

8. Introduction of solid foods

Key findings

- The UK health departments recommend that solid foods should be introduced when babies are around six months old. There has been a marked trend towards mothers introducing solid foods later in 2010 compared with 2005. For example, in 2005, 51% of mothers had introduced solid foods by four months, but by 2010, it had fallen to 30%. This pattern is evident in all countries and continues a longer-term trend in this direction.
- However, while feeding practices are changing, most mothers in 2010 were not following the UK health department guidelines, since three-quarters of mothers (75%) had introduced solids by the time their baby was five months old.
- Solid foods tended to be introduced to younger babies among mothers in Wales, younger mothers and mothers from lower socio-economic groups. At four months, 44% of mothers in Wales, 57% of mothers aged under 20 and 38% of mothers in the routine and manual category and those who had never worked had introduced solids by this time.
- The most prevalent reason for introducing solid foods was a perception that the baby was no longer satisfied with milk feeds (52%). Other key reasons included experience with a previous baby (30%), that the baby was able to sit up and hold food in his/her hand (29%), advice from a health professional (27%) and that the baby was waking during the night (26%).
- Early introduction of solids by mothers was more likely to be based on a perception that their baby was not satisfied with milk (64% among those introducing solids by three months and between three and four months).
- Later introduction of solids tended to be influenced by formal information sources, either from a health professional or written information sources (31% and 25% among those introducing solids after six months) or a recognition of signs that a baby was ready for solids (37% of mothers introducing solids after six months mentioned that their baby was able to sit up and hold food in their hand).
- Baby rice was the most common type of food first introduced to babies (57%). The majority of mothers said the food they first gave to their baby was mashed or pureed (94%), while only a small proportion gave finger food (4%).
- At Stage 2 (when babies were aged four to six months), mothers were most likely to have given them fruit or vegetables on the previous day (46%), ready-made baby foods (38%), baby rice (31%) and home-made foods (28%).
- By Stage 3 (when babies were aged eight to ten months), fruit and vegetables were still a key feature of babies' daily diets (77% of mothers gave these on the previous day), but mothers were much more likely to be giving their babies home-made foods (70%) than ready-made baby foods (44%).
- In 2009, the UK Government revised its advice to the public about eating peanuts during pregnancy and whilst breastfeeding, meaning that at the time of IFS 2010, the advice was that peanuts and peanut products could be consumed, unless the mother was herself allergic to peanuts or a health professional had advised her not to. Regarding babies, it is advised that peanuts should not be given before the age of six months. Nearly half of mothers reported that they had consumed peanuts or peanut products during pregnancy (49%) and two in five mothers who breastfed at least initially (40%) said that they had done so while breastfeeding. At Stage 3, only a small minority of babies had been given peanuts or peanut products (8%).
- The majority of mothers avoided the use of salt completely in the diets of their eight to ten month old babies (90%). Propensity to use salt was greater among mothers from ethnic minority

backgrounds (38% of mothers of Chinese or other ethnic origin, 37% of Asian mothers, 26% of Black mothers and 16% of mothers of Mixed ethnic origin, compared with 5% of White mothers).

- Nearly half of mothers mentioned that they avoided giving their baby particular ingredients at Stage 3 (45%). Other than salt, the principal ingredients omitted were nuts (41%), sugar (38%), honey (19%), eggs (12%) and dairy produce (11%). The foods which mothers avoided were consistent with health guidelines (although it is only recommended to avoid eggs and dairy produce before the age of six months).

This chapter covers the behaviour of mothers in relation to providing their babies with solid foods. The chapter focuses initially on age of solid food introduction, how this measure has changed over time, and how it varies by country and other key demographic subgroups. The nature of solid diets given to babies at different ages is also investigated, including the balance of home and commercially prepared foods, the frequency of giving types of food, and specific ingredients avoided by mothers. In particular, the consumption of peanuts or peanut products by the mother during pregnancy or while breastfeeding and by the baby is examined, as well as whether there was a history of allergy in the family. The influences on mothers' decisions about when to begin and what foods to give are also explored, along with difficulties encountered when introducing solids.

Note the term 'weaning' can be used to refer to mothers weaning babies onto solids, and mothers weaning from the breast. We have used the term 'introduction of solid foods' instead of 'weaning' except where referring to external sources of information, where it is assumed that the term was used in relation to the introduction of solids.

8.1 Age of introduction of solid food

The recommendations provided to mothers regarding the most appropriate age at which to introduce solid foods to their babies have changed over the decades. Between 1994 and 2000, the prevailing recommendation was that "*the majority of infants should not be given solid foods before the age of four months, and a mixed diet should be offered by six months*"¹. In 2001, however, the World Health Organisation issued a revised global recommendation that mothers should breastfeed exclusively for around six months (with breastfeeding continuing until at least two years), and the recommendation for exclusive breastfeeding for around six months was adopted by all the UK health departments from 2003 onwards.² NICE recommends that breastfeeding then continues for as long as the mother and baby wish.³ The prevalence of exclusive breastfeeding is discussed in Chapter 2.

Thus, at the time of the 2010 survey, the recommendation set out by all the UK health departments was to delay introduction of solid foods until around six months of age. Before this, the baby's digestive system is still developing, and introducing solids too early can increase the risk of infections and allergies.⁴ These recommendations had been in place (in most countries in the UK) for around seven years at the time of the survey⁵.

