**We are feeding our toddlers a risky diet - here's what we should do about it**

The first two years of life are important for developing healthy eating habits

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The food and drink young children in the UK are consuming could be putting their health at risk. In a new study, published in the British Journal of Nutrition, we report that toddlers are consuming too much protein and too many calories for their age, putting them at risk of obesity in later life. We also found that they’re consuming too much salt and not enough fibre, vitamin D or iron.

Our study analysed data from one of the largest dietary datasets for toddlers in the UK, collected in 2008-9 from 2,336 children from the Gemini twin birth cohort. The daily calorie intake of toddlers (21 months old) was 7% higher than recommended by public health nutrition guidelines. And protein intake was approximately three times higher than recommended, with almost all toddlers exceeding the recommendation set by the Department of Health.

**Not a sure start**

The first two years of life are important for developing healthy eating habits. Children begin to develop dietary preferences that shape their eating behaviour and have a lasting impact on health. Our research suggests that there is cause for concern.

The average daily energy intake for toddlers at 21 months was 1,035 calories; higher than the 968 recommended for children aged two years by the Scientific Advisory Committee on Nutrition. In all, 63% of children exceeded this recommendation. On average, 40g of protein was consumed per day, but just 15g is recommended by the Department of Health for children aged one to three years.

We know that eating too many calories – not matching the energy consumed with the energy expended – leads to weight gain. But finding out how children consume their calories is important. Increased protein in early life is a risk factor for obesity in early life, and obesity often continues into adulthood. Both the high caloric intakes and the higher than recommended protein intakes found in our study suggest that toddlers today may be at increased risk of obesity and associated health problems such as heart disease and diabetes.

**The protein source**

A previous study in Gemini found that children who ate higher amounts of protein at 21 months of age, gained more weight up to five years of age. It’s important to identify the sources of protein that may be linked to this risk of weight gain.

In Gemini, almost a quarter of children’s calorie intake was consumed in milk and many of the children (13%) were still drinking formula milk at 21 months of age. This suggests that one of the main dietary sources through which children might be obtaining excess protein, is milk. In fact, within Gemini it was protein consumed from dairy (rather than other animal-based protein or plant-based protein) that was driving increases in weight gain up to age five.

At 21 months of age, the transition from a primarily milk-based diet to family food should have occurred, but it appears that a number of children continue to drink large quantities of milk, high in calories and protein. It’s important that, as children begin to consume family food, milk intake is decreased and replaced with water rather than high-calorie, sugary drinks.

As well as getting too much protein, toddlers were also consuming too much salt. Sodium intake was on average 1,148mg a day, almost three times higher than the 500mg recommended. This is a concern because it may set taste preferences for the future, increasing the risk of raised blood pressure in later life. Most salt in the diet comes from processed foods making it more difficult for people to reduce their salt intake. Parents need to be made aware that many processed foods contain high levels of salt and they may need more guidance on checking food labels, choosing lower salt options and limiting the intake of high-salt foods such as ham and cheese.

Fibre intake among many young children was also low, at just half the recommended amount (8g versus 15g per day). Given that high fibre diets have been associated with reduced risks of cancers, coronary heart disease and obesity, it is important for children to consume sufficient amounts.

Iron and vitamin D intakes were also low. Almost 70% of children did not meet the recommended 6.9 micrograms of iron. And average vitamin D intake was 2.3 micrograms a day, falling far short of the 7 micrograms set by the Department of Health. Less than 7% of children met the recommended vitamin D level, and insufficient intake of vitamin D has been associated with poor health, including rickets.

Many toddler foods are now fortified with vitamin D and iron, but children are still not getting enough. Supplements were taken by a small proportion (7%) of children and, although intakes of vitamin D and iron were increased through supplements, most children were still not meeting the recommendations for vitamin D. This underlines the importance of the government recommendations that all children aged six months to five years should take a daily supplement of vitamin D.

Parents need more guidance on the appropriate type, amount and variety of foods and drinks, together with appropriate supplements, in order to reduce obesity and other health problems that may affect their children in later life.

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