

An Official Statistics Publication for Scotland



Scottish Maternal and Infant Nutrition Survey 2017



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Government

Scottish Maternal and Infant Nutrition Survey

Ministerial Foreword



Children only get one shot at childhood and it is therefore incumbent upon us, whether we are parents, practitioners or politicians, to do what we can to ‘get it right for every child’ and ensure every child has their fair chance to flourish. As Minister for Public Health and Sport, I am determined to help make Scotland the best place to grow up by seeking to improve the health and wellbeing of everyone in our country.

We know the health and nutrition of the mother before and during pregnancy, and the subsequent infant feeding choices impacts on long term health, which is why we published the **Maternal and Infant Nutrition Framework for Action** in January 2011. Continuing with the Scottish Maternal and Infant

Nutrition Survey is important to enable Scotland to capture information on the choices that pregnant women and new parents make and about their experiences during this time, the impact of our Framework, and what more work we still need to do.

And while we continue to make good progress across many fronts, we remain cognisant of the challenges that remain. Scotland continues to face persistent health inequalities amongst our population creating major public health challenges. But it is also an opportunity to shift our focus towards preventative approaches and to a general improvement in the way we support new parents. Actions and resources targeted at the earliest years offer the best opportunity of preventing future health inequalities. Using the survey findings, we will focus on a range of services and supports aimed at improving the diet and health of the nation.

I would like to extend my sincere thanks to all the parents who took the time to respond to this very important survey. I’d also like to commend and pay tribute to all the staff who dedicate their lives to this excellent work. Collectively, you have contributed significantly to our shared aim of making Scotland the best place to live and grow up in.

A handwritten signature in black ink that reads "Aileen Campbell".

Aileen Campbell, MSP
Minister for Public Health and Sport
Scottish Government

Scottish Maternal and Infant Nutrition Survey

Principal Investigator's Opening Remarks



The purpose of this survey was to investigate where Scotland was in relation to achieving optimal health and nutrition for mothers prior to and during pregnancy and after for infants. It has taken a large amount of collaborative effort from the teams who carried out the survey and from the 8,000 parents who generously gave of their time to complete it. I am extremely grateful to everyone involved.

It has personally been a privilege to be able to play my part in this survey and potentially to help future parents achieve the best health outcomes for their children. All parents would choose to have a problem free pregnancy, straight forward birth and a healthy infant. Those who support them want to enable them to achieve these same goals.

There is some really good news to report. There has been progress in many areas including a longer duration of breastfeeding, later introduction of solid foods and an increased uptake of vitamins. However, there is work still to do and there is a continuing inequalities gap. The survey has successfully highlighted these gaps and also shows where the key policies are having an impact.




The results provide a solid baseline on which we can build effective interventions. We can use the knowledge gained to support the population to be in the best possible health preconception and to make good nutritional choices for themselves and their infants beyond that.

A handwritten signature in black ink, appearing to read 'Linda Wolfson'.

Linda Wolfson

Professional Advisor and National Maternal & Infant Nutrition Co-ordinator
Scottish Government

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Summary of Key Findings

The diet and nutritional status of mothers before and during pregnancy and the nourishment received by infants is associated with the long term health of the population.^{1,2} There is also increasing evidence of the importance of preconception health and the influence this has on the likelihood of an infant going on to develop chronic diseases later in life.³

As a result, the Scottish Government aims to ensure that all children have the best possible start in life and are able to live longer, healthier lives.⁴

To help to achieve these aims, the Scottish Government published the Maternal and Infant Nutrition Framework for Action in January 2011.¹ This Framework was designed to support a variety of organisations in improving maternal and infant nutrition in Scotland.

The Scottish Maternal and Infant Nutrition Survey was carried out to allow the Scottish Government to investigate the behaviours, choices and experiences of pregnant women and new parents against the recommendations in the Framework. The information obtained via the survey will be used by the Scottish Government to assist health services and other organisations to design and implement nutritional advice and support for families.

Three separate groups of women were invited to take part in the survey:

- Expectant mothers who were 20+ weeks pregnant.
- Mothers of babies aged between 8 and 12 weeks.
- Mothers of babies aged between 8 and 12 months.

The information gathered from across these three groups provides:

- A picture of the extent to which survey respondents made recommended nutritional and health adjustments both before and during pregnancy.
- Insights into pre-birth feeding intentions and respondents' experiences of breastfeeding, formula feeding and introducing complementary foods.
- Information on the awareness of the Healthy Start Scheme which aims to help low income families to eat a healthier diet.
- An understanding of the variations in practice amongst different population groups.

The key findings from the survey are summarised below.



Pregnancy Planning and Maternal Nutrition

Pregnancy planning:

- 74% of respondents “planned” to get pregnant, 22% were “ambivalent” and 3% of pregnancies were “unplanned”. Note that most respondents were more than 24 weeks pregnant.

Folic acid and other dietary supplements before and during pregnancy:

- Just over half of respondents (53%) reported taking folic acid prior to becoming pregnant. An additional third (37%) reported starting to take folic acid as soon as they knew they were pregnant. Nearly one in ten (9%) reported that they did not take folic acid before becoming pregnant or in the first month of pregnancy.
- A large proportion of respondents (86%) indicated that they were taking a vitamin or mineral supplement during pregnancy. Of those who said they were taking a supplement, 50% were taking Healthy Start vitamins and 42% were taking another supplement specifically designed for use in pregnancy.

Alcohol consumption:

- More than half of respondents (54%) reported that they did not stop drinking alcohol before becoming pregnant, although a quarter (25%) said they had “cut down” the amount they were drinking.
- Most respondents (88%) said they had not consumed any alcohol since they realised they were pregnant.

Weight:

- Less than half of respondents (47%) who provided their Body Mass Index (BMI), as recorded at their maternity booking visit, were classed as having a “healthy” weight. Twenty-eight percent (28%) were classed as “overweight”, 22% as “obese” and 3% as “underweight”.

Pregnancy planning and taking pre-pregnancy actions:

- Respondents who “planned” their pregnancy were more likely to take recommended actions to prepare for pregnancy.
- Of those who “planned” their pregnancy, over two-thirds (69%) reported that they took folic acid prior to becoming pregnant. By comparison, only a small proportion of those who were “ambivalent” about their pregnancy or whose pregnancy was “unplanned” took folic acid prior to becoming pregnant (7% and 5% respectively).

Sources of information:

- A large proportion of respondents (63%) said they had not received any information about diet, vitamin supplements, smoking or drinking alcohol **before** becoming pregnant. By comparison, a much lower proportion (17%) reported that they did not obtain information about diet, vitamins, smoking and drinking **during** pregnancy.



Birth and Subsequent Hospital Care

Experiences shortly after birth:

- The majority of respondents (86%) reported that they had skin-to-skin contact with their baby within an hour of birth. However, this varied with method of delivery (normal vaginal delivery 93%; caesarean 73%).

Extra care:

- Overall, 13% of respondents reported that their baby had spent time in extra care.
- Of these respondents, nearly two-thirds (64%) reported that they had received information about methods of expressing breast milk while their baby was still in extra care. A quarter (25%) said that this information had not been offered to them.
- Only a quarter of respondents (26%) whose baby had spent time in extra care said they had been offered an electric breast pump to take home. Another quarter (23%) said they were not offered this, but would have liked to have been.



Infant Nutrition: Feeding Choices

Feeding intention (prior to giving birth):

- Nearly three-quarters of respondents (74%) reported that they had intended to give breast milk to their baby (either by exclusively breast feeding (42%), combining breast feeding with expressing milk (18%), combining breast milk with formula feeding (14%) or expressing milk only (0.5%)).
- One in five respondents (20%) said they had intended to exclusively formula feed their baby.

Strength of intention to breastfeed (prior to giving birth):

- The majority (68%) of those who intended to breastfeed (either exclusively or in combination with expressing breast milk or formula feeding) agreed they were keen to continue even if they experienced problems.
- Nearly two-thirds of respondents (63%) agreed that if they encountered problems making it harder for their baby they would not continue to breastfeed. This compared to one-fifth (20%) who agreed that they would not continue if there were problems affecting themselves.

Intention to formula feed only (prior to giving birth):

- Half of respondents (51%) who intended to give their baby only formula milk agreed that they would breastfeed or express milk if their baby was born premature or unwell.



Incidence of giving breast milk:

- Three-quarters of respondents to both postnatal surveys had “ever” breastfed and/or expressed milk for their new baby (75% of respondents to the 8-12 week survey and 76% of respondents to the 8-12 month survey).

Giving breast milk in the early days:

- More than two-thirds of all respondents (69%) were giving breast milk to their baby when they left hospital / the maternity unit.
- Amongst respondents who had ever given breast milk to their new baby, the vast majority (92%) were doing so on leaving hospital / the maternity unit.

Prevalence of giving breast milk:

- Three-quarters of 8-12 week survey respondents (75%) said they had given their baby breast milk at some stage. By the time infants were six weeks of age, 55% of respondents reported that they were giving breast milk (a drop of 20 percentage points from the initial rate).
- The prevalence of giving breast milk at six week was higher amongst women who had intended to breastfeed / express only (77%), those who had previously given breast milk for two months or more (2 - < 6 months 77%; 6+ months 97%), and those who had been exclusively giving breast milk when they left hospital (86%).
- Three-quarters of 8-12 month survey respondents (76%) said they had given their baby breast milk at some stage. By the time infants were six months of age, 43% of respondents reported that they were giving breast milk (a drop of 32 percentage points from the initial rate).

Breastfeeding challenges:

- Of respondents who said they had given breast milk to their new baby, two-thirds (67%) reported that they had experienced problems while breast feeding or expressing milk. The types of problems reported varied depending on when the problem was experienced.
- While still in hospital, the most frequently reported challenges were difficulty attaching the baby to the breast (52%), concerns around milk supply (44%) and other infant issues (37%).
- When at home, within two weeks of the birth, attachment issues were still apparent (37%), but concerns around milk supply (65%) and maternal issues (65%) became more prominent.
- While at home, more than two weeks after the birth, attachment issues were much less evident (13%), but concerns around milk supply were still frequently reported (44%), as were maternal issues (38%).
- Among those who had stopped giving breast milk, the most frequently reported challenges were concerns about milk supply (86%) and attachment issues (77%).



Infant Nutrition: Breastfeeding (continued)

Help and information with breastfeeding / expressing challenges:

- A high proportion of respondents (89%), who had experienced problems with breastfeeding or expressing, indicated that they got help with and/or information about these problems.
- Respondents who said they got help frequently reported that they got this support from Midwives / Maternity Staff (91%) and/or their Health Visiting team (74%).

Stopping breastfeeding / expressing milk:

- Three-quarters of respondents (75%) who had stopped giving breast milk reported that they would have liked to have given breast milk for longer.
- The most commonly reported reasons for stopping breastfeeding / expressing milk were: feeding problems (49%), thinking the baby was not getting enough milk (45%) and finding it “too difficult” (25%).
- Around a quarter of respondents who had stopped breastfeeding / expressing milk thought that access to certain types of support would have helped and encouraged them to breastfeed / express milk for longer.

Breast fed infants who were also given formula milk:

- Two-thirds of respondents (66%) who had given breast milk reported that they had also given their baby some formula milk.
- A third (33%) said that they had first given infant formula when they were still in hospital (or within the first 48 hours if their baby was born at home). The proportions of respondents indicating that they had first given formula milk at home, either within two weeks of birth or two weeks after birth were similar (17% and 16% respectively).

Breastfeeding in public and in the home:

- A high proportion of respondents (68%) who had given breast milk to their baby had breastfed in a public place.
- Nearly a quarter of respondents (23%) who had given breast milk said they had been made to feel uncomfortable when breastfeeding their baby.
- Over a quarter (27%) had sometimes decided not to breastfeed their baby in a certain place because they thought they would be made to feel uncomfortable.
- Since 2005 it has been illegal in Scotland to prevent a child under two years of age being fed milk (breast or formula) in a public place, providing the child is lawfully permitted to be in that place. Despite this, 3% of respondents reported that they had been asked either not to breastfeed, or stop breastfeeding, in a certain place.



Infant Nutrition: Formula Feeding

Use of infant formula:

- Three-quarters of respondents to the 8-12 week survey (75%) reported that their baby had been given infant formula milk at some stage. The remaining quarter (25%) indicated that their baby had never been given any formula milk.
- A higher proportion of respondents to the 8-12 month survey (83%) reported that their baby had been given infant formula milk at some stage. Sixteen percent (16%) said that their baby had never been given any formula milk.

Making up infant formula feeds:

- A large proportion of respondents (71%) indicated that they only made one feed at a time, however one in ten (11%) reported making several feeds at a time.
- The majority of respondents who made up feeds (82%) stated that they used water that was either just boiled or that had been boiled and left to cool for 30 minutes or less (this is in line with current guidance).
- When feeding away from home, around a third (34%) did not follow current guidance; either making up a bottle before leaving the house (25%) or making formula using cold or cooled boiled water (9%).
- The vast majority of respondents (91%) reported that, when making infant formula, they put the water in the bottle first and then added the powder.

Methods of cleaning and sterilising bottles and teats:

- Most respondents (83%) used hot soapy water to clean their infant's bottles and teats. A fifth of respondents (21%) said they rinsed their baby's bottles and teats under the tap. Only a small proportion (5%) reported using a dishwasher.
- The most popular method of sterilising bottles and teats was with a steam steriliser (59%). Microwave sterilisers were also used frequently (28%). The use of sterilising solution and boiling bottles / teats in water was less popular (13% and 8% respectively).

Use of second milk / follow-on formula:

- Only a very small proportion of respondents to the 8-12 week survey (2%) said that their baby had been given second milk or a follow-on formula.
- Amongst respondents to the 8-12 month survey, a higher proportion (31%) reported that they had given their baby second milk or a follow-on formula.
- The majority (88%) of those who stated that their baby had been given second / follow on milk said they waited until their baby was at least six months old before giving these types of milk.



Infant Nutrition: Complementary Foods

Introducing complementary foods:

- The vast majority of respondents (96%) waited until their infant was at least four months old before introducing complementary foods, with 46% waiting until six months or later.

Reasons for introducing complementary foods:

- The most common reason given for introducing complementary foods was that the respondent “thought that it was the right time” for their baby (66%).
- Other frequently given reasons were that the “baby was able to sit up and hold food” (49%); “a health care professional advised” it (39%) or “previous experience with another baby” (33%).
- Reasons for introducing complementary foods varied widely depending on when complementary foods were first introduced.

Types of foods given:

- The majority of respondents indicated that they gave breakfast cereal / porridge (70%), whole or pureed fruit (69%), and vegetables, other than potatoes and green leafy vegetables (52%) every day.
- Of the foods listed in the survey, eggs were given least frequently; almost half of respondents (47%) said that eggs were given less than once a week or never.
- Two-fifths of respondents (41%) reported using commercial baby foods five days or more per week.

Meals, snacks and treats:

- The majority of respondents (85%) indicated that their infants were being given three or more meals per day.
- Of those giving three or more meals per day, two-fifths (40%) indicated that they started doing so before their baby was seven months old.
- The majority of infants (74%) were receiving one or more snacks throughout the day. Around three in ten survey respondents (29%) indicated that they gave “treats” to their infant one or more times per day.

Use of vitamin drops:

- Overall, a third of respondents (33%) reported giving their baby vitamin drops.
- Half of respondents (51%) who were still giving breast milk reported giving vitamin drops to their baby.

Postnatal dietary supplements:

- Around a third of respondents to the 8-12 month survey (35%) indicated that they were taking a vitamin supplement at the time that they completed the survey.
- Over half of respondents (55%) who were still giving breast milk reported taking a vitamin supplement at the time of survey completion.



The Healthy Start Scheme

Awareness of the Healthy Start Scheme:

- Less than two-thirds of respondents were aware of the Healthy Start Scheme (61% of antenatal respondents; 64% of 8-12 month respondents).

Sources of awareness:

- Most respondents found out about the Scheme through a healthcare professional. Half of antenatal respondents (53%) found out about the Scheme through their Midwife. Respondents to the 8-12 month survey found out about the Scheme through either their Midwife (42%) or Health Visitor (31%).
- Around a third of respondents said they found out about the Scheme via the Ready Steady Baby book (27% of antenatal respondents; 33% of 8-12 week respondents).

Use of Healthy Start vouchers:

- The vast majority of respondents who had received Healthy Start Vouchers said they had used them (97% of antenatal respondents; 93% of 8-12 week respondents).
- Respondents to both the antenatal and 8-12 month survey frequently used Healthy Start vouchers to buy fruit and vegetables. Amongst antenatal respondents 88% reported buying fresh or frozen fruit and 74% reported buying fresh or frozen vegetables. Around two-thirds of postnatal survey respondents reported buying these food items (65% and 66% respectively).
- A high proportion of antenatal survey respondents (80%) reported using Healthy Start vouchers to buy cows' milk, with only around a quarter (28%) saying they purchased infant formula with these vouchers. By comparison, postnatal survey respondents were more likely to buy infant formula (83%) and less likely to buy cows' milk (37%).

1 Introduction

1.1 Maternal and infant nutrition in Scotland

It is known that the diet and nutritional status of mothers before and during pregnancy and the feeding received by infants is associated with the long term health of the population.^{1,2} There is also increasing evidence of the importance of preconception health and the influence this has on the likelihood of an infant going on to develop chronic diseases later in life.³

The Scottish Government aims to ensure that all children have the best possible start in life, are ready to succeed and are able to live longer, healthier lives. These outcomes form part of the Scottish Government's National Performance Framework.⁴

To help achieve these aims the Scottish Government published the Maternal and Infant Nutrition Framework for Action in January 2011.¹ The Framework was designed to support a variety of organisations in improving maternal and infant nutrition in Scotland.

The NHS and local authorities play a leading role in this work, but private and third sector organisations also have an opportunity to influence nutritional behaviours and choices.

Vision for the Maternal and Infant Nutrition Framework for Action:

- Women entering pregnancy are a healthy weight, in good nutritional health and this continues throughout their pregnancy and beyond.
- All parents receive full information they can understand on infant feeding to enable them to make an informed choice on how they will feed their infant.
- All women receive the support they need to initiate and continue breastfeeding for as long as they wish.
- Infants are given appropriate and timely complementary foods and continue to have a wide and varied healthy diet throughout early childhood.

It is recommended breastfeeding should continue beyond six months, alongside the introduction of appropriate solid foods, for up to two years of age or as long as the mother chooses.

1.2 Current maternal and infant nutrition recommendations

The Scottish Government currently has a number of recommendations in relation to maternal and infant nutrition.^{1,5,6} These recommendations are summarised below and are discussed in more detail in sections 2-8 of this report.



Pregnancy planning

- Actively planning for pregnancy is recommended. This should include taking **folic acid** while trying to conceive and continuing to do so until the twelfth week of pregnancy.
- Women are also advised to eat a healthy diet, maintain a healthy weight, stay active and refrain from smoking, drinking alcohol and taking recreational drugs.
- A Vitamin D supplement should be taken throughout pregnancy and whilst breastfeeding.



Breastfeeding

- It is recommended that infants are exclusively breastfed for the first six months of life. Thereafter, breast milk should continue to be given alongside appropriate complementary foods for up to two years or beyond, or for as long as the mother wishes.



Formula milk

- Where a mother chooses not to breastfeed, infant formula milk should be used until the baby is 12 months old. Guidance for the safe preparation, storage and handling formula should be followed.
- It is not necessary to switch to follow-on formula / second stage milk after six months. “Goodnight” milks are not recommended and specialist “over the counter” formula milks are rarely required.



Complementary foods and vitamin supplements

- At around six months of age a variety of complementary foods should gradually be introduced to infants alongside continued breastfeeding (and/or breast milk substitutes, if used).
- Cows’ milk can be introduced as a main drink after 12 months. If provided, whole milk (rather than semi-skimmed or skimmed) should be used until the child is at least two years of age.
- Infants should be given Vitamin D drops from birth*, unless receiving 500mls or more of formula milk a day.

* Scottish Government advice on Vitamin D was updated in November 2017. Prior to this, it was recommended that Vitamin D should be given to infants from six months of age. For further details, see <http://www.gov.scot/Resource/0051/00515947.pdf>.

1.3 The Scottish Maternal and Infant Nutrition Survey

In June 2015, The Scottish Government announced its intention to carry out the first Scottish Maternal and Infant Nutrition Survey (MINS) to support the implementation of the Maternal and Infant Nutrition Framework for Action (2011).¹

The overall aim of the survey is to gather data on maternal nutrition, breastfeeding, infant feeding and related health behaviours. This information will assist health services and other organisations to design and implement effective nutritional support for families.

Aims of the Scottish Maternal and Infant Nutrition Survey:

- Establish the extent to which mothers make suitable nutritional and health adjustments preconception and during pregnancy.
- Measure the proportion of mothers who consume alcohol just prior to and during pregnancy.
- Examine factors associated with mothers' feeding intentions and feeding and care practices adopted in the early weeks.
- Investigate the types of breastfeeding challenges experienced by mothers and their reasons for stopping breastfeeding.
- Establish how infants are being fed, and investigate variation in practices amongst different population groups.
- Investigate the introduction of complementary foods to infants and mothers' experiences of receiving information in relation to this.
- Measure levels of awareness of, and registration on, the Healthy Start Scheme and understand how Healthy Start vouchers are being used.

The decision to carry out the new Scottish survey was made in response to the cancellation of the previously well established UK-wide Infant Feeding Survey (IFS).⁷ The UK survey, conducted at five year intervals between 1975 and 2010, was a valuable resource that collected information directly from mothers at various stages following the birth of their babies. It provided data that helped to inform the work of many early years organisations.

The cancellation of the UK survey provided the Scottish Government with an opportunity to design a new survey more closely aligned with the MIN Framework¹ and related maternity and neonatal policies. The new Scottish survey continues to seek the views of mothers, but it also collects information from expectant mothers for the first time.

The Children and Families Directorate of the Scottish Government was responsible for directing the survey. To assist in this work, an Implementation Group was

established to provide subject matter expertise and advice (see Appendix A for membership of this group).

The Scottish Government commissioned the Information Services Division (ISD) of NHS National Services Scotland to oversee the day to day running of the project and to provide methodological advice and analytical / reporting expertise to the survey.

1.4 Survey design

Three separate groups of women were invited to self-complete a questionnaire between March and July 2017:

- **Antenatal:** Expectant mothers who were 20+ weeks pregnant between May and June 2017.
- **8-12 week:** Mothers whose babies were 8-12 weeks old and who gave birth in Scotland between March and April 2017.
- **8-12 month:** Mothers whose babies were 8-12 months old and who gave birth in Scotland between July and August 2016.

A separate questionnaire was designed for each part of the survey, each focussing on maternal nutrition, breastfeeding, infant feeding and related health behaviours as appropriate to the relevant stage of pregnancy / motherhood.

For each part of the survey, the aim was to achieve a sufficiently robust sample to allow results to be presented at a national level and, where possible, to present results broken down by:

- **Respondent age:** 19 or under, 20-24, 25-29, 30-34 and 35 or over.
- **Deprivation:** The Scottish Index of Multiple Deprivation (SIMD) can be used to identify areas with higher or lower levels of deprivation. Respondents' postcodes were used to allocate responses to one of five deprivation groups (SIMD 1 = most deprived; SIMD 5 = least deprived). Note that the SIMD identifies deprived areas, not deprived individuals.
- **NHS board of residence:** There are 14 NHS board areas in Scotland. Due to the small number of respondents living in NHS Orkney, NHS Shetland and NHS Western Isles, results for these boards have been combined.

For the antenatal survey, National Records of Scotland (NRS) Birth Registration Records were used to estimate the number of women who would be 20 or more weeks pregnant between May and June 2017. The appropriate number of survey packs, containing a covering letter, paper questionnaire and pre-paid return envelope, were printed and distributed to all Maternity Services across NHS Scotland. Maternity Service staff presented the survey packs to expectant mothers at routine antenatal appointments.