8.1.1 Trends over time (UK)

The results over time have shown that, in each subsequent survey wave, the age of introduction of solids has become progressively later⁶. These reflect the recommendations prevailing at the time of the different surveys.

In 1990⁷, nearly seven in ten mothers had introduced solids by three months, this proportion falling rapidly over the time series to 24% in 2000, 10% in 2005 and only 5% in 2010. Between 1995 and 2000 the proportion introducing solids by four months remained relatively stable, but by 2005 there has been a marked shift from 85% in 2000 down to 51% in 2005. This reduced further to 30% in 2010. Thus, in 2010, nearly seven in ten (69%) of all mothers in the UK were introducing solids after four months, this proportion having increased from a small minority of six per cent of all mothers in 1990, to nine per cent in 1995, 15% in 2000 and 49% in 2005.

These figures clearly demonstrate a significant and marked shift over the time series towards later introduction of solids.

As shown in Table 8.1, the trend over the previous five years towards later introduction of solids is mainly attributable to a decrease in the proportion of mothers introducing solids between three and four months (in the UK, 25% of 2010 mothers introduced solids in this age period, compared with 41% in 2005) and a corresponding increase in the proportion of mothers doing so between four and five months (45% in 2010 compared with 31% in 2005). This meant that by five months, the gap had narrowed, although there were still fewer mothers who had introduced solids by this point in 2010 than in 2005 (75% and 82% respectively). Nearly all mothers had introduced solids by six months in 2010 (94%, compared with 98% in 2005). Only five per cent of mothers introduced solids after six months in 2010 (2% in 2005). The UK health departments recommend that solids are introduced at around six months: these findings show that, while feeding practices are changing, most mothers were not following these guidelines in 2010, since three-quarters of mothers had already introduced solids by the time their baby was five months old.

Table 8.1

8.1.2 Trend data by country

Mothers in Wales began feeding their baby solid foods earlier on average than mothers in other countries: 44% of Welsh mothers had given their baby solids by the age of four months compared with 35% of mothers in Northern Ireland, 32% in Scotland and 28% in England.

The decline in the practice of early introduction of solids between 2005 and 2010 is evident in all countries, most notably at four months (for example, it reduced from 50% in 2005 to 28% in 2010 in England). The decrease between 2005 and 2010 is most pronounced in Scotland, where the proportion of mothers introducing their baby to solids dropped from 13% in 2005 to six per cent in 2010 when babies were three months old, 60% to 32% at four months and 85% to 74% at five months.

Table 8.1

8.1.3 Variation in the age of introducing solid foods

Mother's age

There was a clear relationship between mother's age and timing of introducing solids, with older mothers introducing solids when the baby was older. While only a fifth (19%) of mothers aged 35 or over had begun introducing solids by the time babies were four months old, nearly three in five (57%) of mothers aged under 20 had done so by this stage. By five months, 85% of mothers aged under 20 had introduced solids, compared with 66% of mothers aged 35 or over.

Mother's socio-economic status (NS-SEC)

There was an association between mother's socio-economic status and age of introducing solids. Mothers classified to managerial and professional occupations were much less likely to have introduced solids by four months (20%) than mothers in the routine/manual occupational category or who had never worked (38% for both). However, at later ages mothers who had never worked differed from those in routine/manual occupations. At five months, mothers in routine and manual occupations were most likely to have introduced solids (81%), while those who had never worked

were in line with the average (76%). At six months, mothers who had never worked were a little less likely to have introduced solids (91% compared with 94% overall), while there was little difference between the other occupational groups. It is likely that the findings for women who had never worked are linked to findings by ethnicity, discussed below (since, as discussed in Chapter 1, mothers who had never worked were more likely to come from minority ethnic groups).

Table 8.2

Mother's ethnicity

Mothers from minority ethnic backgrounds introduced solids later on average than white mothers. Nearly eight in ten (77%) of White mothers had introduced solids by the time their baby was five months old. In comparison, around two-thirds of mothers from Asian, Black, Chinese and other ethnic backgrounds had introduced solids by this stage. Mothers from Asian and Chinese or other ethnic backgrounds were the least likely to have introduced solids by four months (22% and 19% respectively, compared with 30% of White mothers).

Table 8.2

Mother's working arrangements

The timing of a mother's return to work (if they do return) may affect when they decide to introduce solids. For example, some mothers may wish to begin this process before they return to work so that they can devote more time to it.

The introduction of solid foods was related to whether or not a mother had returned to work, and the timing of their return. Among working mothers, those who returned to work when their baby was between four and six months old were most likely to have introduced solids by the time their baby was four months (38%). Similarly, mothers returning to work when their baby was between four and six months old (82%) and six and nine months old (80%) were most likely to have introduced solids by five months. Mothers who had returned to work when their baby was less than four months were no more likely than average to have introduced solids at different time points: this may have been because it was too early to start solids before they returned to work, so it did not affect their decision on when to introduce them.

