

ENCOURAGING GOOD FOOD CHOICES FROM AN EARLY AGE



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The early years, classed as being from conception to five years of age, is a fundamental period when key developmental changes occur. The publication of the Acheson Report 1998 (1) highlighted the importance of nutrition in the early years as an important route to tackling health inequalities.

There is substantial evidence to indicate that early nutrition has fundamental implications for long-term health, by programming aspects of ensuing cognitive function, preventing obesity and anaemia and reducing the risk of serious diseases such as diabetes, cardiovascular disease, osteoporosis, cancer and atrophy (2, 3, 4). Even as early as foetal life, long-term health can be affected by life events (5, 6, 7).

Good nutrition is particularly important at times of rapid brain growth, particularly from birth to two years. In the short term, healthy eating habits can help to improve growth, concentration and support learning (8, 9).

WEANING: THE DEBATE

Following the WHO recommendations in 2002 (10), there has been considerable debate over the ideal age to begin weaning healthy term infants (11, 12, 13).

In May 2003, the DH issued a statement (14) recommending that weaning should commence at six months of age. However, the European Food Safety Authority (2009) proposes that 'introduction of complementary foods between four and six months is safe and poses no risk in short term (infection) or long term (development of allergies or obesity)'. The European Society for Paediatric Gastroenterology, Hepatology and Nutrition

concluded that, 'exclusive or full breast-feeding for about six months is a desirable goal. Complementary feeding (i.e. Solid foods and liquids other than breast milk or infant formula and follow-on formula) should not be introduced before 17 weeks and not later than 26 weeks' (15).

In 2013, the DH changed the term to 'around six months', preferring to focus on the developmental signs of readiness. The British Dietetic Association (16) also recommend in their policy statement, that, 'the introduction of solid food should commence no later than six months (26 weeks) of age, but not before four months (17 weeks)' and that 'each infant should be managed individually, as they develop at different rates'.

WHAT ARE PARENTS ACTUALLY DOING?

The most recent survey, the National Infant Feeding Survey (17) (HSCIC 2012), reported 'a marked trend towards mothers introducing solid foods later in 2010 compared with 2005'. From 2005 to 2010, the introduction of solid food has fallen from 51 percent to 30 percent. Three-quarters of mothers (75 percent) had introduced solids by the time their baby was five months old.

TASTES AND TEXTURES

Development signs include sitting ►

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without support and the co-ordination of hand to mouth, both of which are required for self-feeding. This occurs around five months of age, with the munching oral-motor activity and lateral tongue movements at about six months (18). These skills are essential in order to progress onto different food textures. Late introduction of textures can cause feeding difficulties later (19, 20). As well as textures, it is also important for infants to be exposed to a wide variety of foods for different food senses, including tastes, smells and colours.

PARENTAL INFLUENCING

Feeding behaviour can be affected by parents, both in food choices and behaviour around food. For example, not allowing a young child to feed themselves, especially if it makes too much mess, can restrict a child’s intake and limiting exposure to a variety of tastes can limit food likes. Schwartz et al (21) have highlighted three ways that parents can influence good eating habits:

- 1 Continue to expose the child to a variety of foods
- 2 Good parent/child interactions
- 3 Parents acting as good role models in the food choices made and how they eat

THE TODDLER YEARS

As an infant moves from the weaning stage to a toddler diet, the opportunity to encourage and influence good nutritional choices are equally important. It is a time of rapid growth and development, so it is essential to provide all the vital nutrients, whilst at the same time, being mindful of excess calorie intake. Results from the National Diet and Nutrition Survey (NDNS) (22) (2009-2012) (Table 1) have demonstrated that a lot of important health mes-

sages concerning toddler nutrition are still not being achieved.

Dental decay can also result from a poor diet and thus in turn risk healthy tooth development (23).

VITAMIN D

Vitamin D deficiency and insufficiency are now being linked to a wide variety of chronic diseases, including some cancers, autoimmune, cardiovascular and infectious diseases (24-26).

As well as lifelong health, however, early life vitamin D sufficiency is of particular importance. Recently, there has been particular concern about vitamin D levels amongst children in the UK and the rise in vitamin D deficiency, presenting as rickets, symptomatic hypocalcaemia and motor delay (27-32).

The most recent data published is from the NDNS. Year-round, the proportion of children with a serum 25-OHD concentration below 25nmol/L at the time of testing, ranged from 7.5% for children aged one and a half to three years. Estimates have consistently shown that the majority of UK children aged between one and a half and three years do not get their daily reference nutrient intake (RNI) of vitamin D (33-36). The NDNS data demonstrated that mean intake of vitamin D was below the RNI for children aged one and a half to three years, with and without the contribution of supplements.