For the two postnatal surveys (8-12 week and 8-12 month), NRS Birth Registration Records were used to identify all women in Scotland with babies of the correct age. NRS mailed survey packs directly to these mothers.

A survey contractor (ScotCen Social Research) was appointed by the Scottish Government to test and prepare the survey materials and to carry out data collection.

Participation in the survey was entirely optional and respondents had the opportunity to complete the questionnaire either on paper or online. The timing of the fieldwork for each survey was carefully planned to avoid the same women being asked to complete more than one questionnaire.

Full details of the design, methodology and analysis methods used for the 2017 Scottish Maternal and Infant Nutrition Survey are described in the MINS Technical Report.

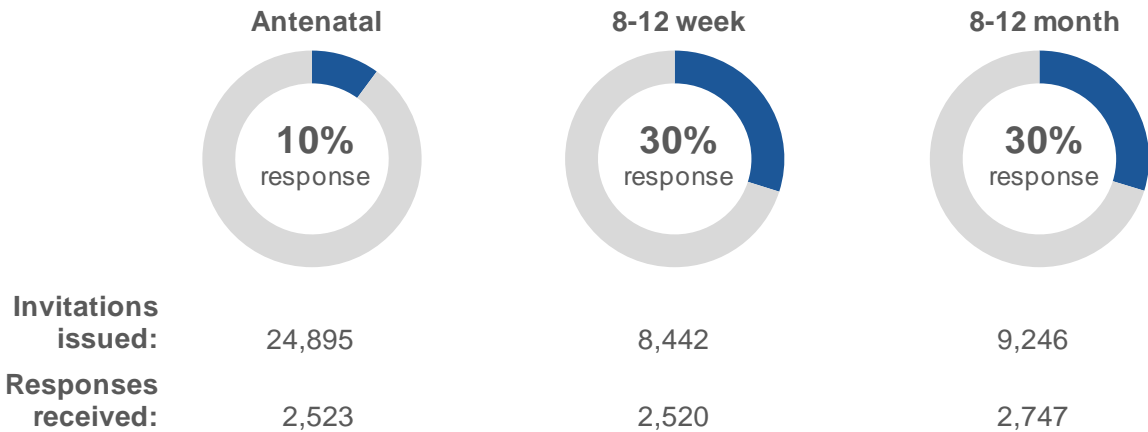
1.5 Survey response

More than 2,500 responses were received for each part of the survey, providing sufficient data to present results at a national level. Although response to each part of the survey was lower than anticipated, in most cases it has been possible to present results by respondent age, deprivation and NHS board of residence.

[Figure 1.1; Table 1.1]

Survey response rates.

Figure 1.1: Response to each part of the 2017 Scottish Maternal and Infant Nutrition Survey (number and percentage of responses to each part of the survey).



In the previous 2010 UK-wide Infant Feeding Survey (IFS) the response rate for Scottish participants ranged from 45% (N = 3,107) to 31% (N = 2,119) depending on the stage in the survey.⁷ However, it should be noted that the methodology and sampling strategy used in the IFS differed from that used in this survey.

1.6 Profile of survey respondents

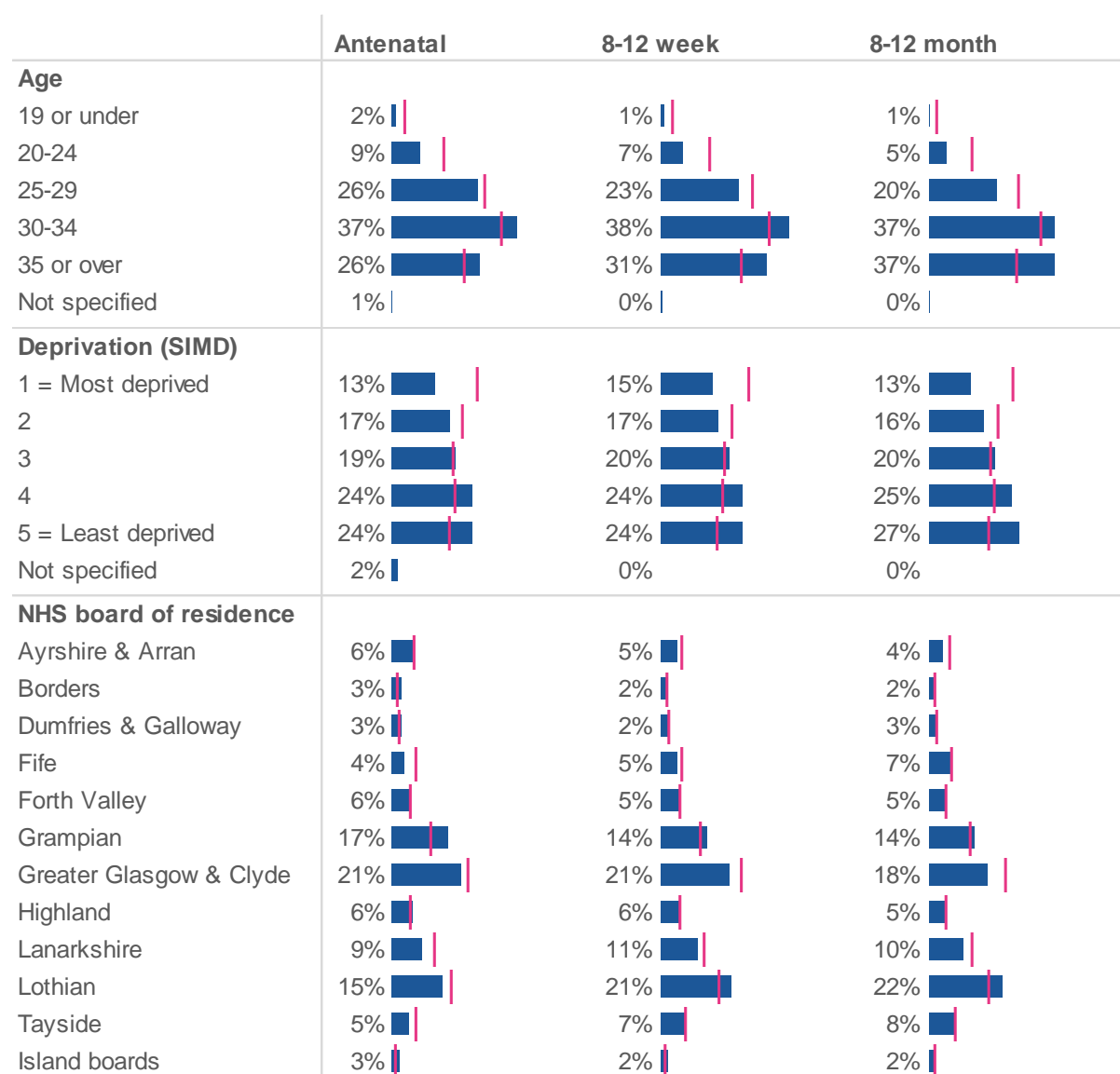
Younger women and those who lived in the most deprived areas responded to the survey proportionately less frequently than older women and those who lived in the least deprived areas. This means that younger women living in the most deprived areas are under-represented, whereas older women living in the least deprived areas are over-represented.

To help correct for these differential response rates, all survey results have been weighted by respondent age, SIMD quintile and NHS board of residence. Weighting methods are described in more detail in the MINS Technical Report.

[Figure 1.2; Table 1.2]

Survey response varied by age, deprivation and NHS board of residence.

Figure 1.2: Profile of survey respondents versus survey population (percentage of respondents (%), ■) / percentage of women in survey population (|), by respondent age, deprivation and NHS board).



Respondents to the antenatal survey

The vast majority of women who responded to the antenatal survey (95%) were at least 20 weeks pregnant when they completed the survey; 3% were less than 20 weeks pregnant and 2% had already given birth. Half of respondents (50%) indicated that this was their first pregnancy.

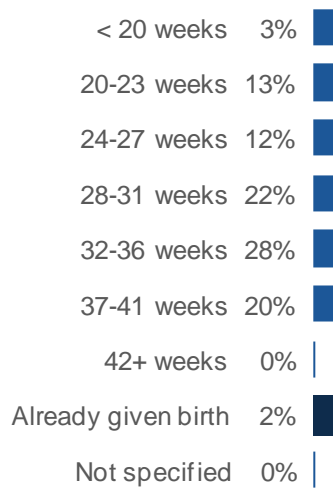
[Figure 1.3; Table 1.3a]

The majority of respondents to the antenatal survey were at least 20 weeks pregnant.

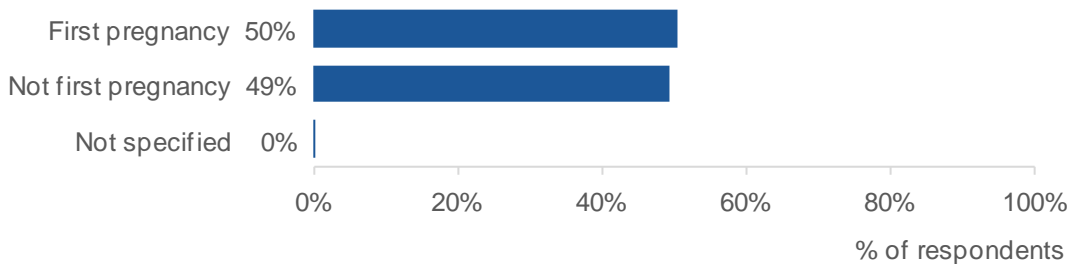
Figure 1.3: Profile of antenatal survey respondents (percentage of respondents, by number of weeks pregnant and whether this was the respondent's first pregnancy).

Antenatal

Number of weeks pregnant



First pregnancy



Source: Q1, Q2, Antenatal Survey

Respondents to the 8-12 week survey

For the 8-12 week survey, survey packs were mailed out to those being invited to participate when their babies were between six and nine weeks old (spanning the eight week target age).

The majority of respondents (68%) confirmed that their infant was at least eight, but less than 12, weeks old when they completed the survey. Twenty percent (20%) had infants aged less than eight weeks; 12% had infants aged 12 weeks or more.

The vast majority gave birth to a single baby (98%), with nearly half of respondents (48%) indicating that this was their first baby.

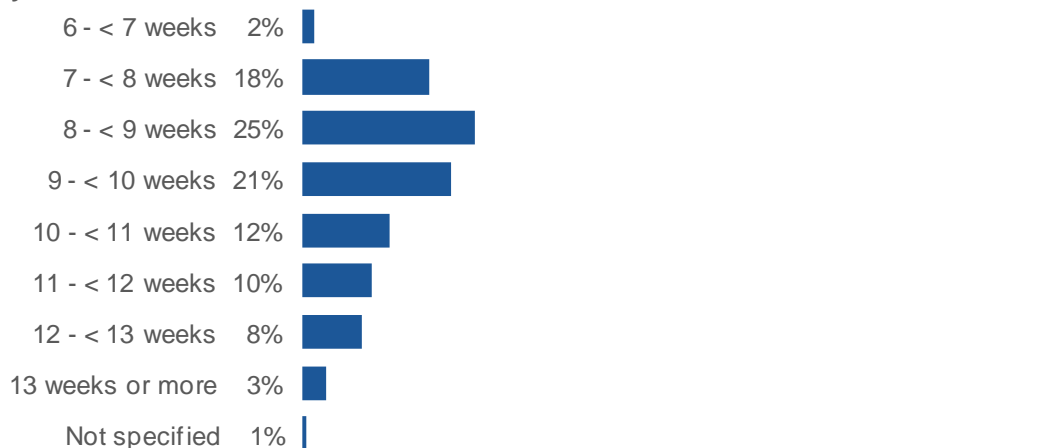
[Figure 1.4; Table 1.3b]

The majority of respondents to the 8-12 week survey completed the survey when their baby was between eight and twelve weeks old.

Figure 1.4: Profile of 8-12 week survey respondents (percentage of respondents, by age of baby, whether this was the respondent's first baby, and whether it was a multiple birth).

8-12 week

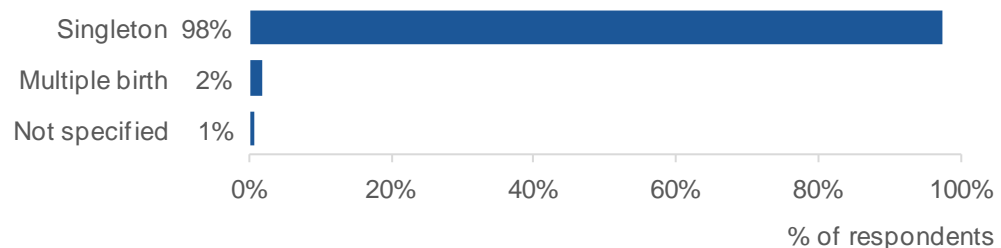
Age of baby



First baby



Single / multiple birth



Source: Q2, Q18, Q1, 8-12 Week Survey

Respondents to the 8-12 month survey

For the 8-12 month survey, survey packs were mailed out to those being invited to participate when their infants were between seven-and-a-half and eight-and-a-half months old (spanning the eight month target age).

The majority of respondents (88%) confirmed that their infant was eight or nine months old when they completed the survey. Five percent (5%) had infants aged less than eight months; 7% had infants aged ten months or more.

The vast majority of respondents gave birth to a single baby (97%), with just over half (51%) indicating that this was their first baby.

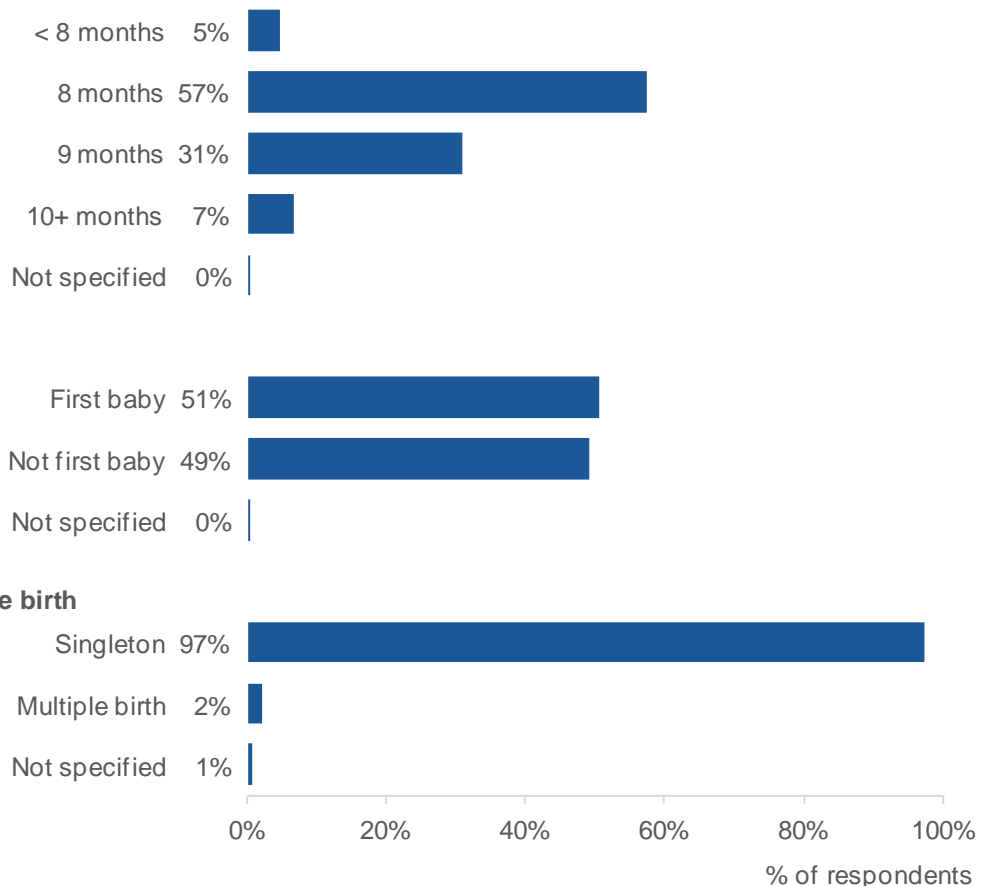
[Figure 1.5; Table 1.3c]

The majority of respondents to the 8-12 month survey completed the survey when their baby was eight / nine months old.

Figure 1.5: Profile of 8-12 month survey respondents (percentage of respondents, by age of baby, whether this was the respondent's first baby, and whether it was a multiple birth).

8-12 month

Age of baby



Source: Q3, Q1, Q2, 8-12 Month Survey

1.7 Interpretation of survey results

Main results and tables

- All results have been weighted by respondent age, deprivation (SIMD quintile) and NHS board of residence to correct for differential response rates amongst different groups of women.
- For each part of the survey, weighted percentage estimates are presented in the report, showing how respondents answered each question.
- Tables showing these weighted percentages, plus weighted and unweighted counts, have been produced to accompany this report. These tables are referenced throughout the report.
- Unless otherwise stated, specific differences mentioned in the text are statistically significant at the 95% confidence level.
- Tables showing all results by respondent age, deprivation and NHS board of residence also accompany this report; these tables present the 95% confidence interval associated with each result.
- Although not referred to within the report, tables showing results by respondent ethnicity are also available. However, it should be noted that the vast majority of respondents (92 - 94%) indicated that “white” best described their ethnic group.

Rounding of results

- Where percentages do not add up to 100%, this may be due to rounding or because some respondents did not provide an answer to a question.
- Similarly, where two or more results have been aggregated, the resulting percentage may appear 1% higher / lower than expected due to rounding.
- Any results smaller than 0.5% are reported as 0%.
- For “tick all that apply” questions, where respondents could indicate more than one answer, percentages may sum to more than 100%.

Results based on small numbers of respondents

- Results based on small numbers of respondents should be treated with caution.
- Results based on responses from fewer than 50 respondents have been highlighted.
- Results based on responses from fewer than 30 respondents are not shown (except for a small number of key analyses).

Consistency of response

It should be noted that some respondents were not always consistent when responding to similar types of questions. For example, in the antenatal survey, there is more than one question about stopping / reducing alcohol intake before pregnancy and responses to these questions do not always correlate.

Comparison to the 2010 UK-wide Infant Feeding Survey

Throughout this report, several results from this survey are compared to equivalent results from the 2010 UK-wide Infant Feeding Survey (IFS).⁷ While many results are broadly comparable, it should be noted that the question wording and methodology used in both surveys differed. It should also be noted that the demographic profile of women giving birth in Scotland has changed since 2010 (e.g. mothers are now generally older). Any comparisons between the two surveys have not been statistically tested and should be considered with the points noted above in mind.

Comparison to official Scottish National Statistics

To help provide context to this survey, several results are compared to figures sourced from official Scottish National Statistics publications (for example, Births in Scottish Hospitals and Scottish Infant Feeding Statistics).^{8,9}

It should be noted that survey results are only based on a sample of the population, whereas the official statistics referenced in this report are based on all women who gave birth in Scotland. While the survey is helpful in establishing variations between different groups of women, data presented in the official statistics for Scotland should be regarded as the definitive source.



2 Pregnancy Planning and Maternal Nutrition

By actively taking steps to prepare for pregnancy, women can improve their chances of becoming pregnant and having a healthy pregnancy.¹⁰ The nutritional health of women prior to conception and during pregnancy is known to be important in influencing the growth and development of the fetus.¹ In addition, there is growing evidence that a woman's preconception health can influence the longer term health of her infants through childhood and into adulthood.³

In recognition of the public health benefits of preparing and planning for pregnancy, the Scottish Government has put in place policies which aim to encourage pregnancy planning and promote the adoption of appropriate preconception measures by all women who are trying to conceive.¹⁰ A similar focus on the importance of preconception health can also be seen in other areas of the UK.³

Pregnancy planning recommendations in Scotland

General advice and guidance for women who are planning a pregnancy or who are already pregnant is to eat a healthy and balanced diet, keep fit and active and maintain a healthy weight. In addition to this general advice there are some specific actions recommended for women prior to and during pregnancy:^{6, 10, 11}

Specific pregnancy planning recommendations:

- **Folic Acid** - A daily folic acid supplement (400 micrograms per day) should be taken by all women who are trying to conceive and by all pregnant women until the twelfth week of pregnancy. This is recommended to help reduce the risk of neural tube defects (e.g. spina bifida) in the developing foetus. A higher dose of folic acid may be prescribed for women who have had a previous pregnancy with a neural tube defect or who have a family history of this condition. It may also be prescribed for those who are classified as obese, on medication for epilepsy or who have diabetes.¹
- **Vitamin A** – Pregnant women should avoid foods and dietary supplements containing high levels of Vitamin A. (Dietary supplements specifically designed for use in pregnancy do not contain Vitamin A).
- **Vitamin D** – It is recommended that a Vitamin D supplement (10 micrograms per day) be taken throughout pregnancy and whilst breastfeeding. Although some Vitamin D can be obtained through diet and via exposure to sunlight the levels obtained via these means are usually insufficient therefore a dietary supplement is recommended.
- **Smoking, drinking alcohol and drug use** – women who are trying to conceive and who are pregnant should refrain from smoking, drinking alcohol or using recreational drugs.



The following section of this report provides information on pregnancy planning and the extent to which survey respondents made recommended nutritional and health adjustments both before and during pregnancy. The results in this section are based on responses given by women who completed the antenatal questionnaire. The vast majority of women who responded to this survey (95%) were at least 20 weeks pregnant; 3% were less than 20 week pregnant and 2% had recently given birth.



2.1 Pregnancy planning

As highlighted above, there are positive personal and population health benefits associated with actively planning and preparing for pregnancy.¹⁰ However, information to allow health professionals and policy makers in Scotland to fully assess the extent to which pregnancies are being planned or unplanned is not readily available.

- **Maternities:** In Scotland in 2016 there were 53,898 maternities, resulting in 54,488 live births and 236 stillbirths (4.3 still births per 1,000 births).^{12,*} However, these figures do not include pregnancies that did not reach full term, either through miscarriage before 24 weeks gestation or through termination. It is not known how many maternities were the result of a planned pregnancy.
- **Terminations:** In Scotland in 2016 there were 12,063 terminations recorded (11.6 per 1,000 women aged 15-44).¹³ It is not known how many of these terminations were as a result of an unplanned pregnancy and how many were carried out for other reasons.
- **Miscarriage:** Amongst women who are aware they are pregnant, it is estimated that one in six pregnancies will end in miscarriage.¹⁴ However, exact figures for the number of miscarriages in Scotland are not available. Where miscarriages are recorded, it is not known if these miscarriages were associated with a planned or unplanned pregnancy.

To assess the extent to which respondents to the antenatal survey had planned their pregnancy, participants were invited to complete a psychometrically-validated measure of pregnancy planning / intention called the London Measure of Unplanned Pregnancy (LMUP).¹⁵ The measure does not assume that women have clearly defined intentions and allows them to express mixed feelings about pregnancy.

The LMUP consists of six questions, each of which is scored between zero and two depending on the response given. The scores for each question are then summed to give a final LMUP score ranging between zero and 12. Each increase in score from zero to 12 represents an increase in pregnancy planning / intention. Broadly speaking, scores can be categorised as follows:

- 0 - 3: Unplanned
- 4 - 9: Ambivalent
- 10 - 12: Planned

* Multiple births are recorded as only one maternity.