As discussed in more detail in Chapter 10, 29% of mothers were back at work by Stage 3 (when babies were aged eight to ten months), which was considerably fewer than the 45% who were back at work by Stage 3 in 2005. Among those who had returned to work, just over three-quarters (76%) of mothers waited to do so until their baby was at least 6 months old, compared with 57% in 2005. The changes to statutory maternity leave entitlement in 2007 may have had an impact on the time at which mothers returned to work. Thus, although the link between returning to work and earlier introduction of solids remained, the fact that more mothers were not working by Stage 3 in 2010 than in 2005 may have had an impact on the overall proportion of mothers introducing solids before their baby was six months old.

Table 8.2

8.1.4 Influences on age of introduction of solid food

Mothers were asked about any influences affecting their decision about when to begin introducing their baby to solids. Responses were chosen from a prompted list, although mothers could also give other reasons. The most prevalent reason for introducing solid foods into a baby's diet was a perception that their baby was no longer satisfied with their milk feeds (52%). Other key reasons

included experience with a previous baby (30%), that the baby was able to sit up and hold food in his/her hand (29%), advice from a health professional (27%) and that the baby was waking during the night (26%).

However, mothers' reasons behind their decision on when to start introducing solids varied by the timing of introduction. The main influence for mothers who had begun introducing solids by the time their baby was four months old was the perception that their baby was not satisfied with milk (64% for those introducing solids by three months and between three and four months). In contrast, only 31% of mothers introducing solids between five and six months and after six months cited this as a reason.

Those who introduced their babies to solids later were far more likely than those doing so earlier to have based their decision on formal information sources: either from a health professional (31% of those introducing solids after six months, 35% between five and six months, reducing to 20% of those introducing solids by three months) or from written information sources (25% after six months; 24% between five and six months, compared with 9% by three months).

As mentioned earlier in this chapter, the UK health departments recommend that babies should be introduced to solids at around six months. At this age, they may be able to sit up and hold food in their hand, which are signs that they are ready for solid food. Mothers who introduced solids after five months were more likely to mention this as a reason for introducing solids (35% between five and six months; 37% after six months, compared with 15% of those introducing solids by 3 months).

The UK health departments also advise that it is normal for babies aged three to five months to wake up in the night and this is not necessarily a sign of hunger or an indication that solid foods should be introduced. If babies seem hungrier at any time before the age of six months, it is recommended to give additional milk feeds.⁸ Just over a quarter (26%) of mothers mentioned their baby waking up in the night as an influence to begin introducing solids and this was most common among mothers who introduced solids between three and five months (30% between 3 and 4 months, 29% between four and five months). This suggests these mothers were unaware of the UK health department guidance or were not following it.

Broadly, the reasons mothers gave for introducing solids when they did were similar to those given in 2005, although mothers were less likely to mention that they felt their baby was not satisfied with milk in 2010 than 2005 (52% and 63% respectively) and that it was on advice from a health visitor or other health professional (27% and 35% respectively).

Table 8.3

8.2 Types of solid food given at Stage 2 and 3

8.2.1 Number of solid meals given

Solids should be introduced to a baby's diet gradually. When solid food is first introduced, only small amounts should be given and this should be in addition to, rather than as a replacement for, milk. It is therefore advised that babies (and particularly younger babies) should not be put on three solid meals a day too rapidly.⁹

Nearly three in ten mothers (28%) whose babies had been introduced to solids at Stage 2 (when babies were aged four to six months) were feeding their baby at least three meals a day at the time of survey completion. This was slightly lower than in 2005, when 30%¹⁰ were doing so. The majority of Stage 2 babies were aged four to six months at the time of survey completion. The data show a clear trend towards giving an increased number of daily meals as babies get older. Among babies on solids, only 15% of babies aged four to five months were being given three solid meals a day compared with 59% of babies aged seven months or more. The largest increase was seen between 5 to 6 months and 6 to 7 months, when the proportion of babies being given three meals a day increased from 29% to 52%. This may be linked to the fact that mothers are recommended to start giving solid food from around six months, so some mothers may see this as a sign to increase their baby's intake of solids.

Table 8.4

8.2.2 First solid foods given to babies

It is recommended that parents should first introduce simple foods that can be easily digested, such as vegetables, fruit or rice. For the first time in 2010, mothers were asked about the type of solid foods they had first given their baby and whether the food they gave was mashed or pureed or finger foods (that is, food cut into pieces that are adult finger sized). Most babies can eat finger foods from about six months.

Table 8.5 shows the first solid foods given to babies. Since some mothers would not have introduced solids by Stage 2, the findings are shown for Stage 3 only. Mothers answered using a prompted list; in some cases mothers indicated that they had given more than one type of food the first time they gave solids.

Baby rice was by far the most common type of food mothers used when first introducing their baby to solids (57%). Other types of food were mentioned by relatively low proportions of mothers: for example, 12% first gave ready-made baby food, 11% gave home-made foods and 10% gave rusks.

Baby rice was the most common type of food first introduced, regardless of when mothers introduced solids, although it was most likely to be used by those introducing solids when their baby was between four and five months old (62%) and least likely to be used by those introducing solids early (43% by three months) and later (44% after six months). Those introducing solids by three months were particularly likely to give their baby rusks first of all (29% compared with 10% of all Stage 3 mothers). Mothers introducing solids after five and after six months were more likely to first offer fruit and vegetables (11% and 14% respectively for fruit, compared with 8% of all Stage 3 mothers; 12% for both for vegetables, compared with 7% of all Stage 3 mothers).

