

Cystic Fibrosis Research News

Title:

Micronutrient intake in children with cystic fibrosis in Sydney, Australia

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What was your research question?

The research question asked: do children with CF eat a diet that meets the recommended amounts of vitamins and minerals needed for health and wellbeing?

Why is this important?

Nutritional management has been recognised as an important contributor to the health of people with CF. In our previous study we showed that children with CF have a poor-quality diet with 44% of the energy they eat coming from junk foods. As individuals with CF are now living longer, they have been accompanied with nutrition-related complications such as stunted growth and decreased bone mineral density. Vitamins and minerals are important for the health of everyone. For example calcium is a mineral needed by the body to make strong bones and iron is another mineral needed to transport oxygen to our cells to produce energy.

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No studies have provided a comprehensive evaluation of vitamin and mineral intake in children with CF.

What did you do?

We used a diet survey tool called a food frequency questionnaire to measure a child's usual food intake for six months. The questionnaire can tell us how much of each vitamin and mineral was consumed on an average day. We could then compare an individual's result to the recommended amount needed and see whether there were any gaps. We looked at children in three age groupings: pre-school, primary school and high school.

What did you find?

Children with CF didn't eat a diet that met the recommended amount of all the target vitamins and minerals at any age group. Highschool aged children (12-18 years) had the most deficient diet and they failed to consume enough of 7 of 13 vitamins and minerals measured. The nutrients most likely to be consumed in lower amounts than recommended per age group were as follows: iron in preschool children; folate in primary school children; and folate, calcium, magnesium and iron in high school children.

What does this mean and reasons for caution?

Dietitians need to be aware that children with CF of high school age are a high-risk group for poor intake of vitamins and minerals. These children should be reviewed frequently so that targeted intervention can be used to improve their diet, when necessary. Overall, children with CF are more likely to meet their vitamin and mineral requirements if they reduced their consumption of junk foods and consumed more healthy foods.

This study was done in one Sydney based center and may not reflect what children eat around Australia or in other countries.

What's next?

This study could be done in other CF centres across Australia and overseas to confirm our results. The CF diet could be examined closer to look at ways to make it high in energy and fat but also able to provide enough of every vitamin and mineral needed for health and wellbeing.

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