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EARLY YEARS NUTRITION: AVOIDING A SWEET TOOTH

Our innate preference is for sweeter foods. Breast milk, for example, is naturally sweet. Given this, many foods manufactured for infants and toddlers are sweetened to improve acceptability. This article discusses the role that vegetables can play in counterbalancing the stealth of sweet exposures during the early years. Secondary analysis of UK National Diet and Nutrition Survey Data (years 3 and 4) is included and general recommendations made.

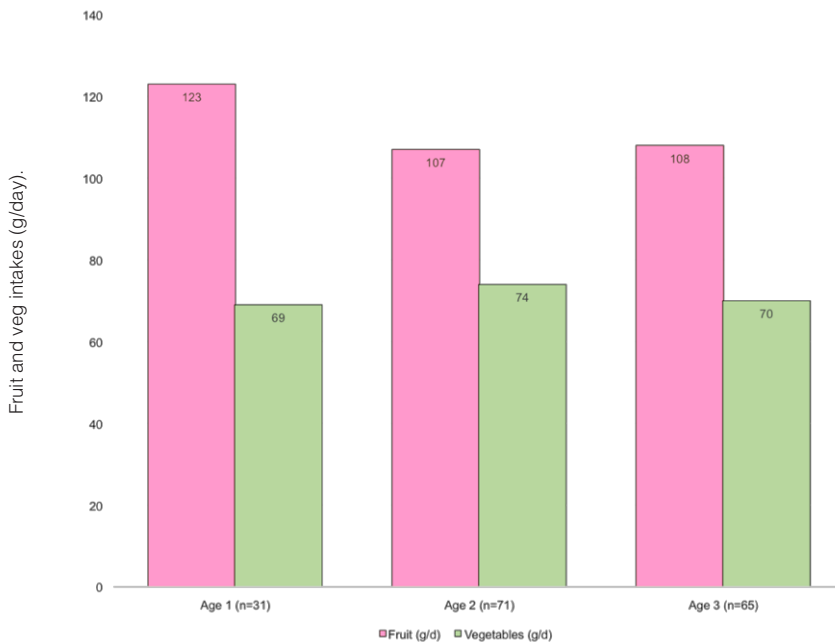
EARLY EXPOSURES

Our innate preference for sweeter foods may stem from the fact that carbohydrates are a much needed energy source required during the early years.¹ Unfortunately, vegetable intakes seem to suffer for this very reason, with their calcium content thought to play a role in their bitter taste, reducing acceptability.² Secondary analysis of data from the UK National Diet and Nutrition Survey (years 3 and 4) shows that fruit intakes are 44, 31 and 35% higher than vegetable intakes for one-, two- and three-year-olds, respectively (Figure 1).

So, what can be done? A growing body of evidence suggests that there could be value in introducing vegetables first during weaning. In one new study, infants provided with vegetable purées at the start of weaning had a higher vegetable intake when followed up at one year of age.³

Other work has shown that there may be a sensitive window for the acceptance of tastes. This is thought to be between the ages of four and six months, indicating that this is when vegetables need to be introduced.⁴