Table 8.6 shows that the majority of mothers said that the food they gave was mashed or pureed (94%), while 4% said they gave finger food.

8.2.3 Balance of home and commercially prepared foods

The Committee on Medical Aspects of Food Policy (COMA) report 'Weaning and the Weaning Diet' suggests that it is important to give home-made foods when introducing solids, in order to introduce the infant to a greater range of flavours and textures than manufactured foods can provide. It is therefore of interest to monitor the balance between the different types of food given to babies.

At Stages 2 and 3, mothers who had introduced solids were asked about the nature of foods they had **ever** given to their baby and the foods given on the **day before they completed the questionnaire** ("yesterday"). For the first time in 2010, mothers were also asked whether the food they gave the previous day was mashed or pureed. Table 8.7 summarises these data for each stage.

At Stage 2, the majority of babies who had been given solids had been given baby rice (79%). Nearly two-thirds had been introduced to fruit or vegetables (66%). Nearly three in five had been given ready-made baby food (58%), while over half (53%) had been given home-made foods. By Stage 3, baby rice was no longer the most common type of food mothers had given, reflecting the fact babies had been exposed to a broader range of food types by the time they were eight to ten months. By that point virtually all babies had been given fruit or vegetables (98%) and 93% of babies had been given home-made foods and other types of food.. Use of ready-made baby food was lower, although it had still been given to over four in five (84%) babies.

This indicates that while the use of ready-made baby food was widespread, most mothers also gave home-made food, fruit or vegetables. The categories of types of foods included in the questionnaire changed in 2010, so it is not possible to compare the findings fully with 2005, but it is clear that mothers were more likely to have given fruit or vegetables in 2010 than in 2005 (up from 53% to 66% at Stage 2 and 91% to 98% at Stage 3). The proportion of mothers giving their babies home-made foods remained broadly similar between 2005 and 2010 for both stages.¹¹

In considering the balance between home-made and ready-made foods, it is also helpful to look at the frequency with which mothers are giving each type of food, in order to provide a more accurate picture of babies' daily diets. For example, some mothers may prepare home-made foods for their baby on most days, using jars or tins only occasionally or when they are away from home. To obtain a better picture of babies' daily diets, mothers were asked to note down the types of food eaten by their baby on the previous day. These data show that at Stage 2, mothers were most likely to have given fruit or vegetables (46%), followed by ready-made baby foods (38%), baby rice (31%) and home-made foods (28%).

By Stage 3, however, the situation had changed. Fruit and vegetables were a key feature of babies' daily diets (77%), but mothers were much more likely to be giving their babies home-made foods (70%) than ready-made baby foods (44%). By Stage 3, only nine per cent of mothers had given

baby rice the previous day, compared with 31% at Stage 2. This suggests that baby rice is more likely to be given to babies in the early stages of introducing solids.

Table 8.7 also shows in more detail how the nature of daily diets changes as the baby gets older. The use of ready-made foods was most common between the ages of five and ten months (42% of babies aged five to seven months, 45% of those aged eight to ten months, dropping to 31% of those aged ten months or older). The youngest babies (those aged four to five months) were given a more restricted range of foods – the only type of food they were given more than older babies was baby rice (37% compared with 9% of babies aged ten months or older). The consumption of home-made foods tended to increase as babies got older (from 17% at four to five months old up to 80% at more than ten months old) as did the consumption of fruit and vegetables (from 35% at four to five months old, up to 83% at more than ten months old). The oldest babies (those older than ten months) may have been more likely to be included in family meals, rather than being given food specifically for babies (such as ready-made baby foods).

Table 8.7

As discussed earlier, very few mothers gave finger food the first time they gave their baby solids, but by the time babies were between eight to ten months (Stage 3), finger food was playing a more prominent role in babies' daily diets. Nine in ten mothers who had given solid food the day before completing the questionnaire had offered mashed or pureed food (90%), while over two-thirds (68%) had given finger food.

Table 8.8

8.2.4 Types of food given

At Stage 3, when most babies were around eight to ten months old, mothers were asked how often they gave their baby different types of food and the results are summarised in Table 8.9. The balance between manufactured and home-made meals concurs with the data provided earlier. By Stage 3, 87% of mothers were feeding their babies fresh foods on a daily basis, compared with 41% of mothers feeding their babies ready-made foods.

In terms of food types, the majority of mothers were feeding their babies fruit (81%), vegetables (80%), breakfast cereals (80%) and dairy products (68%) at least once a day. Potatoes were consumed by the majority (82%) of babies at least once a week, along with chicken (79%), rice/pasta (76%), and bread (68%). Other types of meat were consumed less frequently: beef (54% at least once a week), pork (33%), lamb (32%). Over half (56%) of mothers were feeding their babies fish at least once a week, although this was rarely given on a daily basis (3%).

Foods which were largely avoided included eggs (73% of babies eating less than once a week), potato products (84%), tofu, quorn and textured vegetable protein (TVP) (91%) and nuts (98%). More detailed survey results on foods avoided and mothers' reasons for this are covered in section 8.3.