† Since 1975 hospitals in Scotland have submitted data to NHS NSS Information Services Division on births that take place in a medical facility. A wide range of information is collected including details of the mother's age and obstetric history, information about the birth and its outcome, and information relating to the baby. No information is captured by ISD on home births, but data are available for approximately 99% of all births recorded by National Records of Scotland in the same time period.⁸

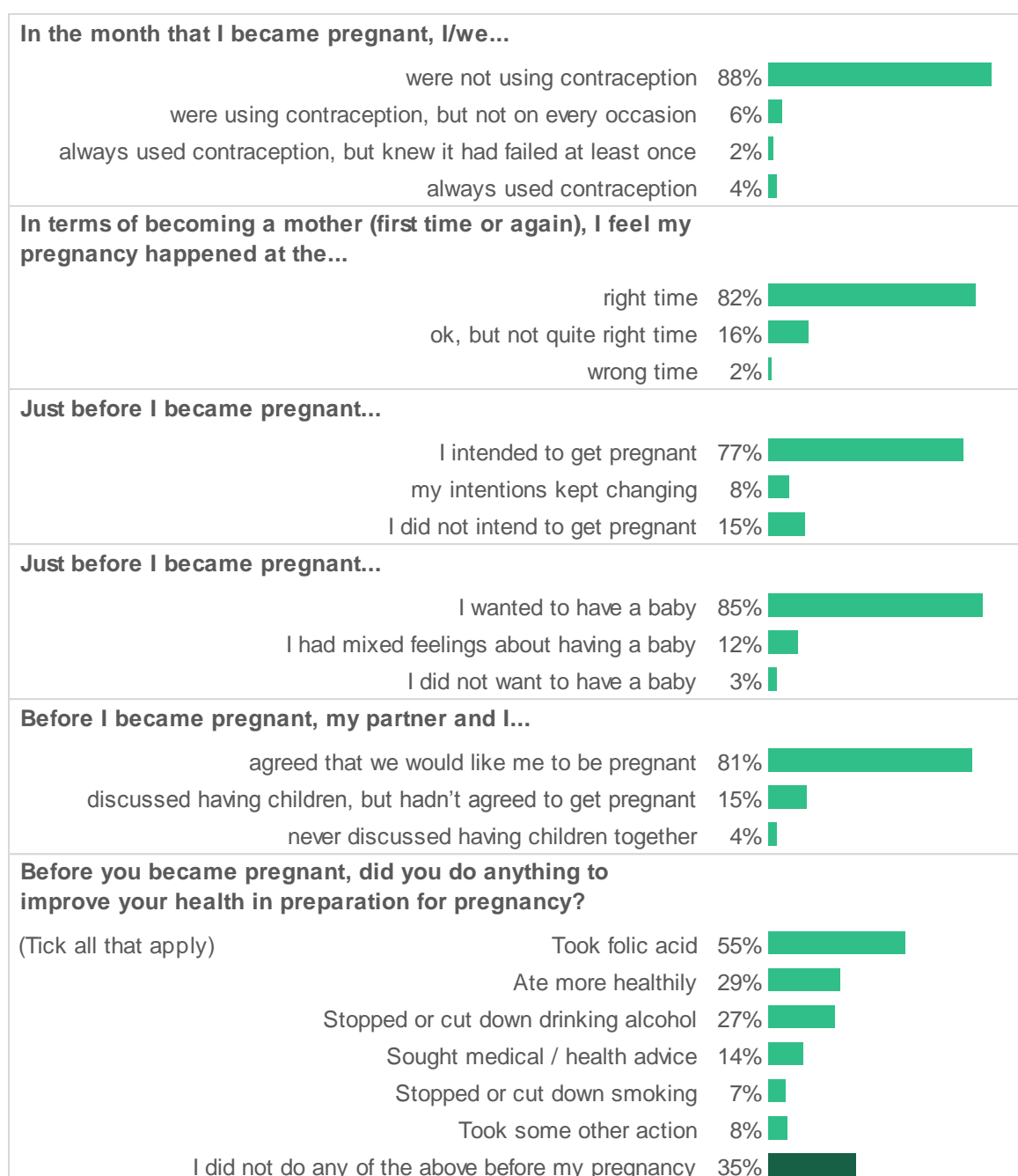


In general, according to the responses to the individual questions that make up the LMUP, the majority of women who responded to the antenatal survey intended to get pregnant (77%), wanted to have a baby (85%), and had agreed this with their partner (81%). However, 35% of respondents reported that they did not take any specific actions to improve their health in preparation for pregnancy.

[Figure 2.1; Table 2.1]

More than three-quarters of respondents intended to get pregnant, wanted to have a baby and had agreed this with their partner.

Figure 2.1: Responses to the six questions that form the London Measure of Unplanned Pregnancy (Percentage of respondents who selected each response in relation to each question).



Source: Q5 - Q10, Antenatal Survey

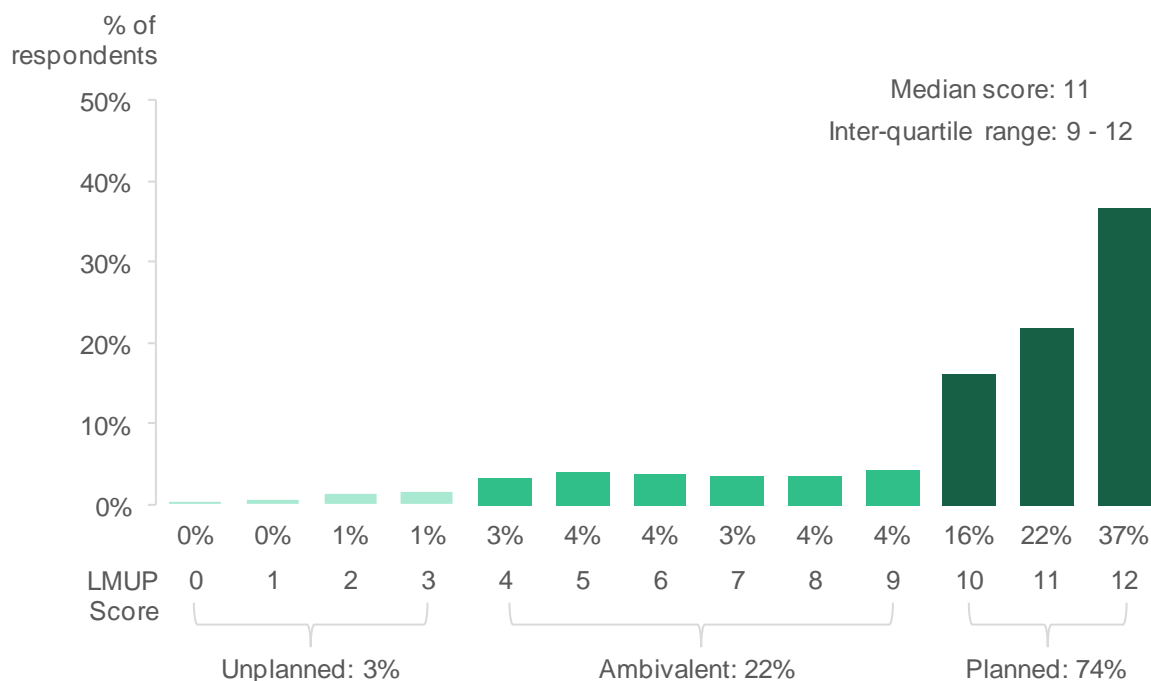


According to the final LMUP scores, 74% of respondents “planned” to get pregnant, 22% were “ambivalent” and 3% of pregnancies were “unplanned”. The median LMUP score for all respondents was 11 (Inter-quartile range (IQR) = 9-12).

[Figure 2.2; Table 2.2a]

According to the London Measure of Unplanned Pregnancy, nearly three-quarters of respondents had “planned” their pregnancy.

Figure 2.2: Distribution of LMUP scores (Percentage of respondents with each LMUP score (0-12)).



Source: Q5 - Q10, Antenatal Survey

In terms of the distribution of LMUP scores, there was no notable difference between respondents who were pregnant for the first time (median = 11, IQR = 9-12) and those who had been pregnant before (median = 11, IQR = 10-12).

[Table 2.2a & 2.2b]

Please note, previous research that also used the LMUP found that pregnancy planning status varied according to pregnancy outcome.¹⁶ This earlier study showed that full term pregnancies were more likely to have been planned than those that ended in miscarriage or termination. It should be noted that the vast majority of women (84%) who responded to the MINS antenatal survey were at least 24 weeks pregnant; this is beyond the point that most miscarriages occur or that termination is an option. This being the case, it is perhaps unsurprising that the proportion of planned pregnancies observed in this survey is relatively high.



Age of respondent

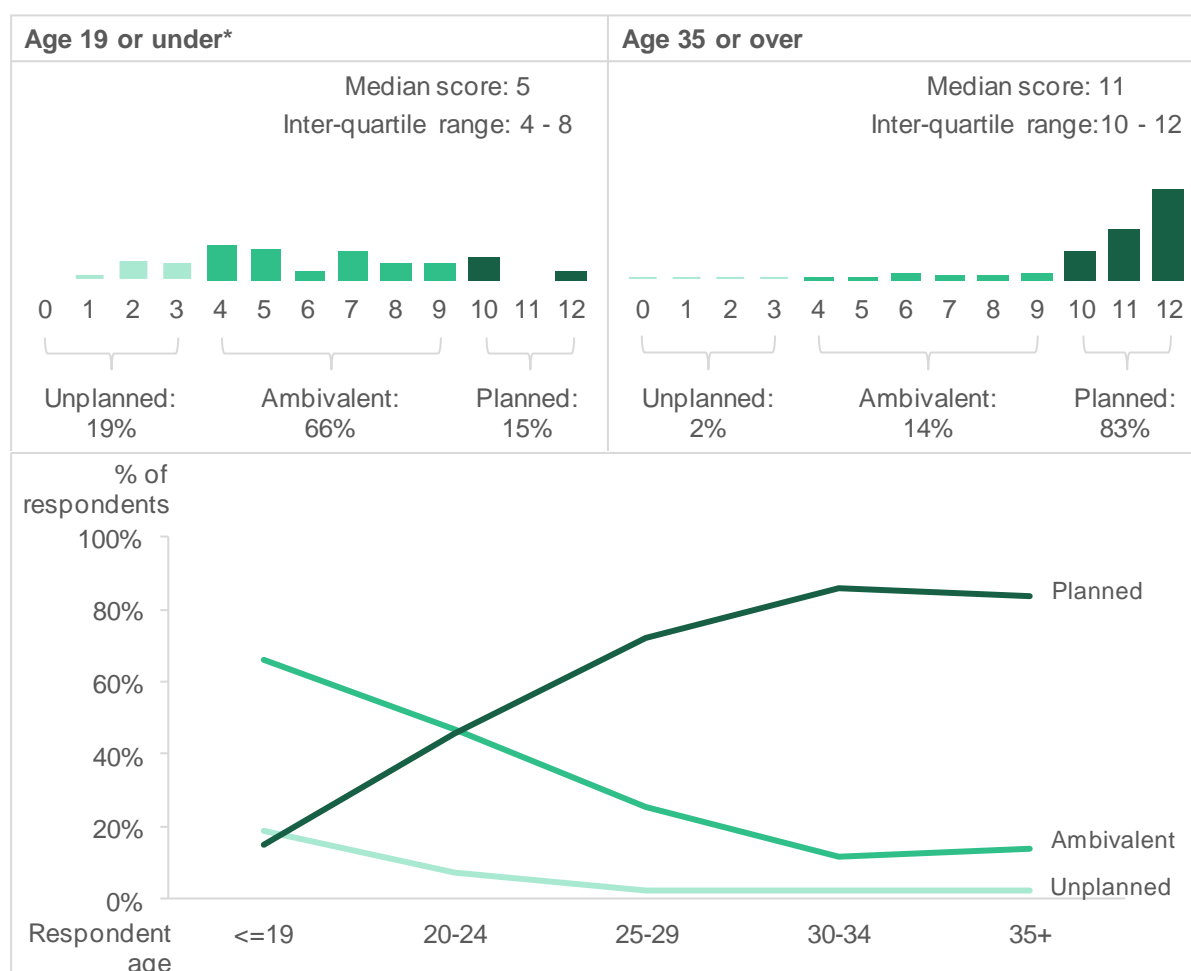
There was some variation in the distribution of LMUP scores across age groups, with older respondents more likely to have a LMUP score indicating that they had “planned” their pregnancy:

- The majority of respondents aged 25 years and over had “planned” their pregnancy, with respondents aged 30-34 the most likely to have done so (86%).
- In contrast, less than half of respondents aged 20-24 had “planned” their pregnancy (46%).
- Respondents aged 19 or under* were the least likely to have “planned” their pregnancy (15%). Nineteen percent (19%) of pregnancies in this age group were categorised as “unplanned”.

[Figure 2.3; Table 2.2b; Table A1: Antenatal – Results by Age of Respondent]

Older respondents were more likely to have “planned” their pregnancy.

Figure 2.3: Distribution of LMUP scores (Percentage of respondents with each LMUP score (0-12), by age of respondent).



Source: Q5 - Q10 + Q41, Antenatal Survey

* Results for respondents aged 19 or under should be treated with caution due to the small number of respondents in this age group (weighted base = 57; unweighted base = 44).



Deprivation

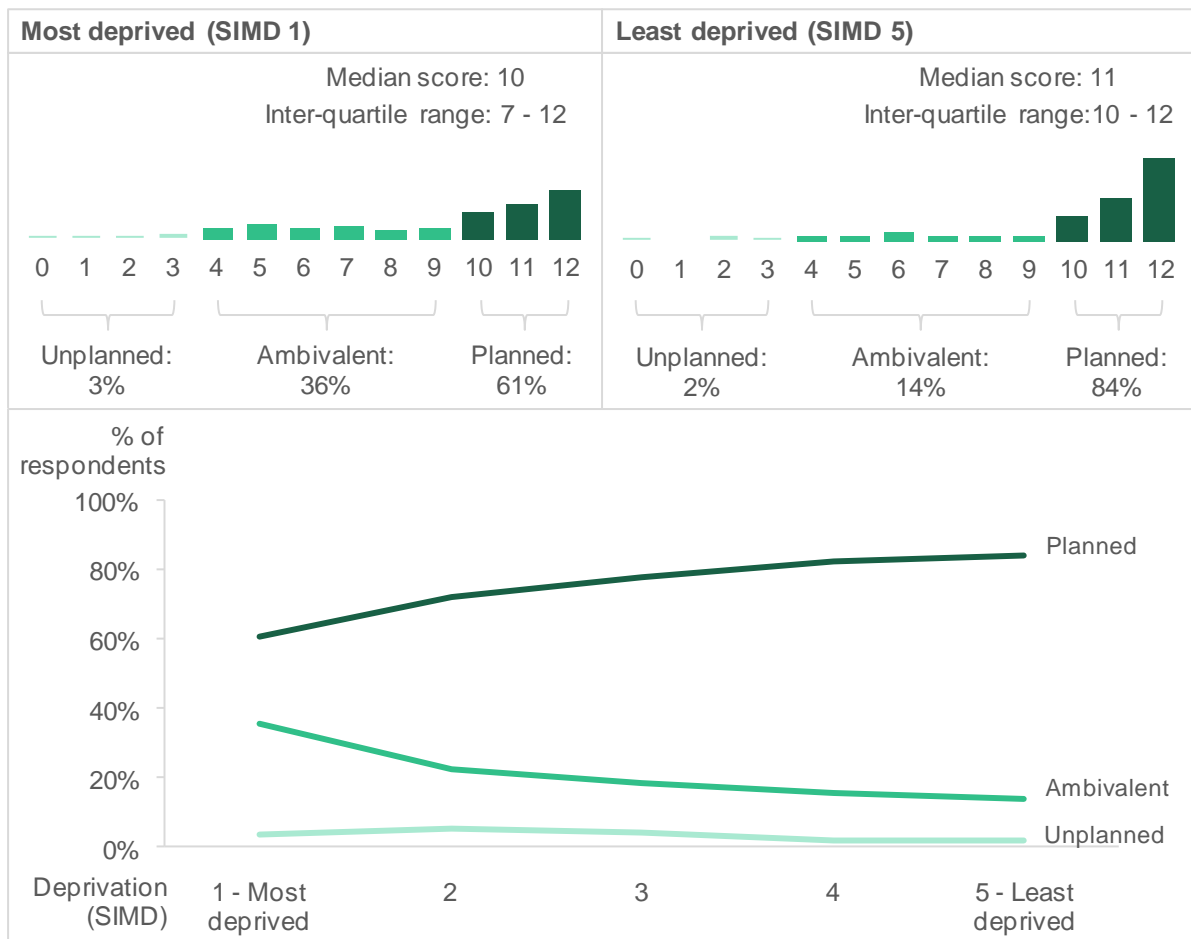
There was also variation in the distribution of LMUP scores by deprivation:

- Respondents who lived in the least deprived areas were more likely to have a “planned” pregnancy (SIMD 5: 84%) than those who lived in the most deprived areas (SIMD 1: 61%).
- The proportion of respondents whose pregnancy was categorised as “unplanned” was relatively low in all SIMD quintiles, ranging between 2% and 5%.

[Figure 2.4; Table 2.2b; Table A2: Antenatal – Results by SIMD]

Respondents who lived in the least deprived areas were more likely to have “planned” their pregnancy.

Figure 2.4: Distribution of LMUP scores (Percentage of respondents with each LMUP score (0-12), by deprivation).



Source: Q5 - Q10, Antenatal Survey



2.2 Folic acid intake before and during pregnancy*

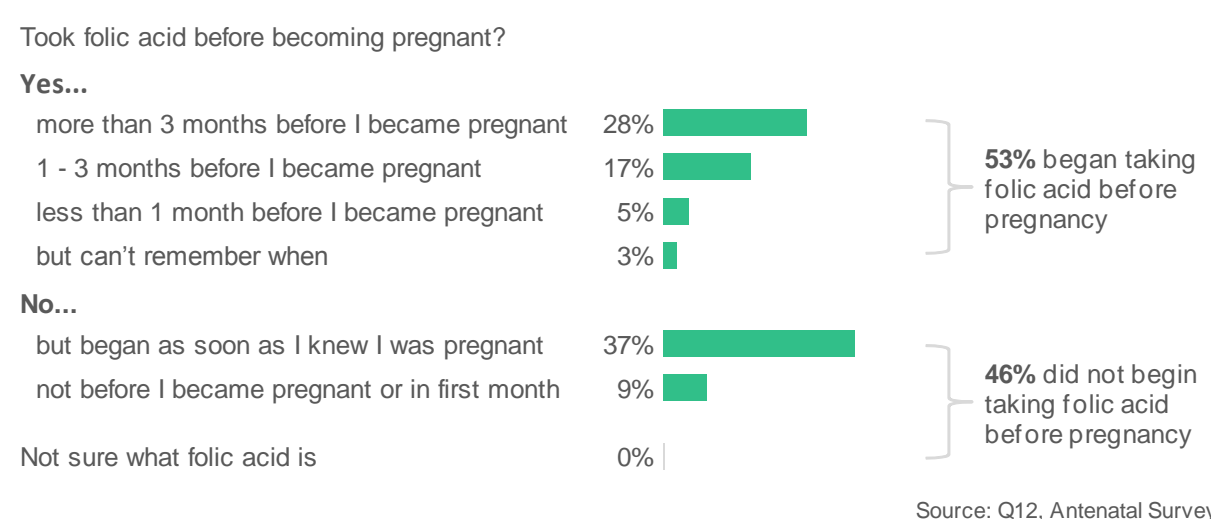
It is recommended that women begin taking a folic acid supplement (400 micrograms per day) as soon as they start trying to conceive, and continue to do so for the first 12 weeks of pregnancy. This action is recommended in order to reduce the risk of having an infant with a neural tube defect (for example, spina bifida).¹¹

Just over half of antenatal survey respondents reported taking folic acid prior to becoming pregnant (53%), with a further 37% beginning to take it as soon as they knew they were pregnant. Nearly one in ten respondents (9%) did not take any folic acid before they became pregnant or in the first month of pregnancy.

[Figure 2.5; Table 2.3]

Just over half of respondents reported taking folic acid prior to becoming pregnant.

Figure 2.5: Did you take folic acid before you became pregnant? (Percentage of respondents who selected each response).



Age of respondent

Younger respondents were less likely to report taking a folic acid supplement before becoming pregnant.

- Only 6% of respondents aged 19 and under,[†] and 23% of those aged 20-24, reported taking folic acid before they became pregnant.
- Nearly two-thirds of those aged over 30 reported taking folic acid before becoming pregnant (65% of those aged 30-34 years and 65% of those aged 35 or over).

[Table A1: Antenatal – Results by Age of Respondent]

* Note that respondents were not always consistent when answering questions about folic acid intake (Q10 and Q12 of the antenatal survey). Throughout this section, responses to Q12 have been used; Q12 is a detailed question specifically about folic acid intake whereas Q10 is a more general question about actions before pregnancy.

[†] Results for respondents aged 19 or under should be treated with caution due to the small number of respondents in this age group (weighted base = 57; unweighted base = 44).



Deprivation

- Respondents who lived in the most deprived areas were less likely to report taking folic acid before pregnancy (SIMD 1: 41%) than those who lived in the least deprived areas (SIMD 5: 67%).

[Table A2: Antenatal – Results by SIMD]

High dose folic acid

While all women are advised to take folic acid prior to conception and in the first 12 weeks of pregnancy, a higher dose of folic acid (5 milligrams per day) is recommended for women whose pregnancy is identified at higher risk of experiencing neural tube defects. This may be because the woman or her partner have a personal or family history of neural tube defects, or may be due to medical conditions such as diabetes and epilepsy.¹¹ A high dose folic acid supplement is also recommended for women who are classed as obese.²

Fifteen percent (15%) of respondents were prescribed a higher dose of folic acid just before pregnancy or in early pregnancy. Three percent (3%) of women began taking high dose folic acid before they became pregnant and 12% after they became pregnant. Less than 1% of respondents were prescribed a higher dose of folic acid and chose not to take it.

The use of high dose folic acid is discussed in more detail in sections 2.5 and 2.8 below.

[Table 2.11]

2.3 Other dietary supplements before and during pregnancy

Currently, there is no specific recommendation that women should take multi-vitamin supplements when trying to conceive. However, it is recommended that women should take Vitamin D supplements during pregnancy and whilst breastfeeding.

Where women do decide to take a supplement it is advised that they avoid taking those containing Vitamin A, including fish liver oils. Dietary supplements specifically designed for use in pregnancy will not contain Vitamin A.

Multi-vitamin supplement use before pregnancy

Thirty-eight percent (38%) of respondents reported taking multi-vitamin supplements prior to becoming pregnant. A further 42% of respondents reported starting to take a multi-vitamin supplement as soon as they knew they were pregnant. Please note, the survey did not ask respondents to specify whether multi-vitamin supplements taken before pregnancy were specifically designed for use during preconception / pregnancy.

[Table 2.4a]



In general, respondents who took folic acid before becoming pregnant (see section 2.2 above) were also more likely to report taking a multi-vitamin supplement pre-pregnancy:

- 65% of respondents who took folic acid before they became pregnant reported that they had taken a multi-vitamin supplement pre-pregnancy.
- Amongst those respondents who had not taken folic acid before becoming pregnant, only 7% reported taking a multi-vitamin supplement before pregnancy.

