

## 9. Additional drinks and supplementary vitamins

### Key findings

- The advice given to mothers is that babies should be breastfed exclusively for the first six months of life. Thus, there should be no need to give babies additional drinks such as water or juice during this period. Babies who are formula fed in the first six months may be given additional cooled, boiled tap water in hot weather. Nearly three in ten mothers were giving drinks in addition to breastmilk or formula by four weeks (27%). This had risen to over half by four months (55%) and just over four in five by six months (81%).
- Fewer mothers had given additional drinks at all ages up to six months than in 2005, but this was most evident at four months, when it had dropped from 64% in 2005 to 55% in 2010.
- Up to when babies were four months old, mothers in Northern Ireland were more likely to provide additional drinks at an earlier stage than mothers from the other countries (for example, 27% of mothers in Northern Ireland had given additional drinks when their baby was two weeks old, compared with 16% in Wales, 14% in England and 12% in Scotland).
- Mothers aged under 20 were more likely than mothers aged 35 or over to have first given their baby other drinks at an early age (64% and 24% when babies were six weeks old respectively).
- Mothers from routine and manual occupation groups and those who had never worked were more likely than mothers from managerial and professional occupation groups to have first given their babies other drinks at an early age (48%, 44% and 25% respectively when babies were six weeks old).
- Mothers who breastfed initially were less likely to give additional drinks than mothers who formula fed from birth at all ages through until six months (78% compared with 92% respectively).
- At Stage 1 of the survey (when babies were four to ten weeks), most mothers said they were giving additional drinks to help with constipation (48%) or to help colic / wind / indigestion (42%). By Stages 2 and 3 (when babies were four to six months and eight to ten months respectively), the main reason for giving drinks was because their baby was thirsty (56% at Stage 2 and 86% at Stage 3).
- It is recommended that from six months, infants should be introduced to drinking from cups and beakers. This helps to reduce bottle use and improve dental health. On average in 2010, mothers were introducing cups and beakers earlier than they were in 2005. By six months over half (54%) of all mothers had introduced a cup or beaker compared with 48% of all mothers in 2005.
- The UK health departments currently recommend (and did so at the time of the 2005 and 2010 surveys) that all children from six months to five years old are given a vitamin supplement containing vitamins A, C and D, unless they are receiving more than 500ml of infant formula per day. If there is any doubt about the vitamin status of the mother (e.g. if she did not take a vitamin D supplement during her pregnancy), then breastfed babies may also benefit from properly administered vitamin supplements from one month. Premature babies may also benefit from properly administered vitamin supplements before the age of six months. Just seven per cent of babies at Stage 1 were being given vitamin drops, rising to 14% at Stage 3. This does, however, represent an increase since 2005, when the equivalent proportions were three and seven per cent respectively.
- Mothers from minority ethnic backgrounds were more likely to be giving their baby vitamin drops than White mothers, particularly when babies were older. By Stage 3, 41% of Black mothers, 38% of Asian mothers and 33% of mothers from Chinese or other ethnic groups were giving vitamin drops, compared with just 10% of White mothers. This may be because mothers from minority ethnic backgrounds were more aware than White mothers of the need to give vitamin D supplements, as people with darker skin are at greater risk of vitamin D deficiency.

- Premature babies were more likely than full term babies to be given vitamin drops at all three stages (31% at Stage 1, 27% at Stage 2 and 30% at Stage 3 for premature babies compared with 5%, 7% and 13% respectively for full term babies).
- Breastfeeding mothers were more likely to be giving vitamin drops than those feeding with formula, particularly at Stage 3 (22% and 11% respectively).
- Mothers who were registered with Healthy Start were more likely to be giving their babies vitamin drops at all three stages of the survey. By Stage 3, 19% of mothers who were registered with Healthy Start were giving their babies vitamin drops, compared with 13% of those who were not registered.
- Women are advised to take vitamin D supplements during pregnancy and while breastfeeding. Women may take other vitamin or iron supplements after birth; for example iron supplements may be taken to counter post-natal iron deficiency. Two in five breastfeeding mothers were taking vitamin or iron supplements at Stage 1 (43%). This proportion fell to 37% by Stage 2 and 33% by Stage 3. This is an increase since 2005, when 33%, 28% and 23% respectively took vitamin or iron supplements.