On the whole, where comparisons could be made, the feeding pattern of mothers was similar in 2010 to that in 2005 (data not shown). The only differences were lower rates of consumption of bread (27% of babies in 2010 eating it at least once a day compared with 36% in 2005).

Table 8.9

The nature of babies' diets varied by mothers' socio-economic group, their Healthy Start usage and status and their ethnic origin. Table 8.10 displays the proportion of mothers who gave different types of food regularly, defined as three or more times a week, by these subgroups.

The diets of babies of mothers from managerial/professional occupations were more likely than those of their counterparts who had never worked to contain regular servings of vegetables (97% of mothers in this group giving these three or more times a week reducing to 74% of mothers who had never worked); fruit (97% to 77%), fresh foods more generally (97% to 87%), breakfast cereals (90% to 73%), dairy products (88% to 71%), bread (56% to 43%) and rice or pasta (52% to 42%).

Mothers in managerial/professional occupations were less likely to provide regular servings of bought ready-made foods (45% of managerial/professional mothers increasing to 62% of mothers who had never worked); sweets/chocolates/biscuits (14% to 30%); potato products (3% to 17%); eggs (6% to 14%) and tofu, quorn and TVP (3% to 11%).

This suggests that mothers in managerial/professional occupations tended to make healthier choices in terms of the foods they gave their babies than those who had never worked (giving bought ready-made foods and sweets/chocolates/biscuits less often). This may be linked to some extent to relative income levels in different socio-economic groups¹². As discussed in Chapter 7, mothers on low incomes (those in receipt of qualifying benefits or tax credits) are eligible for the Healthy Start scheme, which enables them to receive vouchers which can be spent on milk, plain fresh or frozen fruit and vegetables, or infant formula. At Stage 3 of the survey, 57% of mothers registered on the Healthy Start scheme had used their vouchers to buy fresh fruit and 55% had bought fresh vegetables since the time they completed the Stage 2 questionnaire (when babies were around four to six months) – see Table 7.8. Further information on the use of Healthy Start vouchers can be found in section 7.5.

As Table 8.10 shows, mothers who were not registered or not eligible for Healthy Start were most likely to be giving fruit and vegetables three or more times a week (94% for each), which may be linked to the fact that these mothers were more likely to be from higher socio-economic groups and be on higher incomes. However, among those registered for Healthy Start, those who had used their Healthy Start vouchers to buy fresh fruit or vegetables had given these more frequently than those registered on the scheme who had not used their vouchers for this purpose (88% compared with 80% for fruit; 87% compared with 81% for vegetables). This suggests that, among those registered on the Healthy Start scheme, the use of Healthy Start vouchers to buy fresh fruit and vegetables increases babies' access to these foods.

There were some clear variations in the nature of diets of babies from different cultural backgrounds. Mothers from ethnic minority backgrounds were less likely than the GB average to regularly give their babies foods such as dairy products, bread, potatoes and fat spreads and more likely to give tofu, quorn or TVP. There were specific variations by ethnic community as well. Asian mothers were the most likely to give their babies beans, lentils and chickpeas (33% compared with 15% of all mothers) and sweets/chocolates/biscuits (27% compared with 21%). They were the least likely to give any type of meat, with the exception of lamb. Conversely, Black mothers were the most likely to give chicken (48% compared with 37% of all mothers), beef (22% compared with 15%) and fish (28% compared with 16%). Mothers from Chinese or "other" ethnic groups were particularly likely to provide rice or pasta (61% compared with 47% of all mothers) and eggs (22% compared with 7%) but were much less likely than other groups to provide breakfast cereals (68% compared with 87% of all mothers) and bought ready-made foods (25% compared with 53%).

Table 8.10

8.2.5 Use of milk to mix food

At Stages 2 and 3, mothers who had introduced solid foods were asked about their use of milk to mix with baby food. The use of milk to mix up solid foods remained broadly consistent at each stage. At Stage 2, when babies were around four to six months, over three-quarters (77%) of babies taking solids were being given food mixed with milk, while this was the case for four in five babies (80%) at Stage 3, when babies were aged around eight to ten months. This represents a significant increase in the use of milk to mix baby food at Stage 3 since 2005, when only 51% were doing this.

At Stage 2, among mothers who gave their baby solid foods, the main type of milk used to mix baby food was infant formula (59%), while at Stage 3, there was a more even split between cow's milk (29%) and infant formula (26%).

At Stage 3, mothers in Scotland were most likely to be using infant formula (32%) and least likely to be using follow-on formula (15%) to mix up baby food. This is consistent with a lower level of usage of follow-on formula in Scotland more generally, as discussed in Chapter 5.

Table 8.11

8.3 Foods avoided and family history of allergy

The UK health departments advise mothers to avoid giving their babies:

- salt (as their kidneys are unable to cope with large amounts of salt and over-use could affect the child's health in future);
- sugar (to discourage a sweet tooth and tooth decay);
- honey under one year (because of its link with infant botulism);
- whole nuts (including peanuts) until the age of five, due to the risk of choking.