For breastfed infants, if the mother’s vitamin D status is low during pregnancy, the infant will also have low levels. This highlights the fact that conception is a fundamental period when key developmental changes occur (37).

IRON

The health problems associated with iron deficien-

Table 1: Results from the National Diet and Nutrition Survey (2009-2012)

| |
|---|
| 1. Mean intakes of fruit and vegetables, although slightly increased, remain below the recommended five toddler portions per day. |
| 2. Toddlers are consuming more salt than recommended. |
| 3. Toddlers are consuming more sugar than recommended, with a third of total daily calories from sugar, much of which is added sugar. |
| 4. Iron, vitamin D and Zinc intakes are inadequate in some toddlers. |
| 5. One in two children aged two to 15 years are overweight or obese, with the highest in two to three-year-olds. |

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cy anaemia in babies and toddlers has long been recognised, such as psychomotor delay (38-40). In 2013, although the WHO reiterated its position that follow-on formula milk (FOFM) is not necessary and is unsuitable as a replacement for breast milk after six months, there is some argument that FOFM should be considered for inclusion in anaemia prevention programmes. They may especially be useful when aimed at some of the poorest families in the UK (41), although meat-rich weaning diets and use of commercially prepared baby foods, which are iron supplemented, are also discussed as advantageous (39).

FRUIT AND VEGETABLES

As confirmed by the most recent NDNS, UK children are not consuming sufficient amounts of fruits and vegetables in order to obtain health-related benefits. Methods have previously been implemented to promote the uptake of vegetables in children, including modelling by significant others (42-44), vegetables offered as a first course (45), larger portion sizes (46) or with an accompanying dip (47, 48) and offering vegetables by stealth (49, 50).

A more recent study, however, has demonstrated that repeated exposure of a novel vegetable was sufficient to increase intake of this vegetable, regardless of the addition of a familiar taste. The authors conclude that repetition is therefore a critical factor for promoting novel vegetable intake in pre-school children (51).

HEALTHY START SCHEME

The Healthy Start Scheme was designed as a means of promoting the adoption of a healthy diet from birth, via vouchers for milk, fruit and vegetables. As part of this, free vitamins for socio-

economically disadvantaged families were introduced to try to tackle the re-emergence of rickets.

Existing evidence points to a low uptake amongst eligible pregnant and breastfeeding women and children under the age of four years. The 2010 UK Infant Feeding Survey (52) reports that 30 percent of breastfeeding Healthy Start (HS) registered mothers were taking HS vitamins when the infant was four to 10 weeks old, rising to 44 percent at eight to 10 months; 13 percent of registered mothers were giving the child HS vitamin drops at four to six months, rising to 19 percent at eight to 10 months. A more recent study reported uptake to be below 10 percent (53) and another less than three percent (54).

Infants living in the north of the UK, those with darker skin pigmentation and fussy eaters would all benefit from supplementation.

CALCIUM

Weaning foods, such as fruit and vegetables, contain low quantities of calcium and nutritional rickets, (a consequence of calcium deficiency and not vitamin D deficiency) has been reported in children with adequate levels of 25-OHD. This highlights the importance of calcium in a child's diet in addition to vitamin D status (55).

CONCLUSION

Developing and establishing good nutrition and healthy eating habits early on are crucial, not just for short-term health but for long-term health too. Healthcare professionals need to be able to support and educate parents on the importance of developing good nutritional habits early on, preferably starting pre-conception.

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Questions relating to: *Encouraging good food choices from an early age*

Type your answers below and then **print for your records** or print and complete answers by hand.

| | |
|-----|--|
| Q.1 | Describe how early nutrition can have a major impact on a child's health. |
| A | |
| Q.2 | What are the current UK recommendations on infant weaning? |
| A | |
| Q.3 | Are parents taking on board these recommendations? |
| A | |
| Q.4 | Describe the developmental signs to look out for when an infant is ready to be weaned. |
| A | |
| Q.5 | In what ways can parents influence good infant eating habits? |
| A | |
| Q.6 | Outline three results from the National Diet and Nutrition Survey (2009-2012). |
| A | |
| Q.7 | Describe why vitamin D and calcium are so important to a child's nutrition. |
| A | |
| Q.8 | What is the Healthy Start Scheme and what is the existing evidence on its uptake? |
| A | |
| Q.9 | Explain why follow-on formula milks can help in anaemia prevention programmes. |
| A | |

Please type additional notes here . . .