Figure 1: Fruit and vegetable intakes in the early years

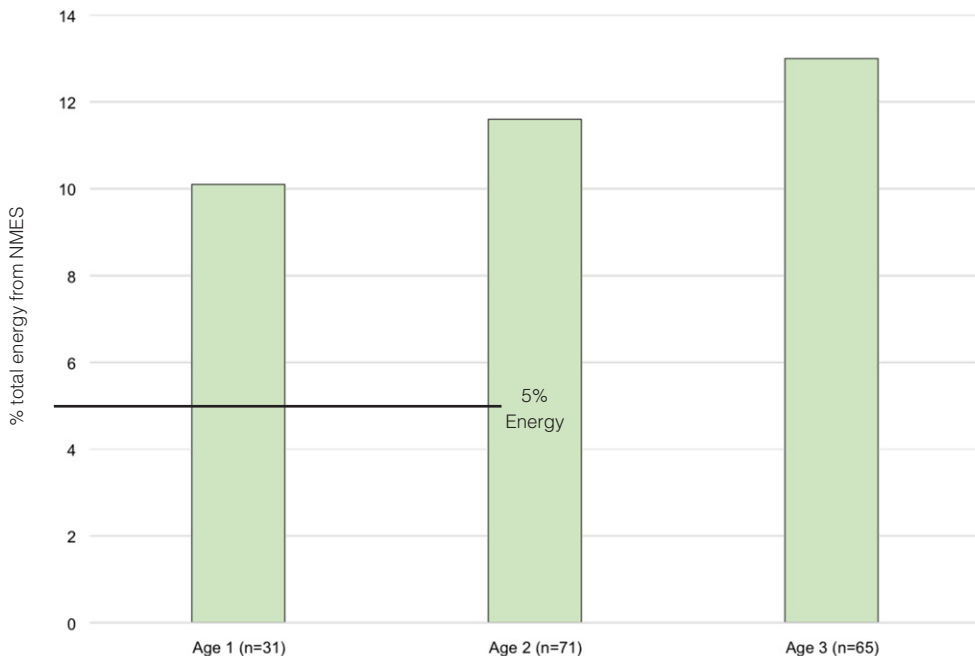




Repeated exposure (offering the same food continually) is also more likely to be needed for vegetables, especially as children get older. One study recruiting 72 children aged nine to 38 months showed that it took 10 exposures before artichoke intake increased, with little ones eating

more of this than traditional veg by the end of the study.⁵ Other similar work with 29 preschool children aged 15 to 56 months showed that acceptance of a root vegetable purée took six to eight exposures. Interestingly, adding apple to this did not improve uptake any faster.⁶

Figure 2: Average NMES in the early years



SWEET EXPOSURES

There has been much discussion about sugar recently. Secondary analysis of National Diet and Nutrition Survey Data (years 3 and 4) has shown that intakes of non-milk extrinsic sugars (NMES) during the early years rise from 10 to 13% between the ages of one to three years (Figure 2). While NMES are not exactly 'free sugars', they are the closest marker we have to date. Comparing NMES intakes against present advice that the population average of free sugars should not exceed 5% of total dietary energy, from two years of age and upwards,⁷ it can be seen that this is exceeded by around twofold.

In terms of sources of sweetness, data from that latest NDNS highlighted that the main sources of NMES were non-alcoholic drinks (27-30%) and cereals and cereal products (25-29%) for children aged 10 years and under.⁸ Secondary analysis looking at volumes of