It is advised that foods which most commonly cause allergies (milk, eggs, wheat, nuts, seeds, fish and shellfish) should be avoided before six months. After six months, they should be introduced one at a time, so that any reaction can be spotted.¹³

In August 2009, the UK Government revised its advice to the public about eating peanuts during pregnancy, breastfeeding and the first few years of life, in relation to the risk of developing peanut allergy in childhood. The change in advice followed a major review of the scientific evidence that showed there is no clear evidence that eating or not eating peanuts (or foods containing peanuts) during pregnancy, breastfeeding or early childhood has any effect on the chances of a child developing a peanut allergy. Therefore, the UK Government's previous advice that women may wish to avoid peanuts during pregnancy and breastfeeding and not introduce peanuts into their child's diet before three years of age if their child has a family history of allergy, was no longer appropriate.

The advice at the time of the Infant Feeding Survey 2010 regarding peanuts and peanut products was therefore that these could be consumed during pregnancy and while breastfeeding, unless the mother was herself allergic to peanuts or a health professional had advised her not to. Regarding babies, peanuts should not be given before the age of six months. After 6 months, where there is a

family history of allergies, parents are advised to check with their GP or health visitor before introducing peanuts or peanut products.¹⁴

8.3.1 Family history of allergy

For the first time in 2010, mothers were asked if there was a history of allergy in the baby's immediate family (that is the baby, his/her parents or siblings). Allergies were defined as eczema, asthma, an allergy including a food allergy and hay-fever. Just over half of mothers indicated that there was a history of allergy in the baby's immediate family (51%). It is worth bearing in mind that there is sometimes confusion between allergy and food intolerance, so there may have been a degree of over-reporting of allergic conditions, though food intolerance can also cause problems, which are sometimes serious.¹⁵

Mothers in Wales were most likely to report there was a family history of allergy (54%); mothers in Northern Ireland were least likely to do so (45%). Those who had never worked were less likely than the other socio-economic groups to say there was a family history of allergy (37% compared with 51% of all mothers). White mothers were more likely to report there was a family history of allergy (54% compared to 51% on average), whilst Black mothers (44%) and Asian mothers (36%) were less likely to do so. As discussed in Chapter 1, mothers who had never worked were more likely to be from a minority ethnic background and particularly from an Asian background, so the findings by socio-economic group and ethnicity may be linked.

Table 8.12

8.3.2 Peanut consumption

As discussed at the start of this section, UK Government advice on peanut consumption during pregnancy, breastfeeding and early childhood changed in August 2009. This was covered in the Infant Feeding Survey for the first time in 2010.

Nearly half of mothers reported that they had consumed peanuts or peanut products during pregnancy (49%) and two in five mothers who breastfed at least initially (40%) said they had done so while breastfeeding. At Stage 3, when babies were around eight to ten months, only a small minority of babies had been given peanuts or peanut products (8%). Whether or not there was a history of allergy in the baby's immediate family did not have any bearing on mothers' likelihood to consume peanuts or give them to their baby.

There were some variations by country. Mothers in Wales were least likely to have consumed peanuts or peanut products during pregnancy (41%, compared with 49% overall), while mothers in Wales and Northern Ireland who breastfed initially were least likely to do so while breastfeeding (32% and 33% respectively, compared with 40% overall). There was less variation in terms of giving peanuts to babies, although mothers in England were more likely to have given peanuts or peanut products to their baby (8%) compared with mothers from Wales (5%), Scotland (5%) and Northern Ireland (4%).

Mothers in managerial and professional occupations were most likely to consume peanuts during pregnancy and while breastfeeding (for those who breastfed at least initially) (58% and 49% respectively). Conversely, mothers who had never worked were least likely to have done so (38% and 32% respectively). There was no variation by socio-economic group in terms of giving peanuts to babies.

8.3.3 Use of salt

The UK health departments recommend that babies should not have any salt added to their solid meals, as their kidneys are unable to cope with large amounts of salt, and over-use could affect the child's health in the future.

In the UK, the majority of mothers in 2010 avoided the use of salt completely (90% of mothers of Stage 3 babies aged about eight to ten months). This did not vary greatly by country, but was slightly more likely to be the case in Scotland and Northern Ireland (94% in each).

Use of salt did however vary by mothers' socio-economic group and by their cultural origin. Mothers who had never worked were four times more likely to use salt at least "sometimes" (24%) than mothers from managerial or professional occupations (6%). Salt was also more prevalent in the diets of babies of minority ethnic mothers than the diets provided by White mothers. While only five per cent of White mothers had ever used salt, this proportion rose to 38% of mothers of Chinese or other ethnic origin and 37% of Asian mothers, 26% of Black mothers, and 16% of mothers of Mixed ethnic origin. As discussed in the previous section, the findings by socio-economic group and ethnicity may be linked.

Table 8.16

8.3.4 Other foods avoided

At Stage 3, when babies were around eight to ten months, mothers were asked whether there were any particular ingredients they avoided giving their baby. Nearly half (45%) mentioned at least one ingredient, which is slightly lower than in 2005 (47%). Mothers in Northern Ireland were much less likely to mention they avoided giving certain ingredients than mothers in other countries (13% compared with 45% overall).