This chapter looks at the provision of additional drinks and supplementary vitamins to babies at different ages. The chapter initially looks at the age at which mothers first gave their babies additional drinks such as water, fruit juice, squash, or herbal drinks, and the reasons for giving babies these drinks. It also looks at the age at which mothers first gave their babies a beaker or cup to drink from. Finally, it examines the provision of supplementary vitamins to babies, and the use of vitamins by mothers themselves.

## 9.1 Additional drinks

As already discussed in Chapters 2 and 8, the official advice to mothers is that babies should be breastfed exclusively for the first six months of life, since breastmilk provides all the nutrients a baby needs during this period. By extension, this means that there should be no need for mothers to give their babies additional drinks such as water or juice during this period. Babies who are formula fed in the first six months may be given additional cooled, boiled tap water in hot weather.<sup>1</sup> This advice is different to the guidelines which existed before 2001, whereby mothers were advised not to give babies additional drinks before the first four to six months – this was in line with the prevailing guidelines at the time.

The series of questions about when mothers first gave their babies other (non-milk) drinks was reviewed in 2005 (and retained in 2010), meaning that comparisons can be made with 2005, but not with earlier surveys.

## 9.2 Age of introduction of additional drinks

At each of the three stages of the survey, mothers were asked if they had ever given their baby anything to drink other than milk. This could have included water, fruit juice, squash or herbal drinks. If they had given babies any additional drinks they were then asked when they had first given this to their baby.

By the time babies were two weeks old, about 14% of mothers across the UK had given their baby some other drink, apart from milk, and this rose to almost 27% by four weeks. By four months, 55% had given their baby other drinks, while 81% had done so by six months.

Fewer mothers had given additional drinks at all ages up to six months than in 2005, but this was most evident at four months, when it had dropped from 64% in 2005 to 55% in 2010.

As in the 2005 survey, up to when babies were four months old, mothers in Northern Ireland were more likely than mothers in other countries to have given their babies additional drinks. For example, at two weeks, 27% of mothers in Northern Ireland had given their babies other drinks compared with 16% in Wales, 14% in England and 12% in Scotland. Mothers in Scotland and England were the least likely to give their babies additional drinks at ages up to six weeks. At six weeks, 35% of mothers in Scotland and 36% of mothers in England had given their babies other drinks compared with 45% in Wales and 55% in Northern Ireland.

The age at which mothers first gave babies any other drink apart from milk varied by their socio-demographic characteristics. These patterns are similar to those seen in the 2005 survey. Thus, on average, mothers from managerial and professional occupation groups and older mothers introduced additional drinks later than other mothers.

Mothers from routine and manual occupation groups and those who had never worked were more likely than mothers from managerial and professional occupation groups to have first given their babies other drinks at an earlier age (for example, when babies were six weeks old, 48% of mothers from routine and manual occupations and 44% of those who had never worked had given additional drinks, compared with 25% of mothers from managerial and professional occupations). This difference was apparent up to when the baby was aged six months, when 72% of mothers from managerial and professional occupations had given their babies additional drinks, compared with 89% of mothers from routine or manual occupations and 87% of mothers who had never worked.

The age at which mothers first gave their babies any other drink apart from milk varied according to the mother's age. Younger mothers were more likely than older mothers to have first given their baby other drinks at an early age. This difference was most pronounced at six weeks, with 64% of mothers aged under 20 having introduced additional drinks, compared with 24% of mothers aged 35 and over.

Mothers from a Black ethnic background were most likely to have first introduced other drinks at an early age and mothers from Asian and Mixed ethnic backgrounds were least likely to have done so. For example, when babies were six weeks old, 41% of mothers from a Black ethnic background had introduced other drinks, compared with 28% of mothers from an Asian background and 27% of mothers from a Mixed background. A higher proportion of mothers from a Black background continued to introduce other drinks up to when babies were six months old (91%). From four months, the findings for mothers from Asian and Mixed ethnic backgrounds matched the average for Great Britain (GB). The findings for mothers from White and Chinese or other ethnic backgrounds were in line with the GB average for all ages of baby.

The age mothers first gave their babies any other drinks also varied according to whether or not they had breastfed initially. This difference was most noticeable when babies were between four weeks and four months old. By one week, just 5% of mothers who had initiated breastfeeding had given their babies other drinks compared with 14% of mothers who formula fed from birth, while at four months, 49% and 78% of mothers respectively had done so. By six months, the difference was less pronounced (78% compared with 92% respectively).