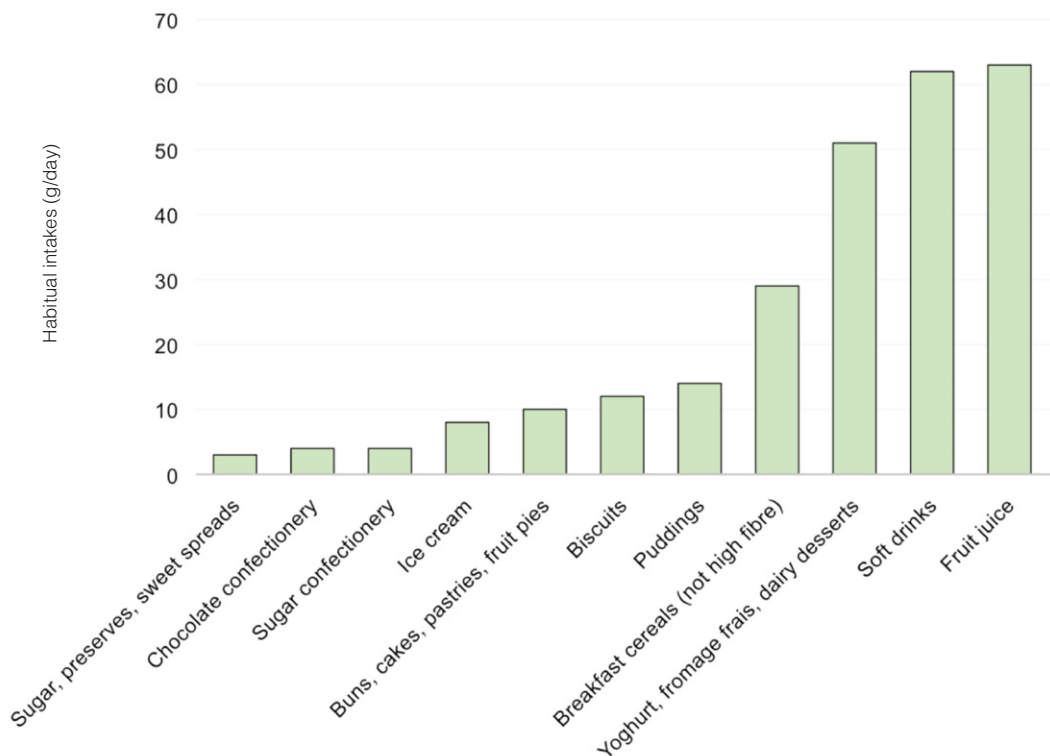
foods consumed during the early years shows similar trends. Soft drinks, fruit juice, yoghurt, fromage frais, dairy desserts and breakfast cereals are consumed in some of the highest amounts (Figure 3). Interestingly, the use of commercial toddler foods and drinks declines steeply from 26.9 grams per day at age one to just 5.2 grams per day at three years. The broader range of foods introduced with age may go some way to explaining why NMES intakes rise.

THE WAY FORWARD

It seems that weaning advice may need to be updated, with encouragement to introduce vegetables first. In one study, mothers' added vegetables to milk, then baby rice and then as a puree with feedback that they liked this straightforward, step-by-step approach.⁹

During the early years, little ones should also be encouraged to drink water once they

Figure 3: Sweeter options - amounts consumed during the early years



(n=171; NDNS data; years 3-4).

During the early years, little ones should also be encouraged to drink water once they are weaning. Drinking water with vegetables has also been found to help dilute the bitter taste and improve their acceptability.

are weaning. Again, a level of repetition and persistence may be needed before this is accepted. Drinking water with vegetables has also been found to help dilute the bitter taste and improve their acceptability.¹⁰ The temptation to introduce squash or fruit juices should be avoided if possible, with these being served as an 'occasional treat'.

The new Eatwell Guide does not apply to children under two years, due to their different nutritional needs. However, for those between the ages of two and five years, it is advised that they move on to eating the same foods as the rest of the family. However, within this guidance, it is advised that intakes of fruit juice and/or smoothies are limited to a total of 150ml per day.¹¹

In terms of branding, the new Ending Childhood Obesity report published by the World Health Organisation recommends that regulations are developed on the marketing of complementary foods and beverages, to limit the consumption of foods and drinks high in sugar (along with fat and salt).¹² This is sensible, but also needs to be extended to foods marketed at toddlers and young children.

Finally, it should be considered that, while many complementary foods are now specifying that they do not contain 'added sugars', they quite often contain other sources of sweetness. Examples taken from a cross-section of products include honey, grape, apple and banana juice, malted barley extract and coconut blossom nectar.

This is a trend that is likely to grow: the use of alternative sources of sweetness other than sugar.

CONCLUSIONS

Undoubtedly, our innate preference is for sweeter foods. However, it is important that other foods are not overlooked because of it. Unfortunately, this seems to be the case for vegetables. Manufacturers also seem to be developing products that are sweet, if not with sugar then with fruit concentrates or juices. These stand prominently on the shelves, with only a few savoury or vegetable based products available.

So, while more transparent labelling of 'free sugars' is needed to fall in line with new guidelines, the question we also need to be asking is, "Should we not be making foods for little ones 'less sweet' overall?"

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