[Table 2.4b]

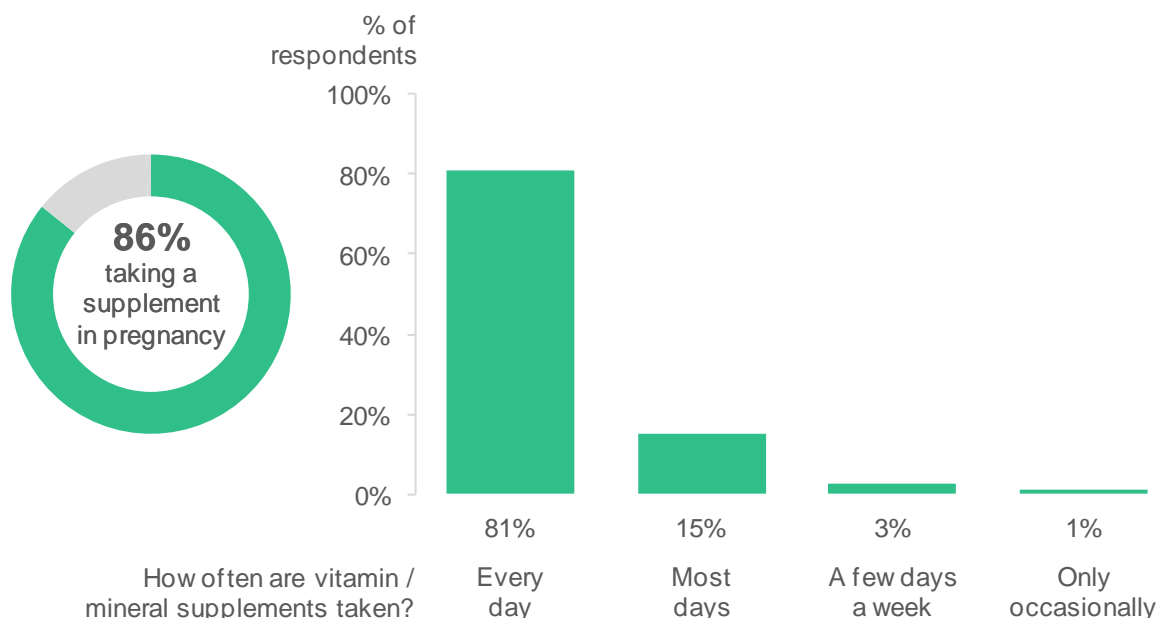
Dietary supplement use during pregnancy*

More than four out of five respondents (86%) reported that they were taking a vitamin or mineral supplement at the time they completed the antenatal survey. Amongst respondents who were taking a supplement, the majority reported taking them every day (81%) or on most days (15%).

[Figure 2.6; Table 2.5a & 2.5b]

The majority of respondents were taking a vitamin or mineral supplement during pregnancy.

Figure 2.6: Are you currently taking any single vitamin, mineral or multi-vitamin supplements? / How often do you take these vitamin or mineral supplements? (Percentage of respondents who indicated that they were taking a supplement / percentage of respondents who selected each frequency (respondents who were taking a supplement)).



Source: Q14, Q16, Antenatal Survey

* Respondents to the antenatal survey who had already given birth have been excluded from analyses in this section.



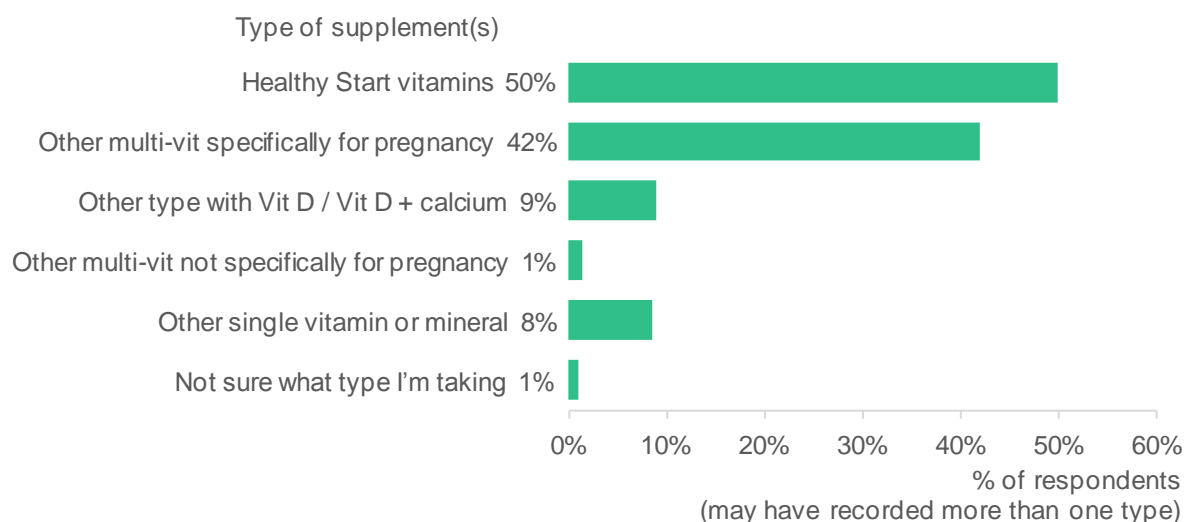
Half of respondents (50%) who said they were using dietary supplements, at the time of survey completion, reported taking Healthy Start vitamins.* Forty-two percent (42%) reported taking another multi-vitamin specifically designed for use in pregnancy. Fewer respondents reported taking another type of supplement with Vitamin D / Vitamin D with calcium (9%).

A small proportion of respondents (1%) reported that they were taking a multi-vitamin that was not specifically designed for use during pregnancy.

[Figure 2.7; Table 2.5c]

Half of antenatal respondents were taking Healthy Start vitamins when they completed the survey.

Figure 2.7: What type of vitamin or mineral supplements are you taking? (Percentage of respondents who selected each type of supplement. Respondents who were taking a supplement).



Source: Q15, Antenatal Survey

Eight percent (8%) reported taking another single vitamin or mineral supplement. Iron was the most frequently mentioned 'other single' supplement (5%). Other single supplements mentioned by respondents were Vitamin C, Vitamin D, folic acid and Omega 3.

[Table 2.5c]

* Healthy Start vitamins are specifically designed for use in pregnancy. Up until 31st March 2017, women who qualified for the [Healthy Start Scheme](#) were entitled to free Healthy Start Vitamins when they became pregnant. From 1st April 2017, the provision of free Healthy Start Vitamins was extended to all pregnant women in Scotland.



2.4 Alcohol consumption*

Recently published advice from the UK's Chief Medical Officers regarding alcohol and pregnancy is:

- If you are pregnant or think you could become pregnant, the safest approach is not to drink alcohol at all, to keep risks to your baby to a minimum.
- Drinking in pregnancy can lead to long-term harm to the baby, with the more you drink the greater the risk.⁶

To investigate observance of this advice, antenatal survey respondents were asked about their alcohol consumption prior to and after pregnancy. It should be noted that the reliability of self-reported alcohol consumption, particularly during pregnancy, is known to be problematic.¹⁷ Women may underestimate or under-report their alcohol intake for a number of reasons.

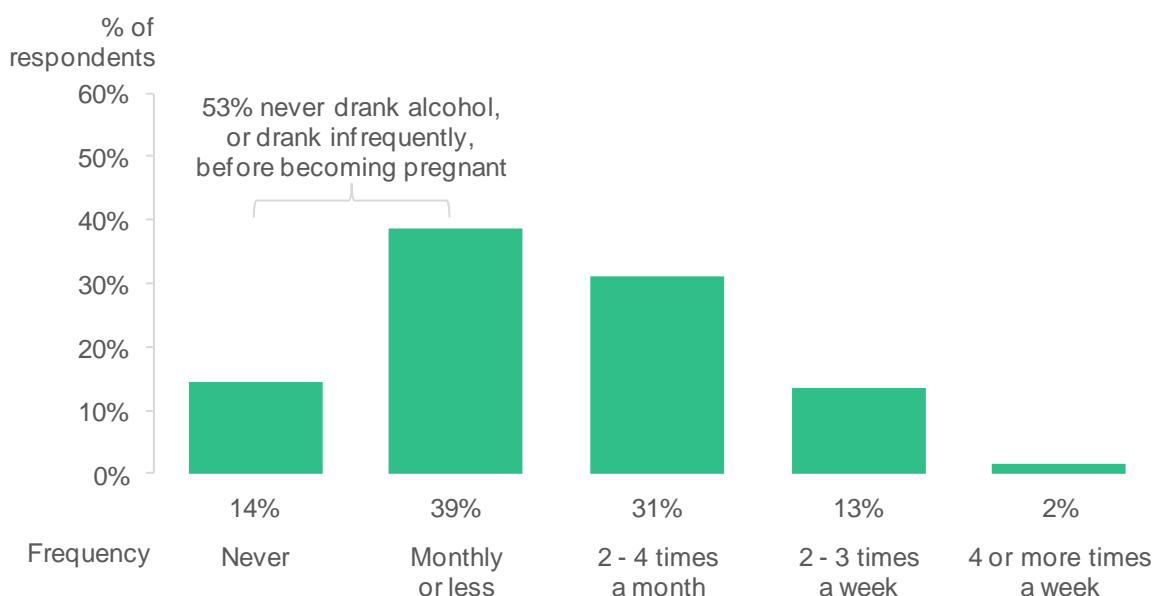
Alcohol intake before pregnancy

Respondents to the antenatal survey were asked how often they drank alcohol before pregnancy. Over half of respondents (53%) reported never drinking alcohol or drinking it infrequently before pregnancy (Never 14%; Monthly or less 39%).

[Figure 2.8; Table 2.6]

Around half of respondents never drank alcohol, or drank alcohol infrequently, before they became pregnant.

Figure 2.8: In general, how often did you have a drink containing alcohol before this pregnancy? (Percentage of respondents who selected each frequency).



Source: Q28, Antenatal Survey

* Note that respondents were not always consistent when answering questions about alcohol intake (Q10 and Q28/Q29 of the antenatal survey). Throughout this section, responses to Q28/Q29 have been used; Q28/Q29 are detailed questions specifically about alcohol intake whereas Q10 is a more general question about actions before pregnancy.



Age of respondent

Younger respondents were more likely than older respondents to report avoiding alcohol or drinking infrequently before they became pregnant.

- Nearly two-thirds (64%) of respondents aged 19 and under* reported that they never drank alcohol (23%) or drank it monthly or less (40%) before pregnancy.
- Less than half (45%) of respondents aged 35 years and over said that they never drank alcohol (13%) or drank it monthly or less before pregnancy (32%).

[Table A1: Antenatal – Results by Age of Respondent]

Deprivation

Respondents who lived in the most deprived areas were more likely to report avoiding alcohol or drinking infrequently before they became pregnant.

- Nearly two-thirds (63%) of those living in the most deprived areas (SIMD 1) reported that they never drank alcohol (23%) or drank it monthly or less (40%) before becoming pregnant.
- Only 38% of those living in the least deprived areas (SIMD 5) reported never drinking alcohol (7%) or drinking it monthly or less (30%) before becoming pregnant.

[Table A2: Antenatal – Results by SIMD]

Stopping drinking before pregnancy

Respondents were asked if they had stopped drinking before they became pregnant.

- Forty-five percent (45%) of respondents either did not drink or stopped drinking alcohol before pregnancy. This includes 14% who did not drink alcohol in general before pregnancy and 31% who did drink, but stopped before pregnancy.
- Over half of respondents (54%) reported that they did not stop drinking alcohol before pregnancy, although 25% did say that they had “cut down” the amount they were drinking.

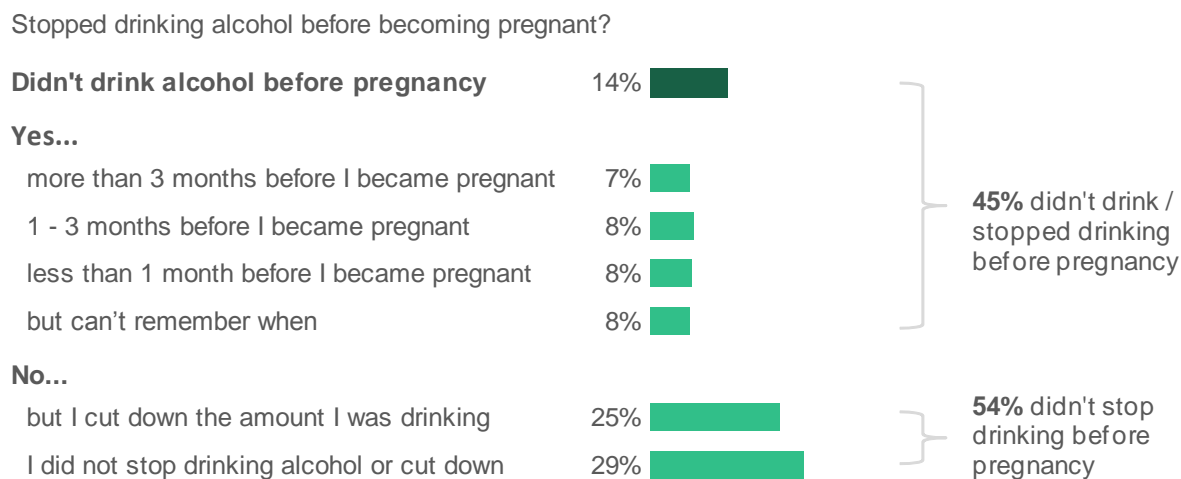
[Figure 2.9; Table 2.7]

* Results for respondents aged 19 or under should be treated with caution due to the small number of respondents in this age group (weighted base = 57; unweighted base = 44).



More than half of respondents did not stop drinking alcohol before they became pregnant.

Figure 2.9: Did you stop drinking alcohol before you became pregnant (regardless of whether this pregnancy was planned or not)? (Percentage of respondents who selected each response).*



Source: Q28 / Q29, Antenatal Survey

* Note that this analysis includes all respondents, including the 14% of respondents who did not drink alcohol in general before pregnancy (see Figure 2.8 for details alcohol consumption in general before pregnancy).

Alcohol consumption before / after pregnancy awareness

The UK Chief Medical Officers' Low Risk Drinking Guidelines advise that the risk of harm to a baby is likely to be low if an expectant mother has drunk only small amounts of alcohol before knowing she was pregnant or during pregnancy.⁶ Women are advised that, should they find out they are pregnant after drinking alcohol during pregnancy, they should avoid further drinking.

Respondents were asked about their possible consumption of alcohol in early pregnancy, before they realised they were pregnant:

- Just over half of respondents (54%) reported that they had not consumed any alcohol before they realised they were pregnant.
- A further third (32%) had drunk alcohol only infrequently (monthly or less) at this stage.

Respondents were also asked about their alcohol consumption since they realised they were pregnant.











- The majority of respondents (88%) reported that they had not consumed any alcohol since realising they were pregnant.
- However, more than one in ten respondents (11%) indicated that they had continued to drink alcohol after they realised they were pregnant.

[Figure 2.10; Table 2.8a & 2.8b]



Respondents were less likely to report drinking alcohol after they realised they were pregnant.

Figure 2.10: Do you think you drank any alcohol while you were pregnant, but before you realised you were pregnant? / How often have you had a drink containing alcohol since you realised you were pregnant? (Percentage of respondents who selected each frequency).

Frequency of alcohol consumption	Before you realised you were pregnant	Since you realised you were pregnant
Never	54% 	88% 
Monthly or less	32% 	9% 
2 - 4 times a month	8% 	2% 
2 - 3 times a week	4% 	0% 
4 or more times a week	0% 	0% 

Source: Q31, Q30, Antenatal Survey

Another recent study undertaken in Scotland also found that most women who drink alcohol stop once they realise they are pregnant.¹⁸ However, it also found that the relationship between pregnancy and alcohol consumption is complex, particularly with regard to deprivation. The study showed that while women in a higher deprivation area were more likely to say they sometimes drank alcohol before they knew they were pregnant, women in a lower deprivation area were significantly more likely to drink at least once each week and to drink above recommended levels.

The levels of alcohol consumption reported during pregnancy in the study were also higher than those reported in this survey. However, it should be noted that the methodology used in this survey and in the above mentioned study differed.



2.5 Weight

Body Mass Index

Body Mass Index (BMI) is a widely used measure for assessing body composition in adults. It is calculated using an individual's weight and height and generally gives a good indication of whether weight is in proportion to height.⁸

BMI can be used to classify individuals into the following categories:

- Underweight (BMI <18.5)
- Healthy (BMI 18.5 - <25)
- Overweight (BMI 25 - <30)
- Obese (BMI 30+)

It is recommended that women should enter pregnancy with a healthy BMI (18.5 - <25).^{1,11}

Maternal obesity is associated with poorer outcomes for both mothers and their children.^{1,3} Obese women are at greater risk of:

- Early miscarriage and still birth.
- Maternal gestational diabetes and hypertension. There is also a greater risk of their infants going on to develop these chronic conditions.
- Labour, birth and postnatal complications.
- Premature or small / large for gestational age babies.

Conversely, low maternal weight is associated with low birth weight in infants which is also linked to the infant later developing conditions such as cardiovascular disease, diabetes and hypertension.^{1,3}

The antenatal survey asked respondents to provide their BMI as recorded at their maternity booking visit. This information is usually recorded in a woman's hand held maternity record (SWHMR)*. However, one in five respondents (21%) were either unable to, or chose not to, provide this information on their completed questionnaire. The proportion of respondents who did not provide this information was higher amongst younger women and those who lived in the most deprived areas.

Of respondents who did provide their BMI, half were classed as either overweight (28%) or obese (22%). Only 3% of respondents were classed as underweight with the remaining 47% being classed as being a healthy weight. These figures are similar to routinely published national figures relating to maternal BMI.⁸

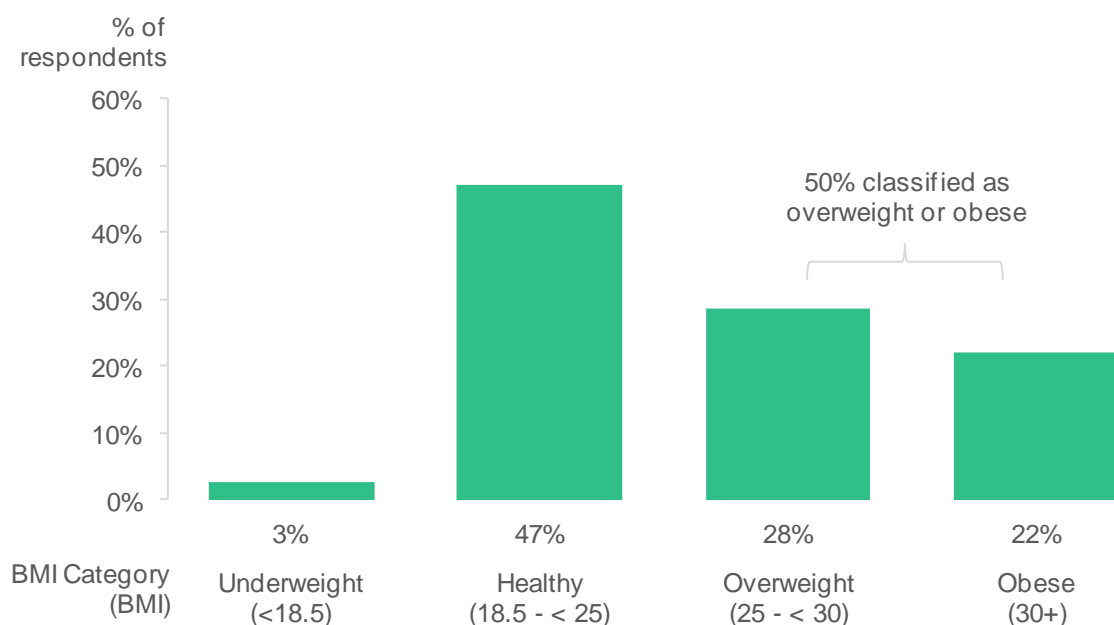
[Figure 2.11; Table 2.10a & 2.10b]

* The Scottish Woman-Held Maternity Record (SWHMR) is a single national unified handheld maternity record for women. This record is held by each pregnant woman and is brought along to all antenatal appointments and when the labour begins.



Amongst respondents who provided a BMI, half were classified as overweight or obese.

Figure 2.11: What was your Body Mass Index (BMI) at your maternity booking visit? (Percentage of respondents in each BMI category. Excludes respondents who did not specify a BMI).



Source: Q17, Antenatal Survey

Age of respondent

There were no clear differences between age groups in terms of BMI at booking, but this analysis may have been impacted by the disproportionate number of younger respondents who did not provide their BMI.

[Table A1: Antenatal – Results by Age of Respondent]

Routinely collected national data shows that the risk of having a sub-optimal maternal BMI does vary by age. National data for the year ending March 2017, indicates that women aged 19 and under are the least likely to be overweight or obese at booking (35%), whereas those aged 40 and over are the most likely to be overweight or obese (59%).⁸

Deprivation

Maternal BMI varied depending on the levels of deprivation in respondents' areas of residence. Amongst those who provided a BMI:

- Respondents who lived in the most deprived areas were less likely to report having a healthy BMI at booking (SIMD 1: 41%) than those living in the least deprived areas (SIMD 5: 56%).
- Respondents who lived in the most deprived areas were more likely to have a BMI that suggested that they were obese (SIMD 1: 27%) than those who lived on the least deprived areas (SIMD 5: 12%).

[Table A2: Antenatal – Results by SIMD]



Routinely collected national data also shows that the likelihood of having a sub-optimal maternal BMI is higher in areas with the highest levels of deprivation. Official national statistics, based on national data for the year ending March 2017, showed that women from the most deprived areas were more likely to be overweight or obese (56%) than mothers from the least deprived areas (44%).⁸

Body Mass Index and high dose folic acid

The Scottish Government's Improving Maternal and Infant Nutrition Framework advises that women who are classed as obese should take a higher dose of folic acid (5mg).¹

Findings from the survey suggest that this advice was followed for some respondents:

- Half of respondents (50%) classed as obese were prescribed a higher dose of folic acid.
- Two-fifths of respondents (40%) classed as obese reported that they began taking high dose folic acid after they became pregnant.

By comparison, only a small proportion of respondents with a BMI classified as healthy or overweight were prescribed a higher dose folic acid (4% and 7% respectively).

Note that no information is available about when the higher dose of folic acid was actually prescribed – only when the respondent started to take it.

[Table 2.11]



Perception of weight

The majority of respondents (61%) described their weight as “normal” before they became pregnant. Three percent (3%) perceived that they were “underweight”, 27% thought they were “slightly overweight”, while 8% described themselves as “very overweight / obese”.

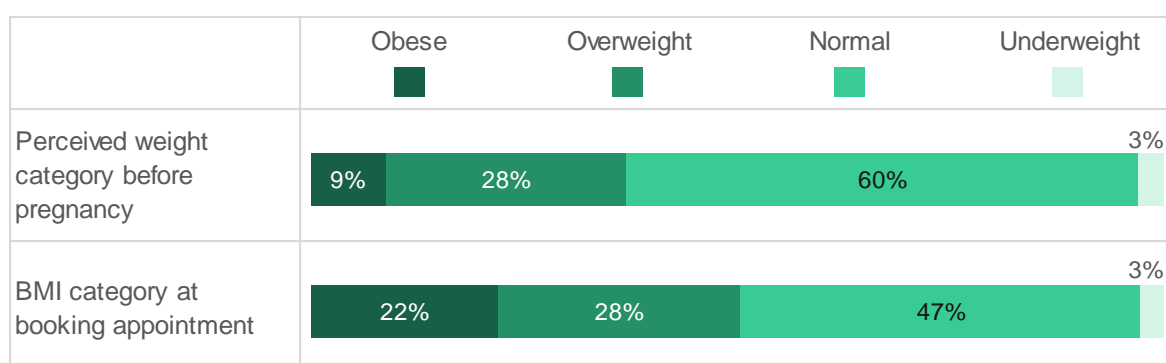
[Table 2.12a]

However, a respondent’s own description of their pre-pregnancy weight did not always correspond with their actual weight (BMI recorded at their booking appointment).

[Figure 2.12]

A respondent’s own description of their pre-pregnancy weight did not always correspond with their BMI category at booking.

Figure 2.12: How would you describe your weight before you became pregnant / What was your Body Mass Index (BMI) at your maternity booking visit? (Percentage of respondents who selected each weight category / were in each BMI category at booking. Only includes respondents who provided both their perceived weight prior to pregnancy and their BMI at booking).



