Parental Influence On Children's Eating Habits

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New research suggests that the food preferences of young children could be related to their risk of having obesity later in life. Parents and caregivers can influence young children's food preferences, and here we discuss strategies that may be helpful and those which may be counterproductive.

Obesity - genetic and environmental

Obesity is a complex condition influenced by both genetic and environmental factors. For adults it is classified as a body mass index (BMI) of ≥30 kg/m^2, while overweight is 25–29.9 kg/m^2. For children, overweight and obesity is defined using growth charts and adjusted BMI cut-off points. Currently in Europe, one in five children has overweight or obesity. [1] These children have an increased risk of developing chronic diseases such as heart disease and diabetes.

Genes define the propensity to develop overweight, and diet and physical activity can determine to what extent that propensity becomes a reality. In addition, behaviours are influenced by the environment. Past research has analysed women's diets during pregnancy and the differences between feeding practices in relation to the risk of obesity.[2] Environmental interventions to prevent obesity in children have also been implemented but mostly at schools.

New research sheds light on the diet of young children and how caregivers (parents) might be directly or indirectly influencing their children's food preferences at home, which in turn affect energy intake. The age range of focus is from the time solid foods are introduced until children enter primary school (around age five or six). Researchers hypothesise that there is an association between children's food preferences at these ages and their risk of obesity. Eating habits developed when young influence lifelong eating behaviours.[3] Parents can strongly influence children's food choices because they have increased control over children's actions at this age, and outside influences (school, peers) are usually minimal. Once children begin school, most have already developed their food preferences (likes and dislikes) so achieving behaviour change is more difficult. Parents' positive influences are vital for establishing healthy lifestyle behaviours in their children.[3]

Preferences in infancy

Infants have innate preferences towards certain taste qualities and dislikes of other tastes.[2] Infants prefer sweet-tasting foods and reject bitter foods such as certain vegetables. This reflects an evolutionary response that was historically useful because the sweet taste signalled sources of energy (calories), while bitter tastes signalled foods that might be toxic. Some researchers believe that infants begin to accept bitter tastes around the age of 14–180 days.[4]

As children grow up, they may refuse foods and become picky about certain foods. A reluctance to try new

foods is called neophobia.[3] Neophobia seems to be minimal around six months of age, so infants may be more willing to try new foods at this age.[4] A commonly rejected category of foods is vegetables, for which there appears to be a universal dislike, readily leading to uneaten healthy nutrients. It presents many challenges for parents, and they respond in a variety of ways. Some give their children what they want to pacify them. Others restrict highly palatable foods, pressure to eat fruits and vegetables, provide rewards for eating nutritious foods, or do nothing at all. Recent research provides answers as to why young children act this way towards food and how parents can best respond to encourage healthy eating habits that will last into adulthood. Parental actions that seem intuitive – restricting less nutritious foods, pressuring to eat nutrient-rich foods, or rewarding for good behaviours – might actually be counterproductive and lead to unhealthy habits, which might lead to obesity for children later in life.[5]

Restriction and pressure

Sometimes parents restrict highly palatable (and often energy dense) foods from their children's diets hoping children choose healthful alternatives, but this often has the opposite effect. Restricting a tasty food from children usually increases their desire for it. In addition, some studies have found that children with restrictive parents were more likely to develop overweight later in life. [3] Restriction can also lead children to eat when they are not hungry. This in turn could inhibit the ability to self-regulate – to learn to pay attention to one's own physical and internal cues of hunger and satiety. In contrast, a moderate amount of restriction could be beneficial. Children whose parents moderately restricted what they ate were found to consume fewer calories overall than children whose parents used high or low amounts of restriction.[3] More research is needed to define moderate restriction. Older children who said their parents were authoritative – active in meal times but not restrictive – ate more fruit, fewer sweets and fatty snacks, and breakfast more days of the week than children who claimed their parents were neglectful.[2]

In contrast to restriction, some parents pressure their children to eat fruits and vegetables, which could have a negative effect. Pressuring children often deters them from eating certain foods and has also been associated with a lower body weight and picky eating. However, this does not mean that pressuring causes a lower body weight or picky eating; instead, it is thought that when parents have children who are picky eaters or are underweight, they are more likely to pressure them to eat.[3] Many scientists discourage pressuring because it can create a negative eating environment and prohibit children from self-regulating their hunger and satiety cues.