**Table 9.1**

## 9.3 Reasons for giving additional drinks

At all three stages of the survey, mothers who had given additional drinks were asked to state why they had done so. Answers were chosen from a prompted list although mothers could also give other reasons. At Stage 1 the most common reason given was 'to help with constipation' (48%), followed by 'to help with colic/wind' (42%), then 'because (s)he was thirsty' (37%), then 'to settle him/her' (19%). By Stages 2 and 3, mothers giving drinks were less likely to base this on health factors such as constipation or colic. Rather, a perception that the baby was thirsty was the major reason for giving drinks at these stages (56% at Stage 2 and 86% at Stage 3).

**Table 9.2**

The reasons that mothers gave for giving their babies additional drinks varied according to whether they were breastfeeding or not at that time. At Stages 1 and 2, mothers giving drinks while formula-feeding were more likely to do so because they felt their baby was thirsty (for example, 42% compared with 25% of breastfeeding mothers at Stage 1) or to help with constipation (53% compared with 36% respectively at Stage 1). The latter finding is supported by the results in Chapter 6 which indicate that mothers who breastfed for longer were less likely to report that their baby suffered from constipation.

**Table 9.3**

## 9.4 Use of cup or beaker

Various sources including the World Health Organisation and the UK health departments<sup>1</sup> recommend that from six months, infants should be introduced to drinking from cups and beakers. This helps to reduce bottle use and improve dental health. Parents are advised to aim to have their baby drinking from a cup (and no longer using bottles) by their first birthday. Mothers were asked at Stage 3 of the survey whether their child had ever drunk from a cup or beaker with a spout and, if so, at what age they had first been given a cup. There has been an increase since 2005 in the proportion saying their baby had started to use a cup/beaker by the age of six months (up from 48% in 2005 to 54% in 2010).

The increase has been sharpest in Scotland, where 62% of mothers reported their babies being introduced to a cup/beaker by six months, compared with 50% in 2005. As a result, the introduction of a cup/beaker by six months was more common in Scotland than in the other three countries.

**Table 9.4**

## 9.5 Vitamin and iron supplements

The UK health departments currently recommend (and did so at the time of the 2005 and 2010 surveys) that all children from six months to five years old are given a vitamin supplement containing vitamins A, C and D, unless they are receiving more than 500ml of infant formula per day. If there is any doubt about the vitamin status of the mother (e.g. if she did not take a vitamin D supplement during her pregnancy), then breastfed babies may also benefit from properly administered vitamin supplements from one month. Premature babies may also benefit from properly administered vitamin supplements before the age of six months.

It is felt that babies and young children may not get enough vitamins A and C, particularly if they do not eat a varied diet. It is difficult to get enough vitamin D through food alone and the main source of

vitamin D is through direct sunlight on skin. In addition to babies and young children, pregnant and breastfeeding women are also at risk of vitamin D deficiency. Women are therefore advised to take vitamin D supplements during pregnancy and while breastfeeding, to ensure their own needs for vitamin D are met and so that their baby is born with enough stores of vitamin D for the first few months of life. People who have darker skin and people who are not exposed to much sun, for example those who cover their skin, are most likely to be at risk of vitamin D deficiency.<sup>2</sup>

As discussed in Chapter 7, mothers on low incomes may be eligible for the Healthy Start scheme, which entitles them to receive vitamin coupons every eight weeks, which they can exchange for Healthy Start children's vitamin drops (containing vitamins A, C and D) or Healthy Start women's tablets (containing folic acid and vitamins C and D). Distribution points vary by country and also from one locality to another, but they are generally available through Children's Centres, health centres and pharmacies. Mothers not eligible for the Healthy Start scheme can purchase Healthy Start vitamins or they can buy other brands of vitamins from their local pharmacy.

### 9.5.1 Vitamin drops for the baby

In 2010, few mothers were giving vitamin drops to their babies at each stage of the survey, with seven per cent giving vitamins at Stage 1, nine per cent at Stage 2 and 14% at Stage 3. This indicates that only a minority of mothers are following the advice to give supplements from the age of six months. This does, however, represent an increase since 2005, when the equivalent proportions were three, four and seven per cent.

At all three stages, babies in England were most likely to be given vitamin drops, and babies in Northern Ireland were least likely to be given them.