Table 8.17

Among the subset of mothers avoiding at least one ingredient, the principal ingredients omitted from diets were salt (54%), nuts (41%), sugar (38%), honey (19%), eggs (12%) and dairy produce (11%). The foods which mothers avoided were consistent with health guidelines (although it is only recommended to avoid eggs and dairy produce before six months). The questionnaire itself relied on spontaneous mentions by mothers of certain foods – we know from the discussion earlier that a much higher proportion of mothers avoided the use of salt in their baby's food. Nevertheless the foods mentioned by mothers at this question indicate those which come to mind first when mothers think about what they omit from their babies' diets and comparisons can be made with previous surveys where data were collected in the same way.

The types of food avoided were broadly the same as in 2005, although there have been some changes. Most notably, the proportion of mothers mentioning that they avoided honey has increased from 13% in 2005 to 19% in 2010, while fewer mothers avoided nuts (48% in 2005, 41% in 2010). This may reflect the change in guidance on peanuts discussed earlier in this section. Mothers were also less likely to mention avoiding foods containing additives (9% in 2005 and 5% in 2010).

Table 8.18

Mothers avoiding certain foods were asked their reasons for this. Among mothers who cited at least one food avoidance, the most common reason was a concern about allergies (36%). Other more generic answers included a perception that this food was not beneficial (27% down from 39% in 2005), or that it was harmful for baby (21% down from 37% in 2005).

Although the proportion of mothers mentioning each of these reasons has decreased since 2005, they have returned to a similar level to 2000 (allergies: 36% in 2010; 43% in 2005; 35% in 2000; not beneficial: 27%, 39% and 26% respectively; harmful: 21%, 37%, 20% respectively). In contrast, the proportion of mothers mentioning that they avoided certain foods on advice has increased since 2000 and 2005 (7% and 8% respectively to 14% in 2010). Mothers mentioned their baby being too young (17%) and choking (8%) as a reason for avoiding certain foods for the first time in 2010. This suggests mothers may have been more aware of specific reasons for avoiding certain foods than in 2005, when more general reasons such as 'not beneficial' or 'harmful' were more likely to be given.

Table 8.19

Different reasons were attributed to different foods avoided. Table 8.20 displays the reasons given for avoiding the seven main food types mentioned in Table 8.19; only answers given by at least five per cent of mothers in each subset are shown.

As discussed earlier, when describing why certain foods were avoided, many mothers gave generic answers such as not being beneficial or being harmful to their baby's health, particularly in relation to sugar, salt and additives. Focussing on the more specific reasons given, it can be seen that omission of sugar from a baby's diet was linked to its effect on teeth (23%) and a desire to avoid baby developing a sweet tooth (11%) and additives were avoided on the grounds that mothers preferred giving fresh or organic foods (20%). Eggs were linked to allergies (40%) and food poisoning (16%) or were avoided as the baby was too young (18%). In relation to honey, mothers were particularly likely to mention they avoided it on advice (29%), because of a risk of food poisoning (including infant botulism) (30%) or because their baby was too young (29%). Dairy products and nuts were both mainly linked to allergies (47% and 63% respectively) and the baby being too young (16% and 15% respectively). Once again, these concerns are generally consistent with the prevailing health advice linked to these foods.

Table 8.20

8.4 Information about giving solid foods

At Stage 3, mothers who had introduced solid foods were asked whether they had received information relating to either when to start giving solid foods (see also section 8.5) or what types of solid food to give.

Over four in five mothers (86%) reported receiving information on either topic, 84% reported receiving information on when to start giving solids and 82% reporting receiving information on the types of food to give. This represents an increase since 2005, when the proportions reporting receiving information or advice on each topic were 71% and 68% respectively.

Mothers in Scotland and Northern Ireland were most likely to report receiving information on either topic (93% in both countries); mothers in England and in Wales were least likely (86% in both countries). This may relate to different infant feeding communication strategies and publications across the UK.

There were also variations by mother's socio-economic classification. Mothers in managerial and professional roles were the most likely to report receiving information on either topic (90% compared to 80% of mothers who had never worked).

Table 8.21

The question on sources of information was asked generically to all mothers who had received information on either topic, but most mothers reported receiving information on both topics in any case. The principal source of information on these topics was the health visitor, mentioned by 65% of mothers at Stage 3 who had reported receiving information on either topic. Other key sources were written materials both off-line (books, leaflets and magazines) (53%) and online (29%), SureStart, Children's Centre or Child Health Clinic (40%) and the mother's partner, friend or relative (37%).

Mothers in England who had reported receiving information relating to solid foods were least likely of the four UK nations to cite their health visitor (62%) as the source of this information and were most likely to cite the SureStart, Children's Centre or Child Health Clinic (44%). There was little difference in the likelihood of mentioning these sources between the other devolved nations of the UK. As mentioned earlier, this may reflect differences in the delivery of information on the introduction of solids between England and the devolved nations. The SureStart programme and Children's Centres are discussed further in Chapter 1.

Partners, friends and relatives and the internet were also sources of information most commonly used in England (38% and 30% respectively). They were least commonly used in Northern Ireland (26% and 20% respectively).