Rewarding

Rewarding children for healthy eating is another common practice among well-intentioned parents. However, rewarding with a highly palatable food can defeat the purpose of rewarding. When a tasty food is offered as a reward, children's desire for the 'reward' food increases over the food the parents are trying to encourage them to eat. In addition, rewarding does not allow children to develop intrinsic motivation for healthy eating. Parents may see better results from offering a variety of foods starting at a young age and repeating exposure to foods even if the child does not like them at first.[6]

At the same time, psychologists recognise that humans often need rewards for motivation. A UK study

found that exposing four to six year olds to vegetables and giving them a sticker for eating them was the most effective at increasing their intake of vegetables compared to exposure plus verbal praise or just exposure.[3]

Modelling

Children model the behaviours of those around them, and when children are young, parents (and sometimes siblings) are the main role models in their lives.[5] Therefore, children are likely to adopt the same eating habits as their parents. Since parents have the biggest influence at this time in a child's life, it is important that they set good examples.

The environment is partly to blame for less and poor modelling. People eat away from home more often, which can mean poorer food choices are modelled. Likewise, fewer family meals are eaten at home, an opportune place for parents to offer a model of healthy eating behaviours.[7] Neophobia can often be overcome in children who have positive role models. Children are more likely to try unfamiliar foods if they have observed someone else eating them. In addition, when parents take a bite of their children's food and show signs of enjoyment, children are more likely to try the food.[8]

A survey of over 550 families found that parents' fruit and vegetable consumption was the strongest predictor of a child's intake of those foods. There are two main ways modelling can increase consumption: observation could change behaviours directly or it could increase the possibility of consumption thereby promoting liking through increased taste exposure.[8] Either way, scientists recommend that parents be active and positive role models. This means eating a wide variety of foods and consuming fruits and vegetables regularly. In addition, parents can expose their children to fruits and vegetables through movies, books, or gardening.[3]

What else can parents do?

Raising children to adopt healthy eating behaviours may seem daunting, but it does not have to be. Most importantly, parents should expose their children to a wide variety of foods starting at an early age. Usually children reject certain foods because they are new to them. It may take several exposures before they develop a liking to these initially unfavourable foods. The exact number of exposures needed depends on a number of factors including the age of the child, initial liking and novelty of the food, and previous exposures to new flavours. One exposure might be enough for some children, but others might require repeated exposure.[9]

Consuming appropriate portion sizes is also critical for a healthy diet. One study found that when a portion size of carrots was doubled and served as a first course, children ate 47% more of them.[3] Increasing the portion size of vegetables and decreasing the portion size of energy-dense, yet nutrient-poor foods would lead to healthier eating.

Notably, the way fruits and vegetables look on the plate influences the likelihood that children will try them. One study found that children ate more fruit when it was boat-shaped compared to fruit served

simply on a white plate.[3]

In conclusion, parents should be active in their children's meal times without being overbearing.

Parents can positively influence their young children's diets by doing some or all of the following:

- Be a positive role model by eating a wide variety of fruits and vegetables.
- Provide a variety of nutrient-dense foods such as fruits and vegetables to your children starting when solid foods are introduced.
- Schedule meal times, and eat together as a family.
- Offer new foods that are nutritious but not immediately appealing at least 5–10 times.
- Allow children to self-regulate – to determine when they are hungry and full.
- Praise children and/or offer a non-food reward such as sticker when they eat fruits and vegetables or when they try a new food.
- Apply a moderate amount of restriction and teach that all foods can be part of a healthy diet in the right amounts.
- Encourage but don't pressure your children to eat fruits and vegetables.
- Offer larger portions of vegetables (for specifics, see below) or serve vegetables as a first course.
- Make fruits and vegetables visually appealing by changing the shape or method of cooking.

Further information

Portion sizes:

http://www.nhs.uk/Livewell/5ADAY/Pages/Portionsizes.aspx
https://webarchive.nationalarchives.gov.uk/20120106063210/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4019223.pdf

Ways to encourage and incorporate fruits and vegetables:

http://www.nhs.uk/Change4Life/Pages/change-for-life-families.aspx

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