**Table 9.5**

As in 2005, provision of vitamin drops was much more common at all stages if the baby's birth weight was low and/or the baby had been in special care after the birth. Nearly one in four babies who had been admitted to special care (23%) were being given vitamin drops at Stage 1, compared with only five per cent of those who had not been in special care. Special care babies continued to be more likely to receive vitamin drops at later ages, with 24% being given vitamin drops at Stage 3 compared with 13% of those who had not been in special care.

'Low birthweight' babies (under 2.5kg) were also much more likely to be given vitamin drops at all three stages. Of those under 2.5kg at birth, nearly one in three (32%) were being given vitamin drops at Stage 1, 28% at Stage 2 and 30% at Stage 3 (the figures for all mothers were 7%, 9% and 14% respectively).

Linked to these two factors, premature babies were also more likely than full term babies to be given vitamin drops at all three stages (31% at Stage 1, 27% at Stage 2 and 30% at Stage 3 for premature babies compared with 5%, 7% and 13% respectively for full term babies).

The 2005 survey observed substantial differences in the likelihood of giving vitamin drops by the mother's ethnic group. This was still apparent in 2010, with mothers from minority ethnic groups being more likely than White mothers to give their babies vitamin drops. This difference existed at Stage 1 of the survey but was more noticeable at later stages. For example, at Stage 2 of the survey 33% of Black mothers, 24% of Asian mothers and 21% of mothers of Chinese or other ethnic groups were giving their babies vitamin drops compared with only six per cent of White mothers. By Stage 3, 41% of Black mothers, 38% of Asian mothers and 33% of mothers of Chinese or other ethnic groups were giving their babies vitamins compared with just 10% of White mothers.

These differences might be partly explained by the fact that babies of Asian mothers tended to be smaller on average compared with babies of White mothers (see Chapter 1). However, in 2010 the



differences by ethnic group were even more marked than they were in 2005. This may be because mothers from minority ethnic backgrounds were more aware than White mothers of the need to give vitamin D supplements, as people with darker skin are at greater risk of vitamin D deficiency.

At all three stages of the survey, breastfeeding mothers were more likely than those feeding with formula to be giving their babies vitamin drops (9% and 4% respectively at Stage 1; 11% and 7% respectively at Stage 2). By Stage 3, the gap had widened (22% of breastfeeding mothers and 11% of formula feeding mothers were giving their babies vitamin drops). As mentioned earlier, babies aged six months or older do not need to be given vitamins until they are receiving less than 500mls of formula per day, which is likely to explain these differences.

Mothers who were registered with Healthy Start were more likely to be giving their babies vitamin drops at all three stages of the survey, indicating that the scheme is having an impact in terms of encouraging mothers to give their babies vitamin drops. For example, at Stage 2, 13% of mothers who were registered with Healthy Start were giving their babies vitamin drops, compared with 8% of those who were not registered. By Stage 3, a similar differential was observed (19% of those who were registered compared with 13% of those who were not).

#### **Table 9.6**

Mothers who gave their babies vitamin drops were asked how they obtained the vitamins. At Stages 1 and 2, around three in five got them free either through Healthy Start (30% at both stages) or on prescription (30% and 27% respectively). At Stage 3, 28% of mothers who gave their babies vitamin drops got free Healthy Start vitamins and 15% got vitamins on prescription.

The older the baby, the more likely it was that the mother paid for vitamin drops; at Stage 1, 22% of those who gave vitamins said they bought them from a retailer or from Healthy Start, rising to 37% of those who gave vitamins at Stage 2 and 56% of those who gave them at Stage 3.

#### **Table 9.7**

Not surprisingly, those who were registered with Healthy Start and gave vitamin drops were most likely to say they got their babies' vitamin drops free from Healthy Start (73% compared with 16% of those not registered with Healthy Start at Stage 3). A small proportion of mothers registered with Healthy Start said that they bought the Healthy Start vitamins (3% of those registered, compared with 12% of those not registered at Stage 3). A minority of mothers registered with Healthy Start had bought vitamins from a retailer at Stage 3 (14%). Although this is much lower than for those not registered with the scheme (54%), it suggests that some mothers may have had difficulty obtaining the free vitamins they are entitled to or were not aware they were entitled to free vitamins as part of the scheme. It could also be because they wanted to give their baby vitamins other than A, C and D.