Although the prompted list of options changed between 2005 and 2010 and mothers were asked about sources of information in 2010, as opposed to advice or information received in 2005, it is still possible to compare the data collected. Although health visitors were still the principal source of information/advice, fewer mothers had received information from them in 2010 than in 2005 (65% and 87% respectively). This is in line with the decrease since 2005 in mothers mentioning advice

from a health visitor or other health professional as an influence on introducing solids when they did (see Table 8.3). Mothers also relied more on written materials in 2010 than 2005 (53% up from 44% for books/leaflets/magazines and 29% up from 7% for the internet). While a small proportion of mothers mentioned SureStart spontaneously in 2005, by 2010, 40% of mothers had received information from a SureStart, Children's Centre or Children's Health Clinic.

Table 8.22

8.5 Difficulties with introducing solid food

The COMA report¹ recommends that *"by the age of one year the diet should be mixed and varied"*. Mothers at Stage 3 were asked to describe the variety of food their baby (then aged about eight to ten months) generally ate. Over seven in ten (72%) described their baby as "eating most things", and one in four (24%) as eating a "reasonable variety". Only four per cent described their baby as having "fussy" eating habits. These findings were similar to 2005 where the equivalent results were 69%, 25% and 5% respectively.

Chinese or "other", Black and Asian ethnic backgrounds were less likely than mothers from a White or Mixed background to describe their baby as eating "most things" (57%, 55% and 47% respectively, compared with 75% of White mothers and 77% of mixed ethnic origin).

Table 8.23

Mothers at Stage 3 were also asked whether they had had any difficulties introducing their baby to solid foods and, if so, what the nature of these difficulties were. Overall, 11% of mothers in the UK had experienced difficulties.

This proportion did not generally vary between the main demographic groups, although mothers from Chinese or "other" and Asian ethnic backgrounds were more likely than White mothers to cite difficulties (18% and 16% respectively compared with 10% of White mothers). In addition, those who introduced solids later were more likely than average to cite problems (17% for those introducing solids between five and six months and after six months). Mothers introducing solids between three and four months were least likely to experience difficulties (7%).

Table 8.24

Among those mothers where difficulties had been encountered, problems included a refusal to eat either certain solids (42%) or any solids (32%); a general disinterest in food (29%), a preference for drinks (19%) or a dislike of eating from a spoon (19%). Mothers experiencing difficulties who introduced solids by three months were more likely to say that their baby would only take certain solids (59%) or to mention vomiting (28%). Mothers experiencing problems who introduced solids between five and six months were more likely to mention their baby's refusal to take, or disinterest in, solid foods (38% and 37% respectively). The findings for mothers who introduced solids when their baby was older than six months did not differ significantly from the average (N.B. the base sizes for this group and for those introducing solids by three months were low, so findings should be treated with caution).

Table 8.25

Notes and references

- ¹ Department of Health. *Weaning and the Weaning Diet, Report of the Working group on the weaning Diet of the Committee on Medical Aspects of Food Policy*. HMSO (London: 1994)
- ² See DH's Infant Feeding Recommendation published in May 2003: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4096999.pdf
- ³ NICE public health guidance 11 <http://www.nice.org.uk/nicemedia/live/11943/40097/40097.pdf>
- ⁴ See page 40 of DH's "Birth to Five" publication, "Introducing your baby to solid food" chapter, published October 2009: http://webarchive.nationalarchives.gov.uk*/www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_107710.pdf
- ⁵ Although in Northern Ireland, the recommendations were announced later (during 2004).
- ⁶ For detailed statistics relating to surveys before 2005, see Hamlyn B, Brooker S, Oleinikova K, Wands S *Infant Feeding Survey 2000* HMSO (London 2002) and Foster, K, Lader D, Cheeseborough S *Infant Feeding 1995* HMSO (London 1997)
- ⁷ Data for surveys prior to 2005 not shown. The figures from 2000 or earlier were taken from Chapter 7 of the Infant Feeding Survey 2005 report, section 7.1.1 <http://www.ic.nhs.uk/pubs/ifs2005>
- ⁸ See pages 40 and 41 of DH's "Birth to Five" publication, "Introducing your baby to solid food" chapter (link as above)
- ⁹ See page 44 of DH's "Birth to Five" publication, "Introducing your baby to solid food" chapter (link as above). Also see <http://publications.nice.org.uk/maternal-and-child-nutrition-ph11/considerations>
- ¹⁰ For the 2005 figures, see Chapter 7 of the Infant Feeding Survey 2005 report, Table 7.10 <http://www.ic.nhs.uk/pubs/ifs2005>
- ¹¹ For the 2005 figures, see Chapter 7 of the Infant Feeding Survey 2005 report, Table 7.11 <http://www.ic.nhs.uk/pubs/ifs2005>
- ¹² See Choosing a Better Diet: a food and health action plan, DH, 2005 and at: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4105709.pdf
- ¹³ See NHS Choices "Foods to avoid giving your baby" webpage: <http://www.nhs.uk/conditions/pregnancy-and-baby/pages/foods-to-avoid-baby.aspx>
- ¹⁴ See the Food Standard Agency's recommendations on peanut consumption during pregnancy, breastfeeding and early childhood (this also covers other foods which can trigger allergies) published in August 2009. <http://www.food.gov.uk/policy-advice/allergyintol/peanutspregnancy>
- ¹⁵ See the NHS website "Food allergy – introduction": <http://www.nhs.uk/conditions/food-allergy/Pages/Intro1.aspx#close>