16.8% of patients in the low and medium intake groups, respectively (\( P=0.046 \)).

"No such trend was observed for the intake of other supposedly allergy-suppressive foods, such as fish, vegetables or soybeans," added Kusonoki. Additional data showed that the effect of fruit consumption was independent of intake of other food items.

In general, the findings from this study suggest that encouraging children to consume high amounts of fruit may prevent the onset of new allergic symptoms, the authors concluded.

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