Source: Q18, Q17, Antenatal Survey

The majority (94%) of those with a healthy BMI described themselves as “normal”, with only a small proportion of this group describing themselves as “underweight” (3%) or “slightly “overweight” (3%). However, amongst those whose BMI indicated they were underweight, overweight or obese there were sometimes a difference between the BMI recorded and the respondent’s perception of their weight:

- Only around half of respondents (52%) whose BMI indicated that they were underweight described themselves as “underweight”. The remaining 48% described themselves as “normal”.
- Half of respondents (50%) whose BMI indicated that they were overweight, described themselves as “normal”. Most other respondents (49%) in this BMI category described themselves as “slightly overweight”.
- Only 40% of respondents whose BMI indicated that they were obese, described themselves as such. Three percent (3%) thought that their pre-pregnancy weight was “normal”; the remaining 57% described themselves as “slightly overweight”.

[Table 2.12a]



Attempts to change weight

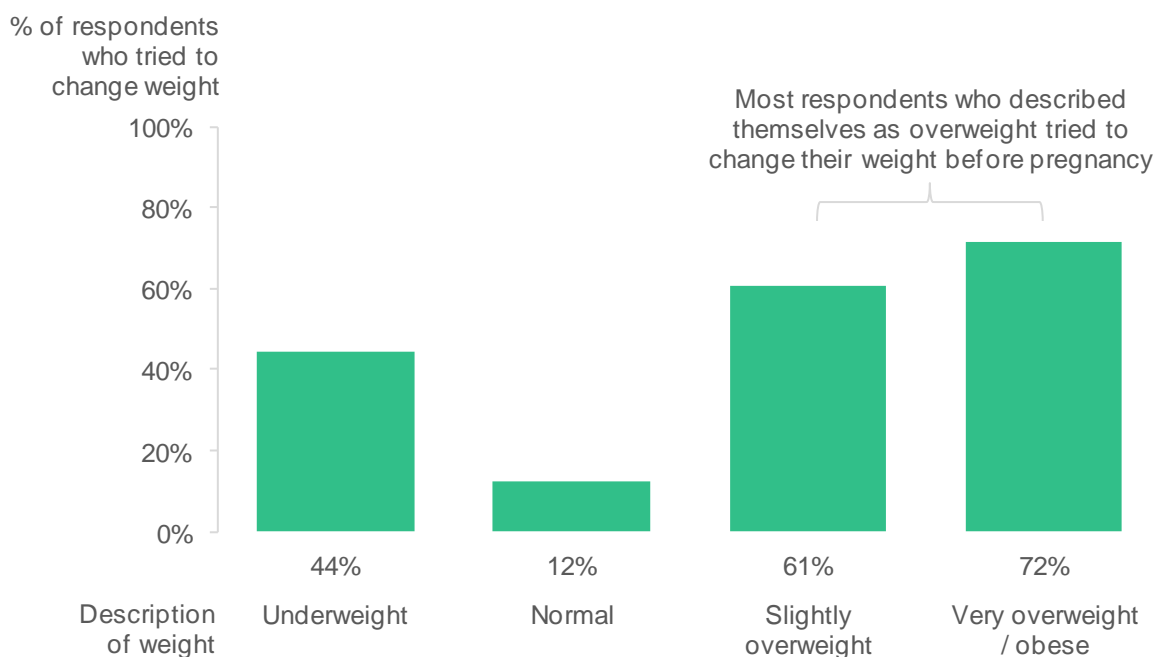
Respondents who described themselves as either “slightly overweight” or “very overweight / obese” were more likely to have tried to change their weight before becoming pregnant:

- 61% of those who thought they were “slightly overweight” and 72% of those who thought they were “very overweight / obese” had tried to change their weight prior to their pregnancy.
- Less than half of those who thought they were “underweight” had tried to change their weight before pregnancy (44%).

[Figure 2.13; Table 2.12b]

Respondents who described themselves as overweight were more likely to have tried to change their weight before pregnancy than those who described themselves as underweight.

Figure 2.13: Did you try to change your weight before you became pregnant? (Percentage of respondents who indicated that they tried to change their weight, by respondent description of pre-pregnancy weight).



Source: Q18, Q19, Antenatal Survey



2.6 Diet and cooking skills

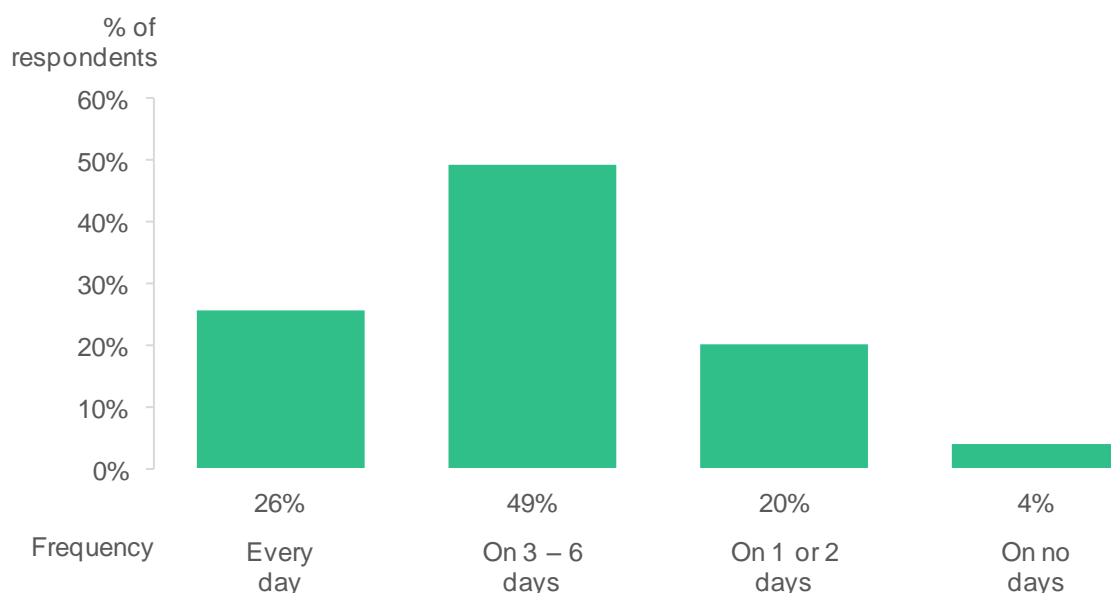
Women are advised to eat a healthy and balanced diet containing at least five portions of fruit or vegetables a day both during pregnancy and as part of a healthy diet at other times.

Only a quarter (26%) of respondents said that they had eaten the recommended “five-a-day” on every day in the last week (at the time of survey completion). Around half (49%) reported that they done so on between three and six days. A small proportion of respondents (4%) said that they had not eaten the recommended five portions of fruit and vegetables on any day in the last week.

[Figure 2.14; Table 2.13]

Around a quarter of respondents ate the recommended five-a-day or more fruit and vegetables every day in the last week.

Figure 2.14: How often did you eat the recommended 5-a-day or more fruit and vegetables in the last week? (Percentage of respondents who selected each frequency).



Source: Q24, Antenatal Survey

Age of respondent

Older respondents were more likely to have eaten five portions of fruit and vegetables every day:

- 30% of respondents aged over 35 years reported that they had eaten “five-a-day” every day in the last week, compared to 21% of those aged 20-24 and 20% of those aged 19 and under.*

[Table A1: Antenatal – Results by Age of Respondent]

* Results for respondents aged 19 or under should be treated with caution due to the small number of respondents in this age group (weighted base = 57; unweighted base = 44).



Deprivation

- Nearly a third of respondents (30%) living in the most deprived areas reported eating “five-a-day” infrequently (on only one or two days or on no days). Only 17% of respondents who lived in the least deprived areas (SIMD 5) reported this.

[Table A2: Antenatal – Results by SIMD]

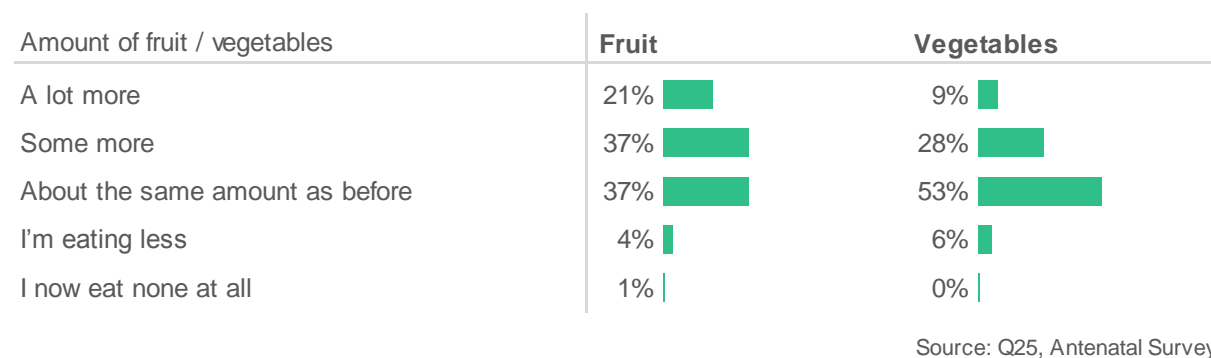
Change in diet since pregnancy

Over half of respondents (58%) said that they were eating more fruit since becoming pregnant, while over a third (37%) said they were eating about the same amount as before pregnancy. By comparison, only 37% of respondents reported eating more vegetables, with just over half (53%) saying that they ate the same amount of vegetables as they did before becoming pregnant.

[Figure 2.15; Table 2.14]

More than half of respondents reported eating more fruit since becoming pregnant.

Figure 2.15: During this pregnancy are you eating more, less or the same amount of fruit and/or vegetables than you ate before you were pregnant? (Percentage of respondents who selected each response).



Types of diet

The vast majority of respondents (86%) reported that their diet included meat, fish and animal products.

- Only 2% of respondents said that they ate a vegetarian diet. A further 2% stated that they were pescetarian.
- Very few respondents (<0.5%) said that they were vegan.
- 8% of respondents reported that while they were not vegetarian, pescetarian or vegan, they avoided some foods. The foods that these respondents most frequently mentioned avoiding were red meat, fish, foods containing gluten and dairy products.

[Table 2.15]



Cooking skills

As described in the MIN Framework, various local initiatives have taken place in Scotland over the last decade to help provide families with practical advice on nutrition, food shopping, budgeting, menu planning and the development of cooking skills.¹

- Two-thirds (66%) of survey respondents said that they could “cook most meals from scratch” and a further 26% reported that they could “cook some meals from scratch”.
- 6% of respondents said that they only had “basic cooking skills”, but very few (0.5%) said that they “can’t really cook any meals”.
- Younger respondents were more likely to report that they only had “basic cooking skills”. Thirty-four percent (34%) of those aged 19 and under* and 13% of those aged 20-24 described their cooking skills as basic, compared to 3% of those aged 35 and over.
- Similarly, respondents who lived in the most deprived areas were more likely than those who lived in the least deprived areas to report that they only had “basic cooking skills” (SIMD1: 11%; SIMD 5: 3%).

[Table 2.16]

* Results for respondents aged 19 or under should be treated with caution due to the small number of respondents in this age group (weighted base = 57; unweighted base = 44).



2.7 Pregnancy planning and taking pre-pregnancy actions

The antenatal survey results indicate that women who “planned” their pregnancy (according to their LMUP score) were more likely to take recommended actions before pregnancy. This was particularly evident with regard to starting to take folic acid:

- Over two-thirds (69%) of respondents who “planned” their pregnancy reported taking folic acid before pregnancy.
- Only 7% of respondents whose pregnancy was “ambivalent” and 5% of those where the pregnancy was “unplanned” reported taking folic acid before they became pregnant.

However, around half of respondents who had “planned” their pregnancy did not take some recommended pre-pregnancy actions, such as avoiding alcohol (only 48% did so) or ensuring that they had a healthy BMI (only 48% had a healthy BMI).

[Figure 2.16; Table 2.17]

Respondents who “planned” their pregnancy were more likely to follow pregnancy planning recommendations, but even those who “planned” their pregnancy did not always take recommended actions.

Figure 2.16: Summary of pregnancy planning. (Percentage of respondents who indicated that they had taken a particular action, by LMUP category).

Recommended pre-pregnancy actions	LMUP category		
	Unplanned (0-3)	Ambivalent (4-9)	Planned (10-12)
Took folic acid pre-pregnancy	5%	7%	69%
No / stopped alcohol pre-pregnancy	42%	37%	48%
Healthy BMI at booking*	28%	45%	48%
Other actions			
Took multi-vitamin pre-pregnancy	2%	10%	48%
Currently taking vitamins / minerals [†]	78%	75%	89%
No alcohol since realised pregnant	94%	90%	87%
Thought weight "normal" pre-pregnancy	53%	59%	61%
5-a-day fruit / veg every day (last week)	19%	24%	26%

Source: Q5-10, Q12, Q29, Q17, Q11, Q14, Q30, Q18, Q24, Antenatal Survey

* Results for “Healthy BMI at booking” are based on a sub-set of respondents who provided a valid BMI.

[†] Respondents who had already given birth have been excluded from the “currently taking vitamins / minerals” analysis.



2.8 Previous pregnancy / medical history and pregnancy planning

Previous pregnancy experience and certain pre-existing medical conditions can be particularly relevant when planning for pregnancy. Additional recommendations and advice may be given to women based on their previous pregnancy and medical history (e.g. increased screening, a change in medication).³

Nearly half (47%) of antenatal survey respondents reported that they had been pregnant before their current pregnancy. Of those who had been pregnant before:

- The majority (69%) reported that they already had one child.
- A quarter (25%) had more than one child.
- 6% reported that they had no children.

[Table 2.18a & 2.18b]

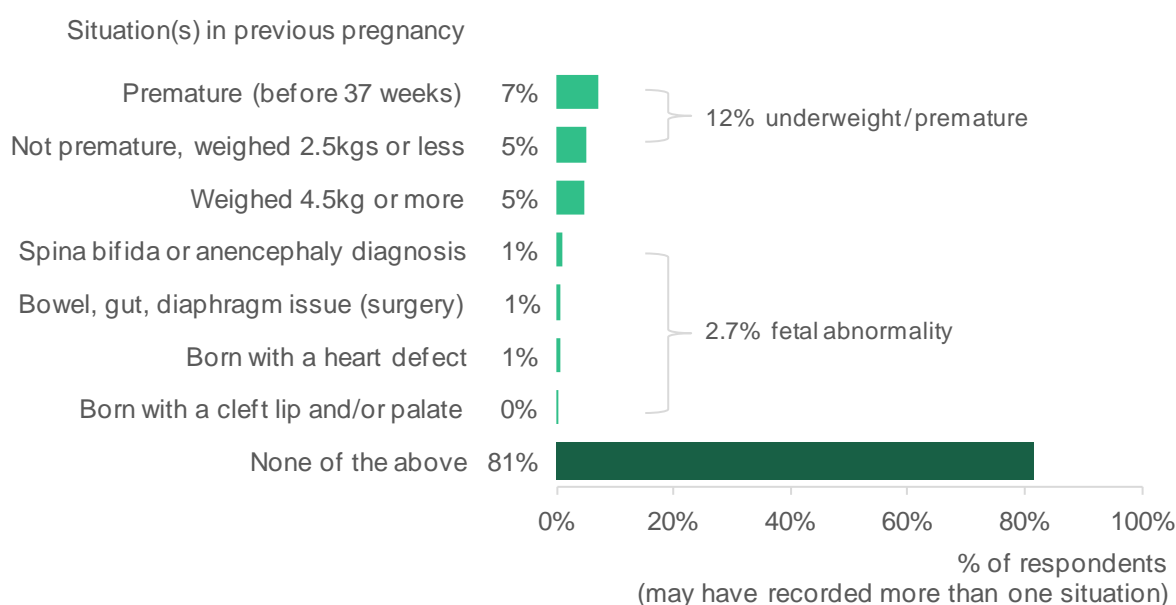
Situations encountered in previous pregnancy

The majority of respondents (81%), who had previously been pregnant, stated that they had not experienced any issue around birth weight, prematurity or certain specified fetal abnormalities before.

[Figure 2.17; Table 2.19]

Around one in five respondents, who had previously been pregnant, had a previous pregnancy where the baby was over / underweight, premature or had a specified fetal abnormality.

Figure 2.17: Have you had a previous pregnancy where any of these situations applied? (Percentage of respondents who indicated each situation. Respondents who have been pregnant before).





Amongst respondents who had previously been pregnant:

- 7% reported a previous pregnancy where the baby was born prematurely (before 37 weeks gestation).
- 5% reported that they had previously had an underweight baby (weighing 2.5kgs or less).
- 5% said they had previously had a heavier baby, weighing 4.5kg or more.

A small proportion of respondents who had previously been pregnant reported that a fetal abnormality had been encountered in a previous pregnancy (2.7% overall, and 1% or less for each type of fetal abnormality specified in the questionnaire). Although relatively rare, these conditions can have a significant impact on an infant's future health.

[Figure 2.17; Table 2.19]



Previous pregnancy situations and planning for pregnancy

According to scores obtained using the LMUP:

- Just under three-quarters of respondents (72%) who had previously had a premature baby or an infant weighing 2.5kg or less “planned” their current pregnancy.
- Just over half of respondents (54%) who had previously had a baby weighing 4.5kg or more “planned” their current pregnancy.
- More than four in five respondents (83%) who had previous had a pregnancy where there had been a fetal abnormality “planned” their current pregnancy.

[Figure 2.18; Table 2.20]

Less than three-quarters of respondents, who had previously had a premature or underweight baby, “planned” their current pregnancy.

Figure 2.18: Summary of pregnancy planning. (Percentage of respondents who indicated that they had taken a particular action, by situations that occurred in previous pregnancies).

LMUP category	Previous pregnancy with...		
	Underweight or premature baby	Heavier baby	Fetal abnormality [#]
Unplanned (0-3)	3%	6%	4%
Ambivalent (4-9)	25%	40%	13%
Planned (10-12)	72%	54%	83%
Recommended pre-pregnancy actions			
Took folic acid pre-pregnancy	50%	50%	75%
No / stopped alcohol pre-pregnancy	60%	49%	64%
Healthy BMI at booking*	34%	40%	Too few respondents
Other actions			
Took multi-vitamin pre-pregnancy	40%	40%	50%
Currently taking vitamins / minerals [†]	86%	82%	94%
No alcohol since realised pregnant	93%	82%	95%
Thought weight "normal" pre-pregnancy	48%	52%	29%
5-a-day fruit / veg every day (last week)	34%	31%	24%

Source: Q5-10, Q12, Q29, Q17, Q11, Q14, Q30, Q18, Q24, Q4, Antenatal Survey

* Results for “Healthy BMI at booking” are based on a sub-set of respondents who provided a valid BMI.

[†] Respondents who had already given birth have been excluded from this analysis.

[#] Results for respondents who had previously had a pregnancy where there had been a fetal abnormality should be treated with extreme caution. There were only a small number of respondents in this group (weighted base = 32; unweighted base = 28).



Pre-pregnancy medical history

There is an increased risk of complications during pregnancy and birth associated with health conditions such as diabetes, epilepsy and/or high blood pressure.¹⁹

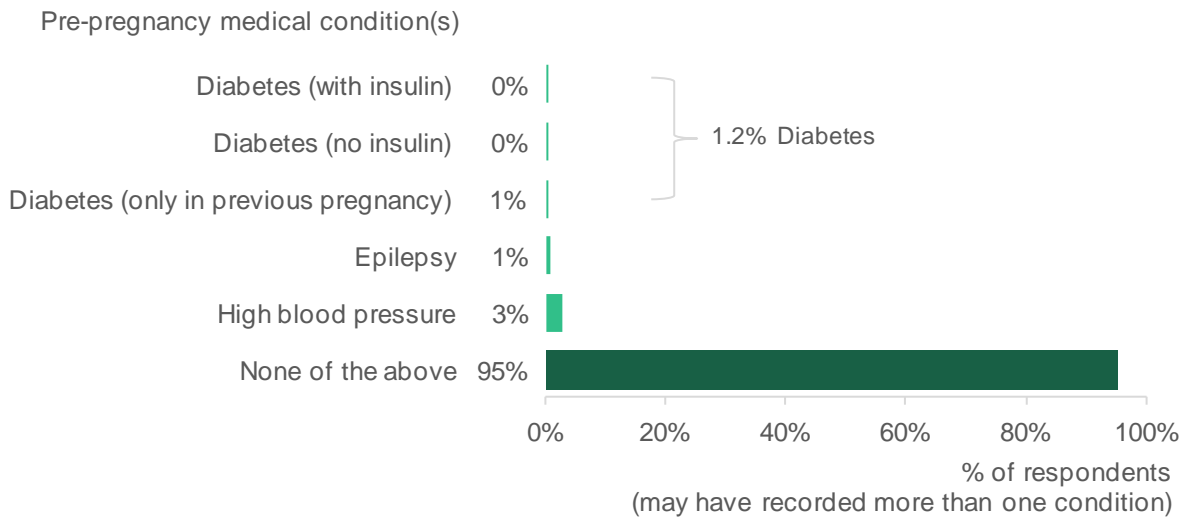
Respondents were specifically asked if they had a history of any of these health conditions prior to their current pregnancy.

A small proportion of respondents (5%) reported that they had a history of diabetes, epilepsy and/or high blood pressure prior to their current pregnancy.

[Figure 2.19; Table 2.21]

Five percent of respondents had a pre-pregnancy history of diabetes, epilepsy and/or high blood pressure.

Figure 2.19: Did you have a history of any of the following health conditions before this pregnancy? (Percentage of respondents who selected each condition).



Source: Q32, Antenatal Survey



Pre-pregnancy medical history and planning for pregnancy























According to scores obtained using the LMUP:

- 70% of respondents with a pre-pregnancy history of diabetes and/or epilepsy had “planned” their current pregnancy.
- A similar percentage (69%) of respondents with a pre-pregnancy history of high blood pressure had “planned” their current pregnancy.

[Figure 2.20; Table 2.22]

Around 70% of respondents with a pre-pregnancy history of diabetes, epilepsy and/or high blood pressure “planned” their pregnancy.

Figure 2.20: Summary of pregnancy planning. (Percentage of respondents who indicated that they had taken a particular action, by pre-pregnancy medical history).

LMUP category	Pre-pregnancy medical history	
	Diabetes / Epilepsy [#]	High blood pressure
Unplanned (0-3)	8% 	6% 
Ambivalent (4-9)	22% 	25% 
Planned (10-12)	70% 	69% 
Recommended pre-pregnancy actions		
Took folic acid pre-pregnancy	52% 	48% 
No / stopped alcohol pre-pregnancy	57% 	50% 
Healthy BMI at booking*	26% 	28% 
Other actions		
Took multi-vitamin pre-pregnancy	34% 	35% 
Currently taking vitamins / minerals [†]	93% 	87% 
No alcohol since realised pregnant	95% 	97% 
Thought weight "normal" pre-pregnancy	42% 	38% 
5-a-day fruit / veg every day (last week)	30% 	27% 

Source: Q5-10, Q12, Q29, Q17, Q11, Q14, Q30, Q18, Q24, Q32 Antenatal Survey

* Results for “Healthy BMI at booking” are based on a sub-set of respondents who provided a valid BMI.

[†] Respondents who had already given birth have been excluded from this analysis.

[#] Results for respondents who had a pre-pregnancy history of diabetes and/or epilepsy should be treated with caution. There were only a small number of respondents in this group (weighted base = 49; unweighted base = 49).



Pregnancy / medical history and high dose folic acid

A higher dose of folic acid is recommended for women with certain conditions, including diabetes, epilepsy and/or a history of some fetal abnormalities.







- 64% of respondents who had a previous pregnancy with a fetal abnormality were prescribed a higher dose of folic acid; 40% reported that they began taking high dose folic acid before becoming pregnant with their latest pregnancy.*
- A slightly lower proportion (59%) of respondents with a pre-pregnancy history of diabetes and/or epilepsy was prescribed a higher dose of folic acid. Twenty-seven percent (27%) of this group reported that they began taking this higher dose before their current pregnancy.#

Please note that no information is available about when the higher dose of folic acid was prescribed, only when the respondent reported that they started to take it.