#### **Table 9.8**

### **9.5.2 Supplementary vitamins or iron for the mother**

This section looks at the proportion of mothers who were taking vitamin or iron supplements themselves at each of the three stages of the survey. As discussed above, women are advised to take vitamin D supplements during pregnancy and while breastfeeding. Mothers may also take vitamin or iron supplements for other reasons; for example iron supplements may be taken in the weeks after the birth to counter post-natal iron-deficiency (anaemia).

At Stage 1, 43% of breastfeeding mothers were taking vitamin or iron supplements. This had dropped to 37% at Stage 2, and to 33% by Stage 3. This decrease in the proportion of mothers taking vitamins and iron supplements as the baby gets older was consistent with the findings from previous surveys. However, the proportion of breastfeeding mothers taking vitamin or iron supplements has

increased at each stage since 2005, when it was 33%, 28% and 23% respectively<sup>3</sup>. This increase may be due to efforts to raise awareness of the recommendations on vitamin D, following a 2007 report from the Scientific Advisory Committee on Nutrition (SACN), which highlighted that a significant proportion of the UK population had low vitamin D status, with pregnant and breastfeeding women, infants, elderly people and BME groups being identified as at-risk groups.<sup>4</sup>

At Stage 1 of the survey, breastfeeding mothers in Northern Ireland were most likely to be taking supplements (52%) and breastfeeding mothers in Wales were least likely to be doing so (40%). This difference was not evident at later stages.

At Stage 1, breastfeeding mothers who were registered for Healthy Start were less likely than breastfeeding mothers who were not registered to say they were taking supplementary vitamins or iron (35% and 44% respectively). At Stages 2 and 3, the gap had disappeared. This is in contrast with the earlier section on vitamin drops for babies, where mothers registered on the Healthy Start scheme were more likely to be giving vitamins to their babies than mothers who were not registered. However, a greater proportion of mothers were taking supplements themselves than giving them to their babies, so it may be that this was more common practice among mothers generally than was the case for giving vitamin drops to babies.

**Table 9.9**

Breastfeeding mothers who were taking vitamin or iron supplements were asked to indicate what type of supplements they were taking. At all stages of the survey, the most commonly taken supplements were combined multi-vitamin and iron supplements (at Stage 1, 32% of breastfeeding mothers who were taking supplements used this type of supplement, rising to 36% for both Stages 2 and 3). Use of iron-only supplements was more prevalent at Stage 1 than at Stages 2 and 3 (24% at Stage 1, 10% at Stage 2 and 13% at Stage 3).

Overall, a small proportion of breastfeeding mothers who took supplements reported taking Healthy Start vitamins (6% at Stage 1, 7% at Stage 2 and 11% at Stage 3). Among those registered for Healthy Start, however, these figures were higher at 30%, 30% and 44% respectively (compared with five per cent for both Stages 1 and 2 and eight per cent at Stage 3 among those who were not registered).

**Table 9.10**



## Notes and references

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<sup>1</sup> See NHS Choices website on drinks and cups for children <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/drinks-and-cups-children.aspx#close>

<sup>2</sup> See NHS Choices webpage on vitamins for children <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/vitamins-for-children.aspx#close>

And also the NHS Choices webpage on Vitamin D and sunlight: <http://www.nhs.uk/Livewell/Summerhealth/Pages/vitamin-D-sunlight.aspx>

For more detailed information see the 2007 SACN report Update on Vitamin D [http://www.sacn.gov.uk/pdfs/sacn\\_position\\_vitamin\\_d\\_2007\\_05\\_07.pdf](http://www.sacn.gov.uk/pdfs/sacn_position_vitamin_d_2007_05_07.pdf)

<sup>3</sup> See Infant Feeding Survey 2005 report <http://www.ic.nhs.uk/pubs/ifs2005>, Chapter 8, Table 8.16

<sup>4</sup> See Nursing Times, January 2008 <http://www.nursingtimes.net/Journals/2012/04/27/g/e/k/080108UpdateVitD.pdf>

For more detailed information, see the 2007 SACN report Update on Vitamin D [http://www.sacn.gov.uk/pdfs/sacn\\_position\\_vitamin\\_d\\_2007\\_05\\_07.pdf](http://www.sacn.gov.uk/pdfs/sacn_position_vitamin_d_2007_05_07.pdf)