[Figure 2.21; Table 2.23]

Less than two-thirds of respondents, who had previously had a pregnancy with a fetal abnormality or who had a pre-pregnancy history of diabetes and/or epilepsy, were prescribed a higher dose of folic acid.

Figure 2.21: Were you prescribed a higher dose (5mg) of folic acid just before pregnancy or in early pregnancy (the first 12 weeks)? (Percentage of respondents, by pregnancy / medical history).

Higher dose folic acid prescribed	Pregnancy / medical history	
	Fetal abnormality*	Diabetes / Epilepsy†
Yes...		
began taking before pregnant	40% 	27% 
began taking after pregnant but did not take it	24% 	32% 
No		
Not sure what folic acid is	36% 	41% 
	0%	0%

Source: Q13, Q4, Q32, Antenatal Survey

* Results for respondents who had previously had a pregnancy where there had been a fetal abnormality should be treated with extreme caution. There were only a small number of respondents in this group (weighted base = 32; unweighted base = 28).

† Results for respondents who had a pre-pregnancy history of diabetes and/or epilepsy should be treated with caution. There were only a small number of respondents in this group (weighted base = 49; unweighted base = 49).



2.9 Sources of information

In order to enable women to make informed choices, both before and during pregnancy, it is important that they have access to clear, high quality and timely information. This is particularly important for advice relating to the preconception period such as general guidance about maintaining a healthy pre-pregnancy lifestyle and diet, along with specific recommendations around the need for a folic acid supplement while trying to conceive and during pregnancy.

Pre-pregnancy information sources

A large proportion of respondents to the antenatal survey (63%) said they had not received any information about diet, vitamin supplements, smoking or drinking alcohol **before** becoming pregnant.

Those who said they had received information prior to becoming pregnant were asked where they had obtained this information from. The main sources of information reported were health care professionals (22%) and Internet / web based resources (15%). Sixteen percent (16%) of respondents who had been pregnant before reported using information from previous experience.

[Figure 2.22; Table 2.24a & 2.24b]

Most respondents did not get any information about adapting their diet, taking vitamins, or stopping smoking and drinking alcohol before they became pregnant.

Figure 2.22: Did you get any information about adapting your diet, taking vitamins, or stopping smoking and drinking alcohol **before becoming pregnant?** / Where did you get this information from? (Percentage of respondents who selected each source, by whether this is respondent's first pregnancy. Most common sources **highlighted**).

Source(s) of information (before pregnancy - tick all that apply)	All respondents	First pregnancy	Not first pregnancy
A health care professional	22%	23%	20%
Internet / Web based resources	15%	20%	11%
Books / leaflets / magazines	8%	10%	7%
Previous experience (earlier pregnancy)	8%	1%	16%
My partner, friend and/or relative	6%	8%	4%
Television / radio	2%	2%	2%
Pharmacy / chemist	1%	1%	1%
Somewhere / someone else	1%	1%	1%
Did not get any information	63%	60%	66%

Source: Q20, Q21, Q2, Antenatal Survey



Information sources during pregnancy

By comparison, a much lower proportion (17%) reported that they had not obtained information about diet, vitamins, smoking and drinking **during** pregnancy.

Amongst those who had received information, the most frequently cited source was from a health care professional (74%). Respondents who were pregnant for the first time were more likely to report obtaining information from NHS Health Scotland’s “Ready Steady Baby” book (34%)* or from Internet / web based resources (33%) than women who had been pregnant before (23% and 15% respectively).

Women who were pregnant for the first time also frequently indicated that they had used other books / leaflets / magazines (18%) or had received information from friends and family (15%).

Nearly a third (31%) of respondents who had previously been pregnant reported using previous experience as a source of information. However, almost a quarter of these respondents (22%) said that they did not get any information during pregnancy.

[Figure 2.23; Table 2.25a & 2.25b]

Most respondents did get information about adapting their diet, taking vitamins, or stopping smoking and drinking alcohol after they became pregnant.

Figure 2.23: Did you get any information about adapting your diet, taking vitamins, or stopping smoking and drinking alcohol **during pregnancy**? / Where did you get this information from? (Percentage of respondents who selected each source, by whether this is respondent’s first pregnancy. Most common sources highlighted).

Source(s) of information (during pregnancy - tick all that apply)	All respondents	First pregnancy	Not first pregnancy
A health care professional	74%	78%	70%
Ready Steady Baby book	29%	34%	23%
Internet / Web based resources	25%	33%	15%
Previous experience (earlier pregnancy)	15%	1%	31%
Books / leaflets / magazines	13%	18%	8%
My partner, friend and/or relative	10%	15%	5%
Television / radio	3%	3%	2%
Pharmacy / chemist	1%	1%	1%
Somewhere / someone else	1%	1%	1%
Did not get any information	17%	13%	22%

Source: Q22, Q23, Q2, Antenatal Survey

* Note that all pregnant women are usually given a copy of the NHS Health Scotland booklet entitled “Ready Steady Baby” when they attend for their booking appointment with a midwife.



3 Birth and Subsequent Hospital Care

Events during and after birth may affect the way that babies are fed shortly after being born. For this reason, women in the 8-12 week survey were asked about their experience of giving birth and about any extra care that their baby received shortly after being born.

This section of the report presents survey findings about giving birth. Later sections examine some of these findings in relation to respondent's infant feeding choices.

This section of the report also presents information from the 8-12 month survey about infant health issues and any overnight hospital stays that were required apart from when a baby was born.

3.1 Giving birth

The majority of respondents to the 8-12 week survey (98%) gave birth in a Scottish hospital / Community Maternity Unit (CMU), with a very small number giving birth in the ambulance on the way to hospital. Two percent (2%) gave birth at home.

[Table 3.1]

Ninety-three percent (93%) of respondents indicated that their pregnancy was full term (37 weeks pregnant or more) when their baby was born. Five percent (5%) gave birth prematurely (before 37 weeks), with a small number of babies being born before 32 weeks (0.5%).

[Table 3.2]

These findings are similar to statistics collected on a routine basis that show that the vast majority of the 54,488 live births registered Scotland in 2016 took place in a hospital or in a Community Maternity Unit.¹²

Official national statistics for births in Scottish hospitals (year ending 31st March 2017) show similar proportions of premature and full term births amongst women giving birth in Scotland.⁸ However, the proportion of mothers giving birth at 42 weeks or later was higher in this survey (9% versus 2% in official statistics). This difference may partially be explained by the fact that survey respondents were asked to state how many weeks pregnant they were to the nearest whole week only. Furthermore, this survey includes mothers who gave birth at home.



Method of delivery

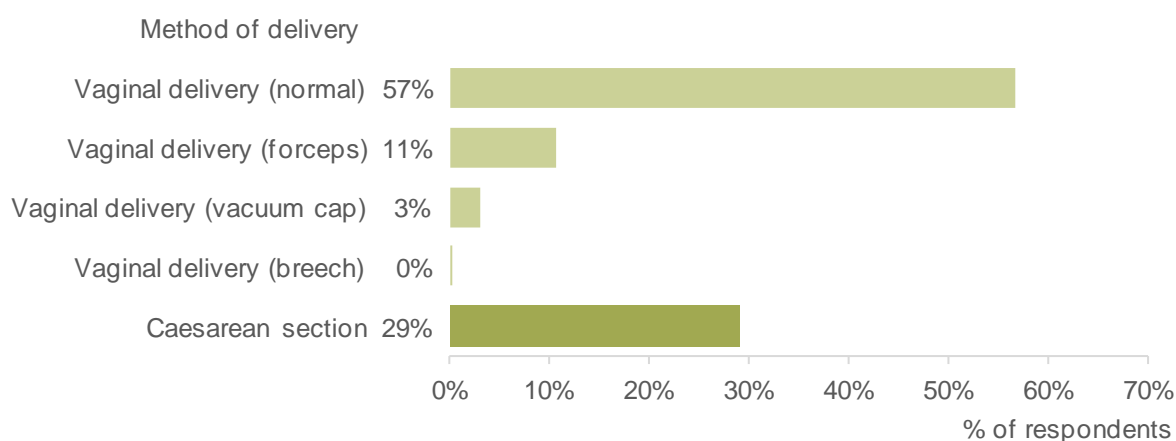
Some methods of delivery or types of medication / pain relief used during labour may affect a baby's initial ability to breastfeed well. For example, if a mother has a caesarean section it may take a little longer to get breastfeeding going. This may also be the case if medication used during labour makes the baby sleepy after birth.²⁰

The majority of respondents reported that they had a normal vaginal delivery (57%). Eleven percent (11%) had a vaginal delivery with use of forceps, and 3% using a vacuum cap on the baby's head. Less than 0.2% reported a vaginal breech birth. Twenty-nine percent (29%) of respondents had a caesarean section.

[Figure 3.1; Table 3.3]

Around three in ten respondent had a caesarean section.

Figure 3.1: Thinking about the birth of your baby, what kind of delivery did you have? (Percentage of respondents who indicated each method of delivery).



Source: Q6, 8-12 Week Survey

Older mothers were more likely to have given birth by caesarean section than younger mothers. Forty percent (40%) of respondents aged 35 or over had a caesarean compared to 20% of those aged 20-24. There was no significant variation amongst deprivation categories.

[Table B1: 8-12 Week – Results by Age of Respondent & B2: 8-12 Week – Results by SIMD]

Official national statistics for births in Scottish hospitals (year ending 31st March 2017) show a very similar pattern of methods of delivery amongst women giving birth in Scotland.⁸ These statistics also show that the proportion of women delivering by caesarean section has increased steadily in Scotland since 1975.

The methods of delivery are also similar to that reported for Scottish respondents in the 2010 UK-wide Infant Feeding Survey; however caesarean sections were reported slightly less often in the earlier survey (normal 60%; forceps 12%; vacuum 3%; caesarean 26%).⁷



Types of pain relief

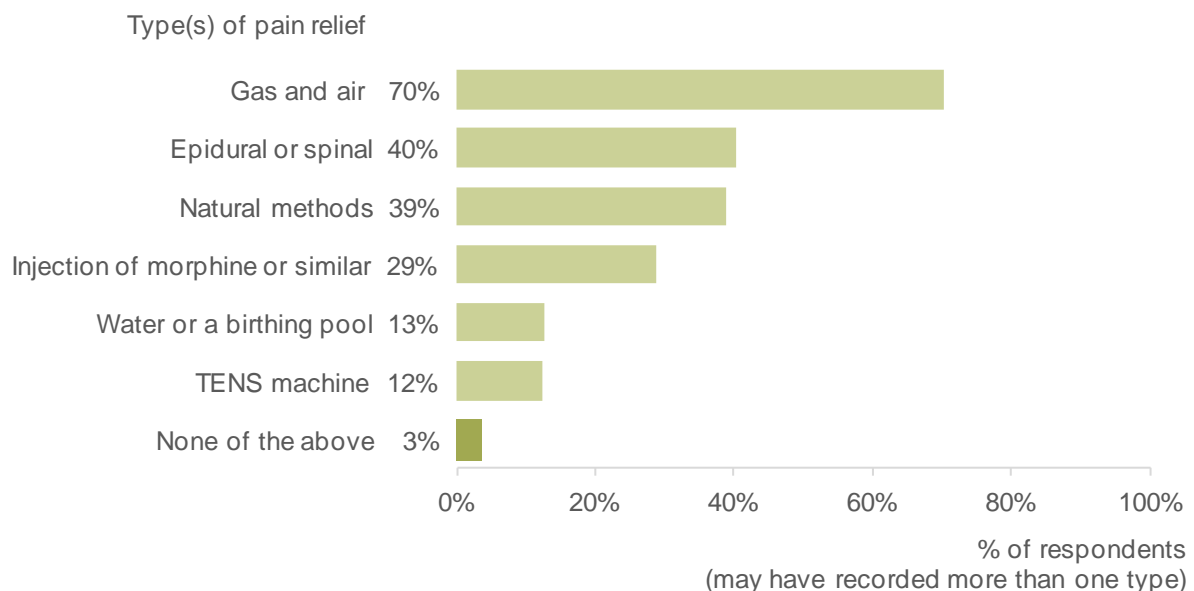
Respondents were asked about the types of pain relief they had used during labour or birth. The majority (70%) reported using gas and air. Forty percent (40%) of respondents had received an epidural or spinal injection, while 29% had received an injection of morphine or a similar type of pain killer.

Thirty-nine percent (39%) of respondents said that they had used natural methods of pain relief such as breathing and massage, with 13% using water or a birthing pool and 12% using a TENS (transcutaneous electrical nerve stimulation) machine.

[Figure 3.2; Table 3.4]

Nearly all respondents used some form of pain relief during labour or birth.

Figure 3.2: During your labour or birth, did you use any of the following methods to relieve the pain? (Percentage of respondents who reported using each type of pain relief).



Source: Q7, 8-12 Week Survey



Birth weight

An infant’s weight at birth can be impacted both by the gestation period and how well the baby has grown in the uterus. Generally speaking, infants weighing 2.5 kg or more, but less than 4 kg, at birth are considered to have a “normal” birth weight. A birth weight of less than 2.5 kg is considered to be low, whereas 4 kg or more is considered high.⁸

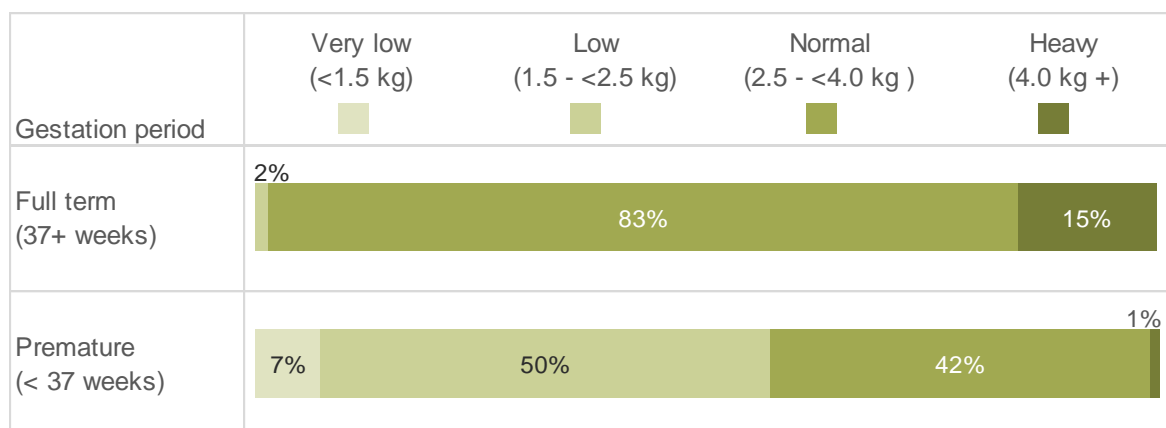
As highlighted above, the vast majority of respondents (93%) indicated that their pregnancy was full term when they gave birth, with 5% giving birth prematurely.

- The majority of babies who were born at full term had a normal birth weight (83%). A small proportion (2%) had a low birth weight, while 15% were classified as heavier babies.
- Where babies were born prematurely, more than half (57%) had a very low or low birth weight; 42% were a normal weight at birth and 1% were classified as heavy.

[Figure 3.3; Table 3.5]

More than half of babies who were born prematurely had a low or very low birth weight.

Figure 3.3: How much did your baby weigh when he/she was born? (Percentage of respondents who had a baby in each birth weight category, by gestation period).



Source: Q3, Q8, 8-12 Week Survey

Overall, the birth weight profile of infants in this survey is very similar to that reported in the official national statistics for births in Scottish hospitals (year ending 31st March 2017).⁸



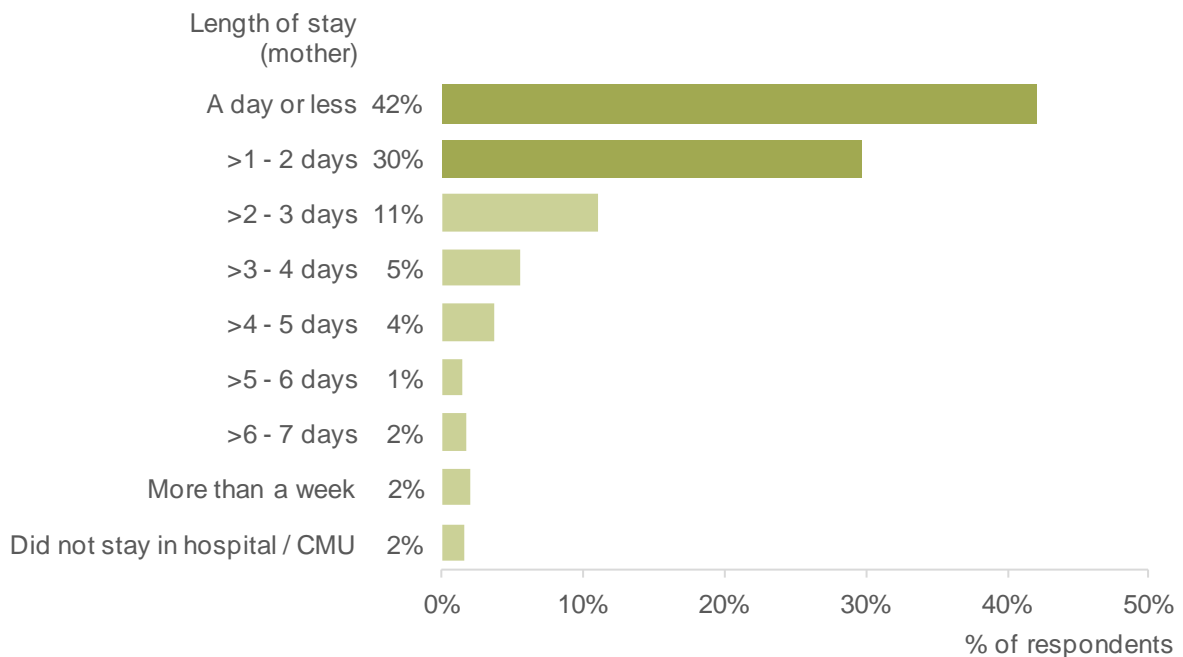
Length of stay in hospital / Community Maternity Unit

Most respondents stayed in hospital for two days or less following the birth of their baby (72%). Respondents who gave birth prematurely reported lengthier stays than those who were full term, but it is unclear whether respondents sometimes recorded the length of time that their baby stayed in hospital rather than themselves.

[Figure 3.4; Table 3.6]

Most respondents stayed in hospital for two days or less following the birth of their baby.

Figure 3.4 How long after your baby was born did you stay in hospital or a Community Maternity Unit? (Percentage of respondents who stayed for each length of time).



Source: Q5, 8-12 Week Survey



3.2 Experiences shortly after birth

Skin to skin contact

Skin-to-skin contact soon after birth is known to help mothers establish a first successful breastfeed.^{20,21} The majority of respondents (86%) reported that they had been able to have skin-to-skin contact with their baby within an hour of the birth, however this varied by method of delivery:

- 93% of respondents who had a normal vaginal birth reported that they had skin-to-skin contact with their baby within an hour.
- 73% of respondents who had a caesarean indicated that they had skin-to-skin contact with their baby within an hour.

[Table 3.7]

In the 2010 UK-wide Infant Feeding Survey, 81% of respondents across the UK reported skin-to-skin contact with their baby within an hour of the birth (normal vaginal birth 88%; caesarean 61%).⁷

Feeding in the hours after birth

Eight-two percent (82%) of all respondents reported that their baby had fed (breast milk or formula) within in the first two hours following the birth.

[Table 3.8]

Health problems that affected the mother's ability to feed

The health of both mother and baby after birth can affect initial feeding choices, possibly delaying skin-to-skin contact and/or the initiation of breastfeeding or expressing breast milk.²⁰

One in ten respondents (10%) reported that they had experienced health problems immediately or shortly after the birth that affected their ability to feed their baby the way they had wanted to:

- 6% reported that they had birth complications
- 3% specified other health complications
- 2% said that they “just didn’t feel well”.

[Table 3.9a & 3.9b]



3.3 Extra care

Infants who are unwell after birth sometimes require extra care. This care may be given within a neonatal unit or a special care baby unit depending on the infant's level of need. Some babies who require additional care receive this care in a children's hospital or in a transitional care ward whilst remaining with their mother.⁸

Overall, 13% of respondents reported that their baby had spent time being cared for in neonatal care, special care, transitional care or a children's hospital within the first week of his/her birth. However, amongst respondent who had given birth prematurely, this rose to 65% (10% for full term pregnancies).

Forty-one percent (41%) of respondents who gave birth prematurely indicated that their baby had spent time in neonatal care, and 28% in a special care baby unit. Only a small proportion of infants spent time in a transitional care unit or a children's hospital.

[Figure 3.5; Table 3.10]

Two-thirds of respondents who gave birth prematurely reported that their baby had spent time in some type of extra care.

Figure 3.5: Within the first week of his/her birth, was your baby cared for in a Special Care Baby Unit, a Neonatal Unit, a Transitional Care Unit or admitted to a Children's Hospital? (Percentage of respondents who indicated that their baby spent time in each type of care, by gestation period).

Type(s) of care (Tick all that apply)	All respondents	Premature (< 37 weeks)	Full term (37+ weeks)
Neonatal Unit	6%	41%	4%
Special Care Baby Unit	5%	28%	3%
Transitional Care Ward	1%	2%	1%
Children's Hospital	1%	1%	1%
One of the above (unsure which)	1%	3%	1%
Any of the above	13%	65%	10%

Source: Q13, Q3, 8-12 Week Survey

Official national statistics for births in Scottish hospitals (year ending 31st March 2017) show that 11% of babies spent time in some type of special care. However, complete data were not available for some NHS boards at the time of this report's publication.⁸



Time spent in extra care

Amongst respondents whose babies had spent time in extra care, infants who were born prematurely spent a longer period of time in extra care than those who were full term.

Overall, half of respondents (52%) whose babies had spent time in extra care were there for no more than three days, with 29% staying for one day or less. However, amongst respondents who had given birth prematurely, 62% of infants had spent more than a week in extra care, with 15% spending more than a month.

[Figure 3.6; Table 3.11]

Preterm infants spent more time in extra care.

Figure 3.6: How long did your baby stay in the Special Care Unit, Neonatal Unit, Transitional Care Ward or Children’s Hospital? (Percentage of respondents who selected each length of time, by gestation period. Respondents whose baby spent time in extra care).

Time spent in extra care	All respondents	Premature (< 37 weeks)	Full term (37+ weeks)
One day or less	29%	9%	37%
2 - 3 days	23%	16%	26%
4 - 7 days	22%	14%	26%
More than a week (up to a month)	19%	46%	8%
More than a month	6%	15%	2%

Source: Q14, Q3, 8-12 Week Survey

Thirty-eight percent (38%) of respondents whose baby had spent time in extra care felt that this had affected their ability to feed their infant the way they had wanted to. However, more than half (57%) felt that it had not affected their ability to feed their baby; 3% were unsure.

[Table 3.12]



Methods of expressing breast milk

Amongst respondents whose babies had spent time in extra care, nearly two-thirds (64%) had received information about methods of expressing breast milk while their baby was still in this type of care. One in ten (10%) turned down the offer of information because they felt they did not need it. Twenty-five percent (25%) of respondents had not been offered any information; 10% indicated that the information had not been offered, but they had told staff they intended to formula feed, the remaining 15% indicated that the information had not been offered.

[Figure 3.7; Table 3.13]

Nearly two-thirds of respondents with a baby in extra care had received information about expressing breast milk, but a quarter had not been offered this information.

Figure 3.7: While your baby was in the Special Care Unit, Neonatal Unit, Transitional Care Ward or Children's Hospital, did you receive any information about methods of expressing breast milk? (Percentage of respondents who selected each response. Respondents whose baby spent time in extra care).

Received information about methods of expressing breast milk?

Yes...

I received information 64%

No...

offered, but said I didn't need it 10%

not offered, but told staff I intended to formula feed 10%

not offered 15%

} 25% not offered information

Source: Q16, 8-12 Week Survey



Amongst respondents whose babies had spent time in extra care, a quarter (26%) had been offered an electric breast pump to take home. Forty-eight percent (48%) indicated that they did not need a breast pump, however 23% said they were not offered one, but would have liked to have been.

[Figure 3.8; Table 3.14]

Only a quarter of respondents whose baby had spent time in extra care were offered an electric breast pump to take home; another quarter would like to have been offered one.

Figure 3.8: Were you offered an electric breast pump to take home? (Percentage of respondents who selected each response. Respondents whose baby spent time in extra care).

Offered an electric breast pump to take home?

Yes...

offered one to take home 26% 

No...

didn't need one (had my own) 13% 

didn't need one (baby able to breastfeed) 16% 

didn't need one (didn't want to express) 20% 

but I would like to have been offered one 23% 

Source: Q17, 8-12 Week Survey



3.4 Babies health and subsequent hospital care

Respondents to the 8-12 month survey were asked whether their baby had ever experienced certain health issues and whether their infant had spent a night in hospital apart from when born.

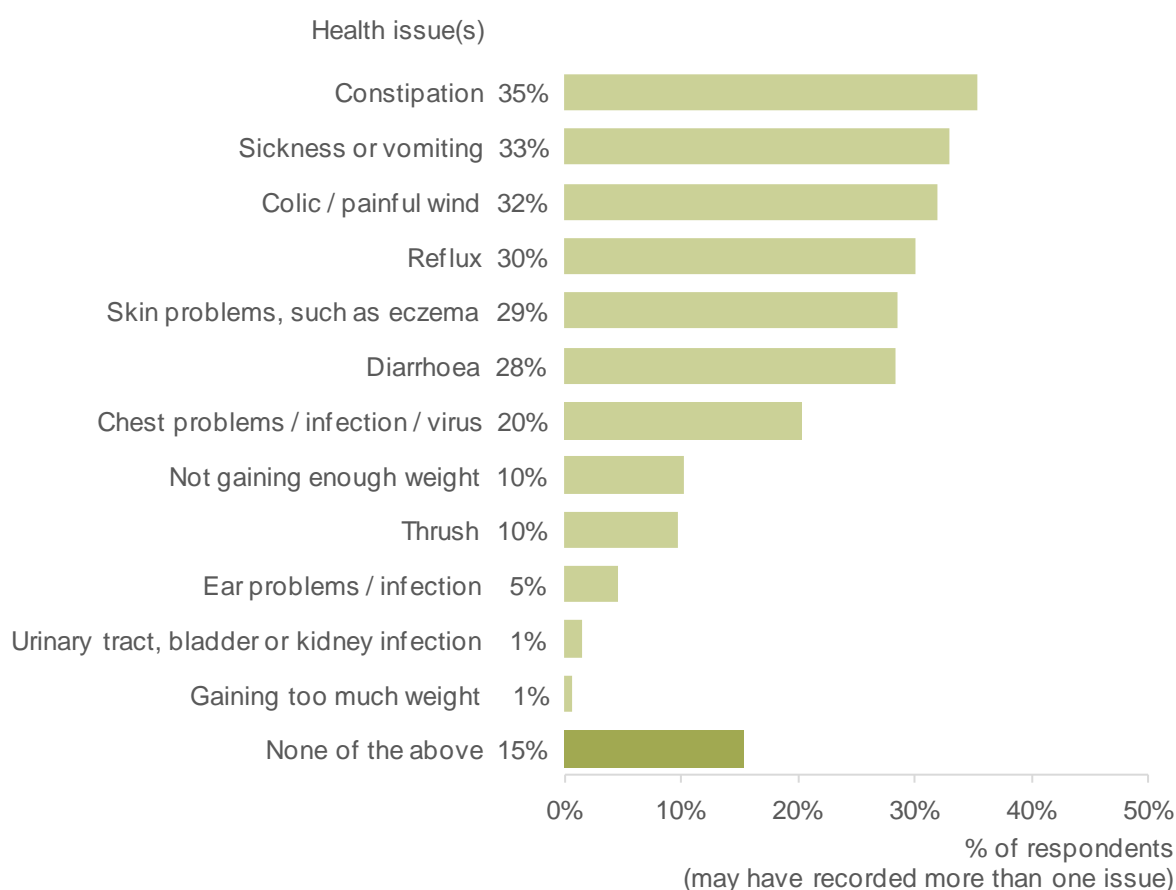
Health issues

The most common health issues experienced by babies in the 8-12 month survey were constipation (35%), sickness or vomiting (33%), colic / painful wind (32%) and reflux (30%). Only 15% of respondents said that their baby had not experienced any of the issues listed in the survey.

[Figure 3.9; Table 3.15]

Around a third respondents indicated that their infant had experienced constipation, sickness or vomiting, colic / painful wind or reflux.

Figure 3.9: Has your baby ever experienced any of the following health issues? (Percentage of respondents who indicated that their baby had experienced each type of health issue).



Source: Q23, 8-12 Month Survey

In the 2010 UK-wide Infant Feeding Survey, constipation, colic / painful wind, sickness or vomiting and diarrhoea were the most common health issues reported by



respondents. However, reflux and eczema / skin problems were not specifically listed as response options in the 2010 survey.⁷

Overnight hospital stays

The majority of respondents (87%) said that their baby had not stayed in hospital overnight apart from when they were born.

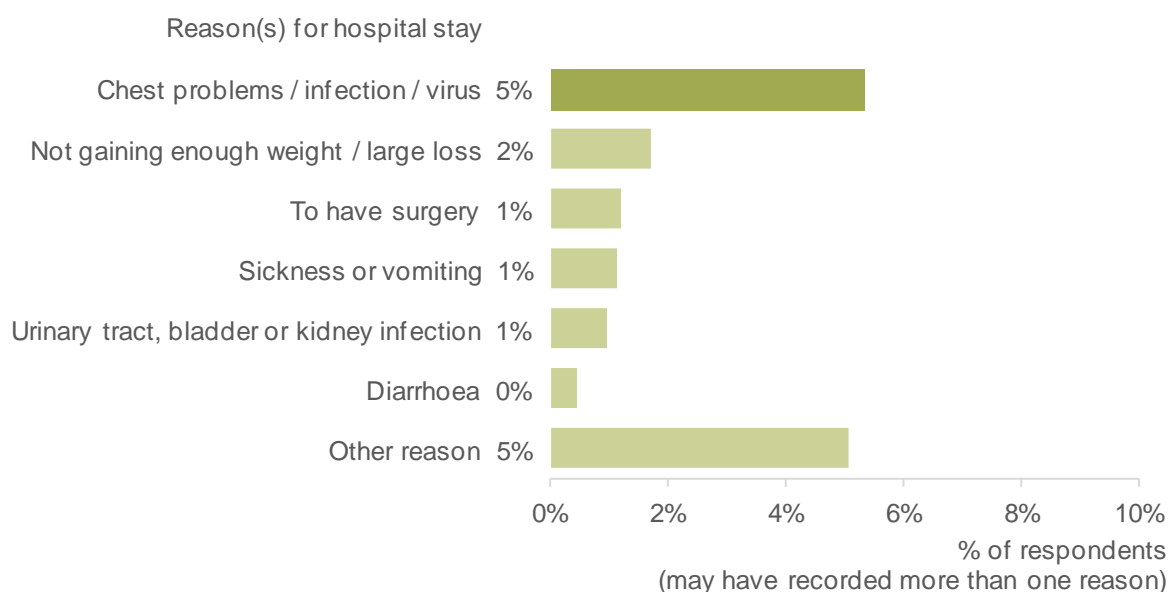
Amongst the 13% of respondents who reported that their baby had stayed in hospital overnight, a chest problem was the most commonly reported reason (5%). Lack of weight gain or losing a large amount of weight was reported as a reason by 2% of respondents.

Other reasons, not specifically listed in the survey, but mentioned by respondents were other medical reasons (1%), other infections (1%), newborn issues (1%) and because the mother had to stay in hospital (1%).

[Figure 3.10; Table 3.16a & 3.16b]

Chest problems, including infections and viruses, were the main reason that babies had stayed in hospital overnight.

Figure 3.10: Why has your baby stayed in hospital overnight? (Percentage of respondents who selected each reason).



Source: Q25 , 8-12 Month Survey

In the 2010 UK-wide Infant Feeding Survey, chest problems were also the most commonly reported reason for overnight hospital stays.⁷



4 Infant Nutrition: Feeding Choices

One of the aims of the Maternal and Infant Nutrition Framework for Action is that all parents should receive information they can understand to help them to make an informed choice about how to feed their infants.

To help achieve this aim, The Scottish Government has created the Feedgood.scot website.²² This online resource, launched in July 2016, provides families with information and advice about feeding choices, “how to guides” relating to various aspects of feeding, and advice about where to find further support.

NHS Health Scotland has also produced a number of publications to help support families including:

- Ready Steady Baby: Your complete guide to pregnancy, birth and parenthood.¹¹
- Off to a good start: all you need to know about breastfeeding.²⁰
- Formula feeding: How to feed your baby safely.²³
- Fun first foods: An easy guide to introducing solid foods.²⁴

Families are also offered information about feeding choices when they attend antenatal appointments / classes during pregnancy.

This section of the report presents information on respondents’ feeding intentions prior to giving birth and the sources of information they used. All results are based on responses received from the mothers who completed the 8-12 week survey.



4.1 Feeding intention

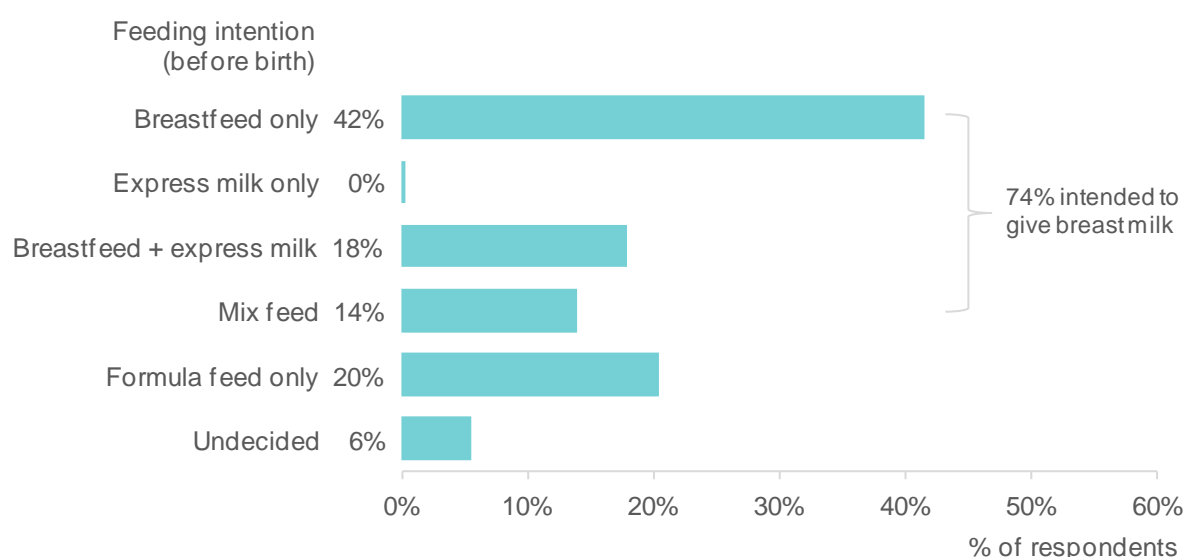
Prior to giving birth, 74% of respondents to the 8-12 week survey reported that they had intended to give breast milk to their new baby. Forty-two percent (42%) had planned to breastfeed only, 18% planned to combine breastfeeding with expressing breast milk, and 14% said that they planned to mix feed (combine giving breast milk with formula feeding). Less than 0.5% of respondents had intended to express milk only.

One in five respondents (20%) had planned to formula feed only. A small proportion of respondents (6%) had been undecided about their feeding intentions prior to giving birth.

[Figure 4.1; Table 4.1a]

Before the birth, nearly three-quarters of respondents had intended to give breast milk to their new baby.

Figure 4.1: Before your new baby was born, how would you describe your intentions for feeding your baby? (Percentage of respondents who stated each intention).



Source: Q21, 8-12 Week Survey

In the 2010 UK-wide Infant Feeding Survey, 70% of Scottish mothers reported that they had intended to give breast milk; 59% breastfeed only, and 11% mix feed. In the earlier survey, 21% of respondents had intended to formula feed only, and 8% had not decided how they were going to feed their baby.⁷

There was no option in the 2010 survey for a respondent to indicate that she intended to express milk only or to combine breastfeeding and expressing; it is assumed that these respondents would have reported that they intended to breastfeed.



Previous feeding experience

Overall, first time mothers were more likely to report that they intended to give breast milk (76%) than respondents who already had children (71%). First time mothers were also more likely to report that they intended to breastfeed / express milk only (64%) than respondents who already had children (55%). However, feeding intention varied markedly amongst respondents who already had children and intentions largely reflected previous infant feeding experience.

[Figure 4.2; Table 4.1a & 4.1b]

Feeding intention varied widely depending on previous infant feeding experience.

Figure 4.2: Before your new baby was born, how would you describe your intentions for feeding your baby? (Percentage of respondents who stated each intention, by whether this was respondent's first baby and by previous feeding experience).

Feeding intention (before birth)	Previous breastfeeding / expressing experience (respondents who already had children)	
	Never before	< 2 months
Breastfeed / express only	17%	40%
Mix feed	5%	28%
Formula feed only	71%	23%
Undecided	8%	8%
	2 - < 6 months	6 + months
Breastfeed / express only	65%	87%
Mix feed	29%	11%
Formula feed only	5%	0%
Undecided	1%	1%

Source: Q21, Q18, Q19, 8-12 Week Survey

- Only 21% of respondents who already had children, but who had never breastfed / expressed milk before, intended to give breast milk to their new baby (17% breastfeed / express only; 5% mix feed). The majority of these mothers intended to formula feed (71%).
- The intention to give breast milk became progressively stronger depending on the length of time that a mother had previously breastfed / expressed.



- 68% of mothers who had previously breastfed / expressed milk for less than two months intended to do so again (40% breastfeed / express only; 28% mix feed).
- This increased to 93% amongst mothers who had previously breastfed / expressed for more than two but less than six months (65% breastfeed / express only; 29% mix feed).
- 98% of respondents who had previously breastfed / expressed milk for six months or more intended to do so again for their new baby (87% breastfeed / express only; 11% mix feed).

[Figure 4.2; Table 4.1a & 4.1b]

Age of respondent

Older respondents were more likely to have stated an intention to breastfeed / express milk for their new baby than younger respondents:

- 80% of those aged 35 or over, stated that they had intended to give breast milk (65% breastfeed / express only; 15% mix feed).
- In contrast, only 57% of 20-24 years stated an intention to give breast milk (48% breastfeed / express only; 10% mix feed).
- Younger respondents were more likely to have expressed an intention to formula feed only. Thirty-five percent (35%) of respondents aged 20-24 stated this intention; this decreased to 15% for those aged 35 or over.
- No results are presented for mothers aged 19 or under; there were too few respondents in this age group to produce meaningful results.

[Table B1: 8-12 Week – Results by Age of Respondent]

Deprivation

Feeding intention also varied depending on whether respondents lived in the most / least deprived areas:

- Nearly two-thirds of respondents (65%) who lived in the most deprived areas had intended to give breast milk to their new baby (SIMD 1: 52% breastfeed / express only; 13% mix feed). This compared to nearly 82% of those living in the least deprived areas (SIMD 5: 65% breastfeed / express only; 17% mix feed).
- More than a quarter of respondents who lived in the most deprived areas had intended to formula feed only (SIMD 1: 28%). This intention was reported less frequently amongst respondents who lived in the least deprived areas (SIMD 5: 12%).

[Table B2: 8-12 Week – Results by SIMD]

Medical reasons preventing ability to breastfeed / express milk.

Three percent (3%) of respondents reported that they had a medical reason that prevented them from breastfeeding / expressing milk (for example breast surgery or medication).

[Table 4.2]



Strength of intention to breastfeed

Amongst respondents who had intended to breastfeed at all (exclusively or in combination with expressing breast milk or formula feeding), the majority (68%) agreed that they were keen to continue breastfeeding even if they experienced problems (42% strongly agree; 26% agree).

However, respondents were more likely to agree that they would not continue to breastfeed if there were problems that made it harder for their baby (such as not settling or gaining weight), than if they encountered problems that made it harder for themselves (such as sore nipples).

Sixty-three percent (63%) of respondents agreed that if they encountered problems making it harder for their baby they would not continue to breastfeed. This compared to 20% who agreed that they would not continue if there were problems affecting themselves.

[Figure 4.3; Table 4.3]

Most respondents who had intended to breastfeed were keen to continue breastfeeding even if they experienced problems.

Figure 4.3: Response to statements about pre-birth intention to breastfeed. (Percentage of respondents who selected each response in relation to each statement. Respondents who intended to breastfeed, breastfeed and express milk, or mix feed).

I intended to breastfeed...	Disagree	Neither	Agree
and I was really keen to continue breastfeeding even if there were problems which made it harder for me or my baby	15%	12%	68%
but if there were problems which made it harder for me I would not continue to breastfeed	60%	13%	20%
but if there were problems which made it harder for my baby I would not continue to breastfeed	16%	15%	63%
but if there were problems which made it harder for me or my baby I would not continue to breastfeed	23%	24%	46%

Source: Q22, 8-12 Week Survey



Intention to formula feed only

Half of respondents (51%), who had intended only to give formula milk, agreed that they would breastfeed or express milk if their baby was born premature or unwell; nearly a third (31%) of these respondents agreed with this strongly.

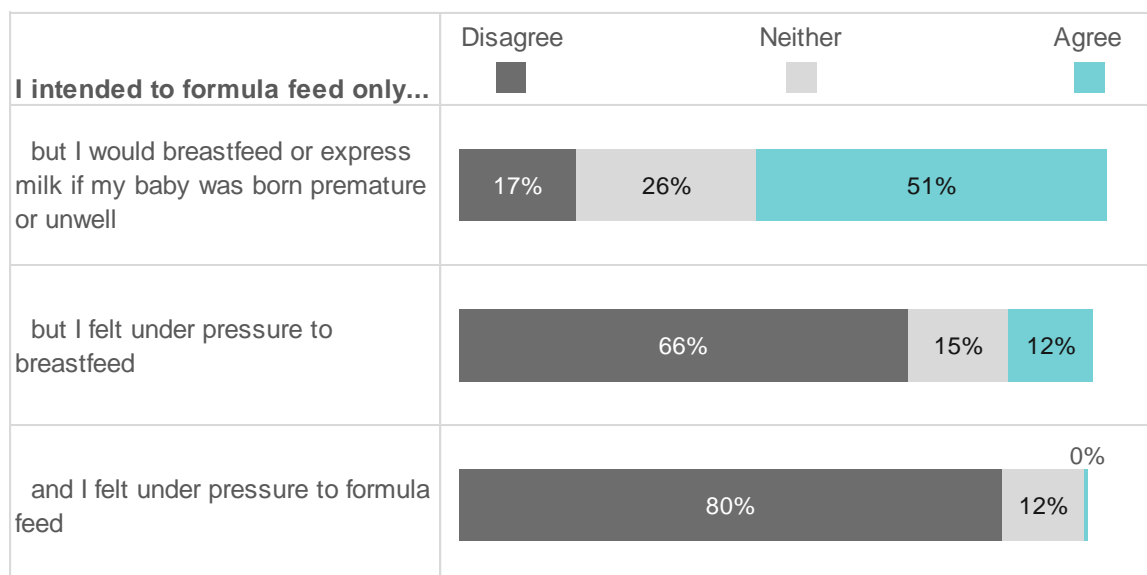
Twelve percent (12%) of respondents who had intended only to give formula milk agreed that they “felt under pressure to breastfeed”. However, two-thirds (66%) of these respondents disagreed with this statement.

Less than 1% of respondents who intended to formula feed only reported feeling “under pressure to formula feed”.

[Figure 4.4; Table 4.4]

Half of respondents who intended to formula feed only said that they would breastfeed and/or express milk if their baby was born premature or unwell.

Figure 4.4: Response to statements about pre-birth intention to formula feed only. (Percentage of respondents who selected each response in relation to each statement. Respondents who intended to formula feed only).



Source: Q23, 8-12 Week Survey



4.2 Sources of information

Discussion with a health professional

The majority of respondents (80%) had discussed their thoughts about feeding their baby with a health professional when they were pregnant. Most respondents (71%) indicated that this discussion had been helpful and, overall, 17% indicated that it had influenced their choice.

However, 15% of respondents reported that they had not had a discussion about feeding their baby with a health professional when they were pregnant.

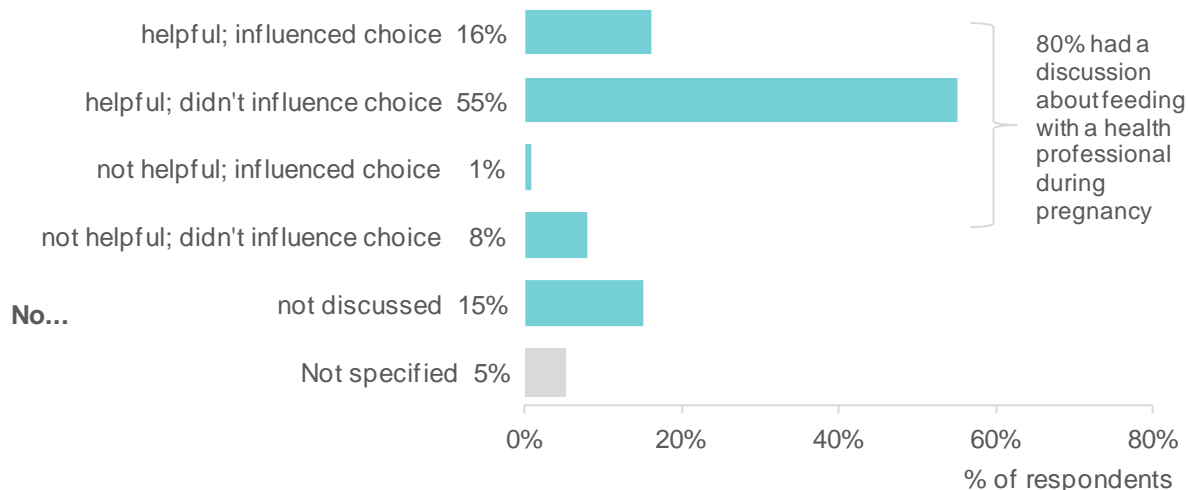
[Figure 4.5; Table 4.5]

Eighty percent of respondents discussed their thoughts about feeding their baby with a health professional during pregnancy.

Figure 4.5: Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy? (Percentage of respondents who selected each response).*

Health professional discussed thoughts about feeding baby during pregnancy?

Yes, it was...



Source: Q24, 8-12 Week Survey

Five percent (5%) of respondents did not indicate whether or not they had discussed feeding with a health professional during pregnancy (“Not specified”).* Amongst respondents who did answer this question, 84% reported that a discussion had taken place, while 16% reported that it had not. This result is very similar to comparable results from the 2010 UK-wide Infant Feeding Survey, where 84% of Scottish respondents said that feeding had been discussed at an antenatal check-up.⁷

[Table 4.6]

* Five percent (5%) of respondents did not provide a response to Q24 (Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy?); most of these were mothers who had intended to breastfeed / express milk / mix feed. It is thought that the most likely reason for this non-response is related to the lay-out of the paper questionnaire, rather than a deliberate decision by these respondents not to answer this question.



Feeding intention*

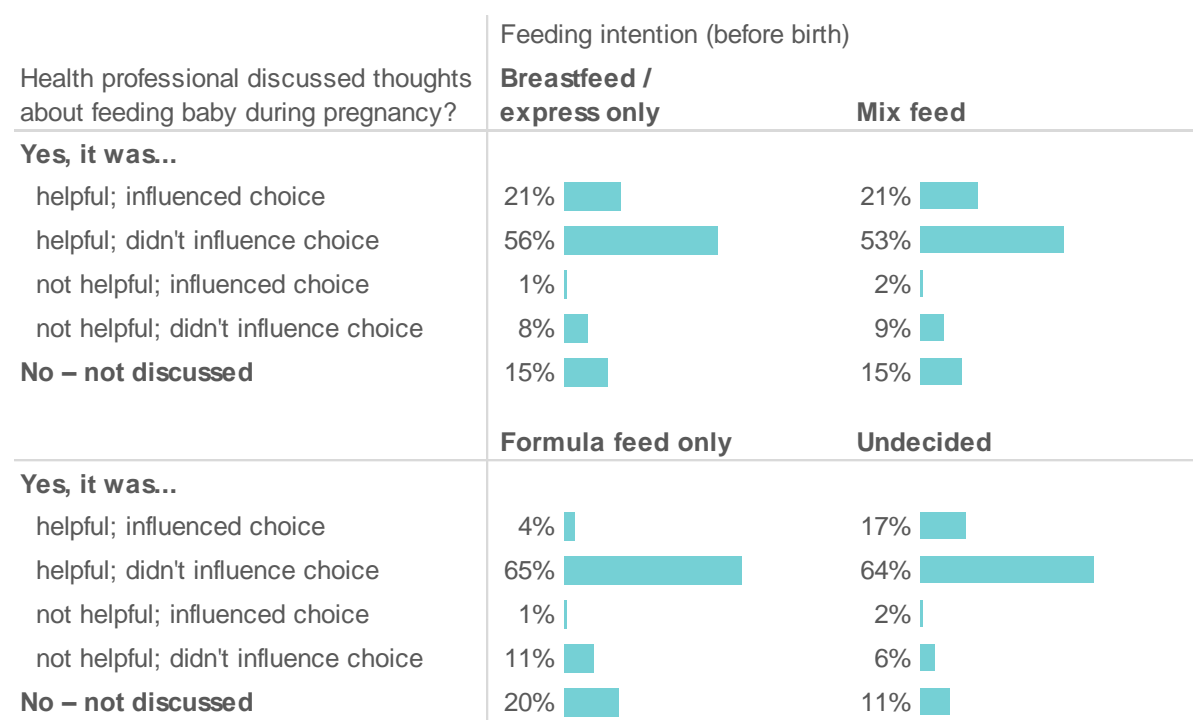
Amongst respondents who indicated whether or not a discussion had taken place, those who had intended to breastfeed / express milk only were more likely to report having had a helpful discussion (76%) than respondents who had intended to formula feed only (69%).

Respondents who had intended to give formula milk only were much less likely to report having had a discussion that had influenced their feeding choice (5%) than mothers who had intended to breastfeed / express only (21%), mothers who had intended to mix feed (23%), and mothers who had been undecided about how to feed their baby (19%).

[Figure 4.6; Table 4.6]

Most respondents who intended to give formula milk exclusively found the discussion with a health professional about feeding helpful, but it rarely influenced their choice.

Figure 4.6: Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy? (Percentage of respondents who selected each response, by feeding intention prior to birth).



Source: Q24, Q21, 8-12 Week Survey

* Five percent (5%) of respondent did not answer Q24 (Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy?); these respondents have been excluded from this analysis.



NHS board of residence*

Amongst respondents who indicated whether or not a discussion had taken place, there was some regional variation in the proportion of mothers who reported having a discussion about feeding with a health professional when they were pregnant.

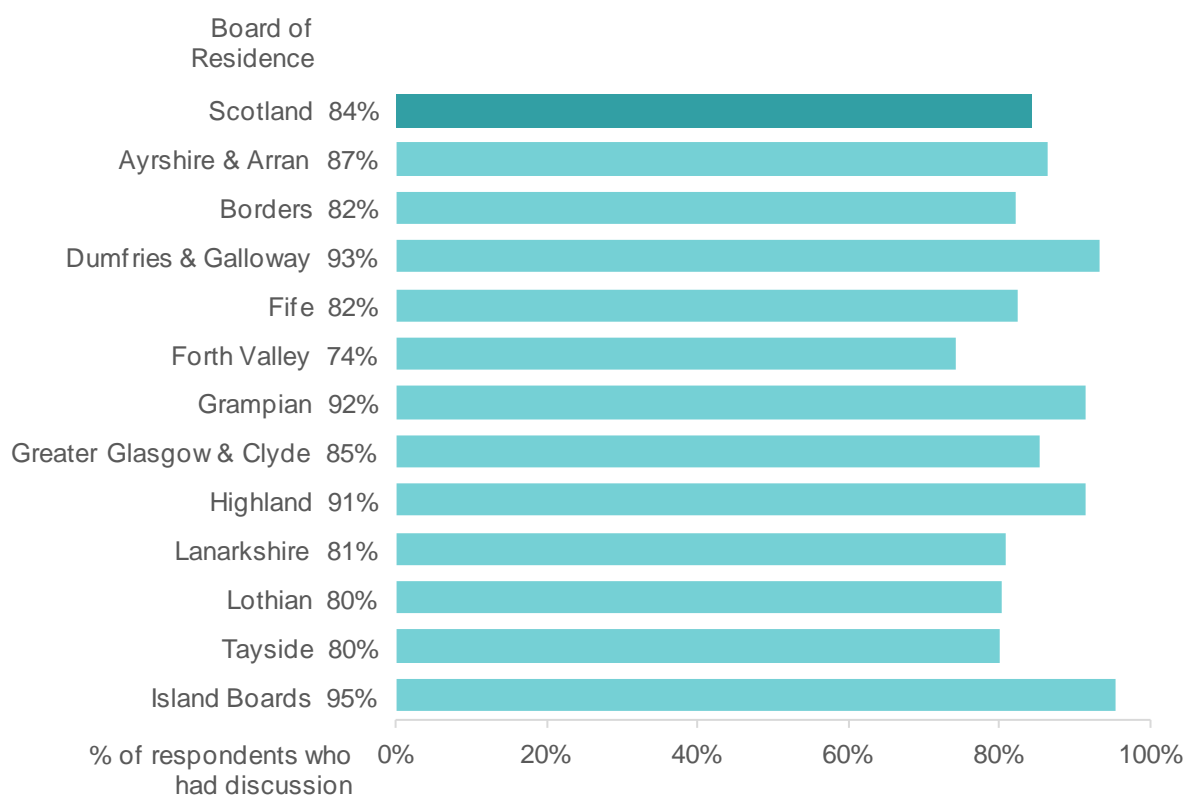
In NHS Forth Valley, only 74% of respondents reported having a discussion, whereas 92% of respondents living NHS Grampian and 91% of respondents in NHS Highland reported having this discussion.

A high proportion of respondents who lived in NHS Dumfries & Galloway and the island boards (NHS Western Isles, NHS Orkney and NHS Shetland) had a discussion with a health professional; however only a small number of respondents (<= 50) lived within these areas and results should be treated with caution.

[Figure 4.7; Table B3: 8-12 Week – Results by Board]

Respondents who lived in some NHS board areas were more likely to report having a discussion with a health professional about feeding their baby.

Figure 4.7: Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy? (Percentage of respondents, by NHS board of residence).



Source: Q24, 8-12 Week Survey

* Five percent (5%) of respondent did not answer Q24 (Did a health professional discuss your experiences and thoughts about feeding your new baby with you during your pregnancy?); these respondents have been excluded from this analysis.



Other sources of information

The majority of respondents (82%) reported that they had received a copy of the NHS Health Scotland booklet entitled “Off to a good start: all you need to know about breastfeeding”.²⁰ This booklet aims to help pregnant women and new mothers make decisions about how to feed their baby. Nearly half of respondents (47%) indicated that they had read the booklet, and a further quarter (25%) had “looked at it a bit”.

In contrast, less than a quarter of respondents (23%) were aware of the “feedgood.scot” website,²² an online NHSScotland resource providing advice and information about feeding choices. Only 8% of mothers reported that they had looked at this website.

[Figure 4.8; Table 4.7a & 4.7b]

The majority of respondents received a copy of “Off to a good start”, but most were not aware of the “feedgood.scot” website.

Figure 4.8: While you were pregnant, did you receive a copy of the booklet “Off to a good start: all you need to know about breastfeeding”? / Are you aware of the feedgood.scot website? (Percentage of respondents who selected each response).

Received a copy of “Off to a good start”

Yes...

and I have read it 47%

I have looked at it a bit 25%

but I have not read it 10%

No...

No 7%

I can't remember 11%

0% 20% 40% 60% 80%
% of respondents

82% received “Off to a good start” booklet

Aware of “feedgood.scot” website

Yes...

and I have looked at it 8%

but I have not looked at it 15%

No...

No 77%

0% 20% 40% 60% 80%
% of respondents

23% aware of “feedgood.scot” website

Source: Q25, Q27, 8-12 Week Survey



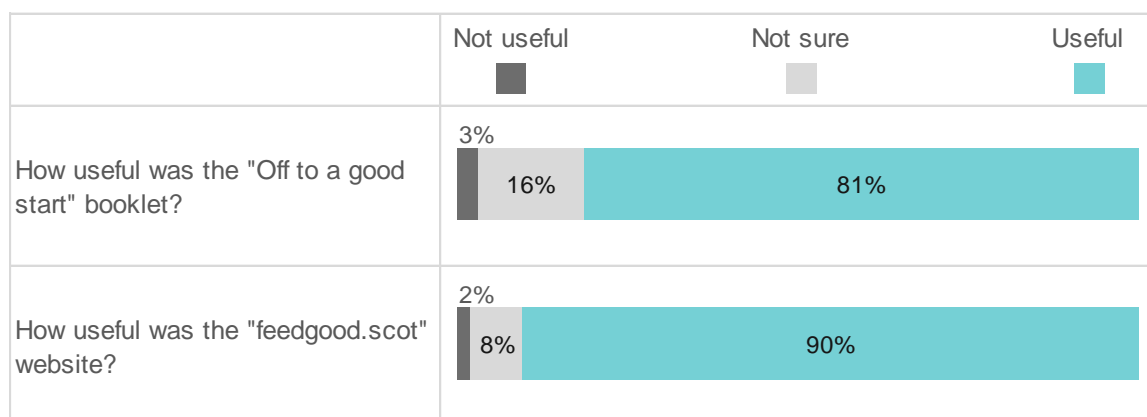
Respondents who had looked at the “Off to a good start” booklet and the “feedgood.scot” website generally found these resources to be useful:

- 81% of respondents who had read / looked at the “Off to a good start” booklet indicated that they had found it useful (28% very useful, 53% quite useful).
- 90% of respondents who had looked at the “feedgood.scot” website indicated that they had found it useful (43% very useful, 47% quite useful).

[Figure 4.9; Table 4.8a & 4.8b]

Most respondents who had looked at “Off to a good start” or the “feedgood.scot” website found these resources useful.

Figure 4.9: How useful was the "Off to a good start" booklet? / How useful was the "feedgood.scot" website? (Percentage of respondents who selected each response. Respondents who had looked at the booklet / website).



Source: Q26, Q28, 8-12 Week Survey



5 Infant Nutrition: Breastfeeding

It is widely accepted that breast milk provides the best source of nutrition for infants and young children.²⁵ There is a large body of research that has established strong evidence of the health benefits of breastfeeding, both for children and mothers.²⁶⁻²⁸ Many of these positive impacts on health are known to increase the longer breast feeding is sustained.

In line with these recognised nutritional and health benefits of breastfeeding, since 2001 the World Health Organisation (WHO) has recommended:²⁹

- Exclusive breastfeeding for the first six months of an infant's life.
- Continued breastfeeding alongside appropriate complementary foods up to two years of age or beyond.

Exclusive breastfeeding is defined by WHO as giving no other food or drink, including water (with the exception of the administration of medicines, vitamin drops and oral rehydration solution).²⁹ The WHO recommendations have been adopted as policy by the Scottish Government.¹

The following section of this report presents information on the incidence and prevalence of breastfeeding reported by postnatal survey respondents. It also looks at the duration of breastfeeding (drop-off) and the challenges women said they experienced while breastfeeding.

- The **incidence** of giving breast milk is defined as the proportion of **all** respondents who have **ever** given breast milk to their baby.
- The **prevalence** of giving breast milk is defined as the proportion of **all** respondents who were giving breast milk to their infant at a specified age.
- **Drop-off** is defined as the proportion of respondents, who had **ever** given breast milk to their baby, but who had **stopped** by a given point in time.



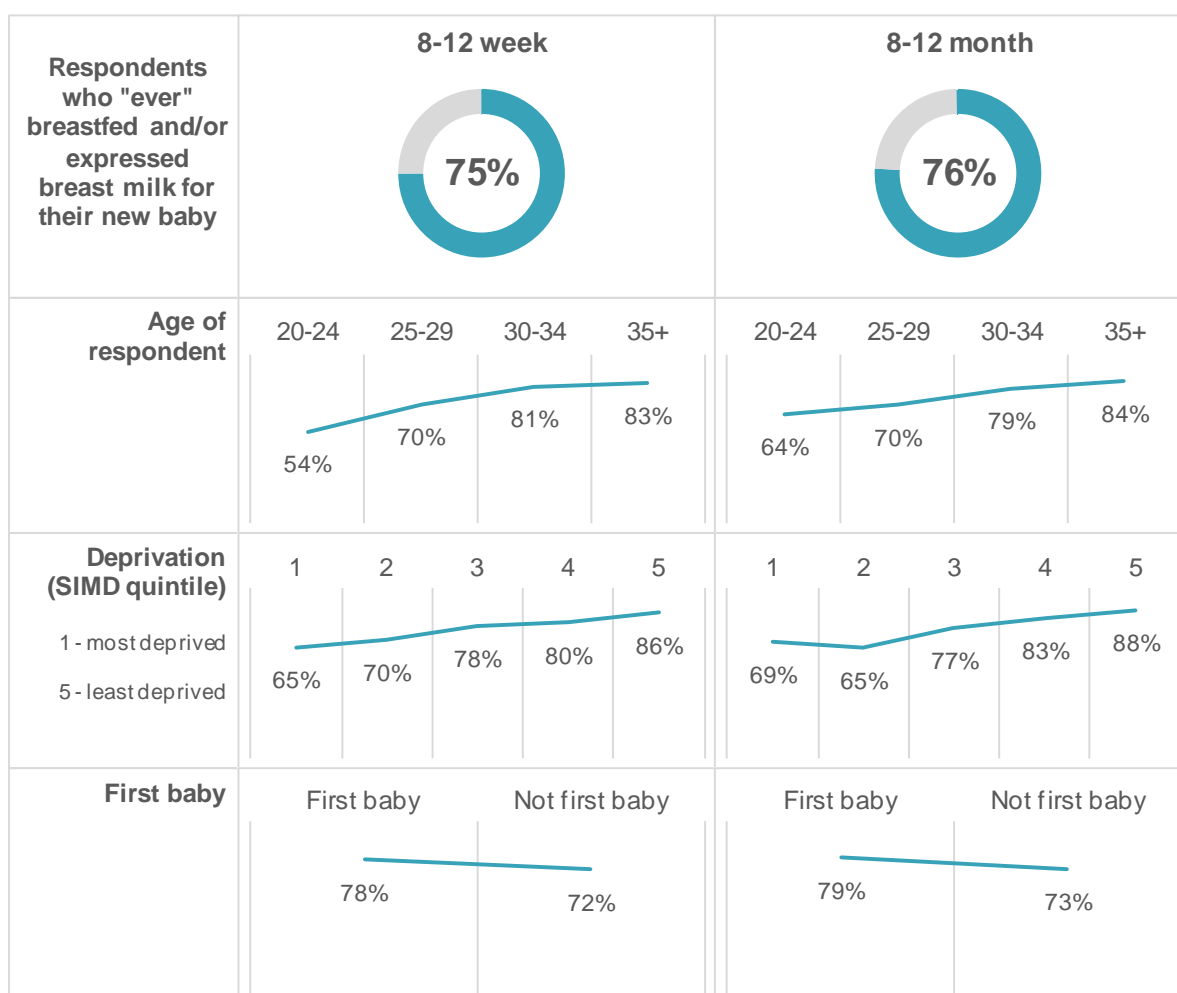
5.1 Incidence of giving breast milk

Three-quarters of respondents to both postnatal surveys had “ever” breastfed and/or expressed breast milk for their new baby (75% for the 8-12 week survey; 76% for the 8-12 month survey). This includes mothers who only gave breast milk in the first hours following their baby’s birth and mothers who continued to give breast milk for days, weeks or months.

[Figure 5.1; Table 5.1a & 5.1b]

Older mothers and those who lived in the least deprived areas were more likely to have ever breastfed and/or expressed breast milk for their baby.

Figure 5.1: Have you ever breastfed or expressed breast milk for your new baby? (Percentage of respondents who indicated that they had ever given breast milk to their new baby, by respondent age, deprivation, and by whether this is respondent's first baby).*



Source: Q29, Q58, Q18, 8-12 Week Survey
Q26, Q50, Q1, 8-12 Month Survey

* There were too few respondents aged 19 or under to produce meaningful results for this group.



The overall proportion of respondents who reported ever giving breast milk to their new infant was very similar for each postnatal survey. Each survey also showed similar trends across different groups of respondents:

- Older mothers were more likely to have given breast milk than younger mothers.
- Mothers who lived in the least deprived areas were more likely to have given breast milk than those who lived in the most deprived areas.
- First time mothers were more likely to have given breast milk than respondents who already had children.

[Figure 5.1; Table 5.1a & 5.1b]

Comparison to 2010 UK-wide Infant Feeding Survey

Although results from the 2010 UK-wide Infant Feeding Survey (IFS)⁷ and this survey are broadly comparable, it should be noted that the methodology and the wording of the related question were slightly different in each survey.

In the 2010 survey, the reported incidence of Scottish mothers “ever” giving breast milk was 74%. Results from the 2010 survey also showed a similar pattern across age groups, deprivation categories and by birth order:

- 61% of Scottish respondents aged 20-24 in the 2010 IFS had ever given breast milk to their baby, compared to 82% of those aged over 30.
- In the 2010 IFS, 60% of Scottish respondents who lived in the most deprived areas had ever given breast milk, compared to 88% in the least deprived areas.
- 77% of Scottish first time mothers in the 2010 IFS reported that they had ever given breast milk; the equivalent figure for previous mothers was 72%.

Comparison to official Scottish National Statistics

Information on the incidence of ever giving breast milk is also available from official Scottish Infant Feeding Statistics.⁹ These statistics are based on information collected from around 98% of registered live births at the first Health Visitor review, when a child is usually between 10-14 days old. Note that the incidence of ever giving breast milk reported in the current survey is markedly higher than that reported in the official national Infant Feeding Statistics for Scotland (63%).

It is acknowledged that information collected via surveys such as the MINS and the IFS may overestimate rates of women giving breast milk. This can be attributed to the fact that older women in less deprived areas are both more likely to respond to this type of survey and to give breast milk. Although the survey results have been weighted to adjust for differential response by age group, deprivation and NHS board of residence, this will not fully account for the fact that women who are more likely to give breast milk are also more likely to have responded to this survey.



Nevertheless, the variations apparent amongst different groups of mothers as reported by the official national Infant Feeding Statistics for Scotland are broadly similar to those reported in the current survey and the earlier UK-wide Infant Feeding Survey. Official national Scottish Infant Feeding Statistics for 2016/17 reported that:

- 44% of mothers aged 20-24 had ever given breast milk to their baby, compared to 75% of those aged 35-39 and 76% of those aged 40 or over.
- 47% of mothers who lived in the most deprived areas had ever given breast milk, compared to 82% of those living in the least deprived areas.

Incidence by NHS board of residence

There was variation across Scotland in terms of the proportion of respondents who reported ever giving breast milk to their new baby; this pattern of regional variation was similar across both postnatal surveys. The lowest rates were reported in NHS Lanarkshire and NHS Ayrshire & Arran; the highest rates were reported in NHS Lothian and NHS Borders.*

[Table B3: 8-12 Week & C3: 8-12 Month – Results by Board]

There are a number of reasons that may explain these differences. As outlined above, younger mothers and those who live in areas of higher deprivation are generally less likely to give breast milk; therefore NHS board areas with higher proportions of these groups will generally have a lower incidence of mothers giving breast milk.

Similar regional variations are reflected in the official national Infant Feeding Statistics for Scotland, with low rates of ever giving breast milk reported in NHS Lanarkshire and NHS Ayrshire & Arran, and high rates in Lothian.⁹

* Note that for one or more of the two postnatal surveys a small number of respondents (<= 50) lived within NHS Borders, NHS Dumfries & Galloway and the island boards. These results should be treated with caution.



Incidence by feeding intention (8-12 week survey)

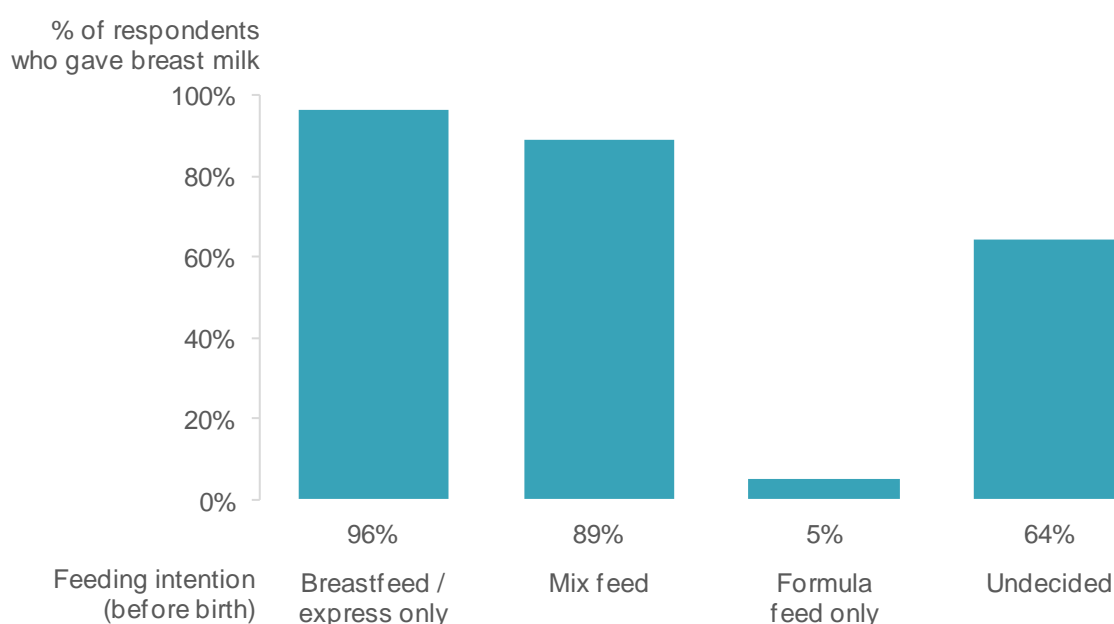
In general, respondents to the 8-12 week survey who had decided before the birth how they planned to feed their new baby carried out their intention.

- Nearly all respondents who had intended to breastfeed / express breast milk only did give breast milk to their new baby at some point (96%).
- Likewise, a large proportion (89%) of those who planned to mix feed (combine breastfeeding and formula feeding) went on to give breast milk at some point.
- Amongst those who intended to formula feed only, a small proportion (5%) reported that they had given breast milk to their baby.
- 64% of respondents who had been undecided about how to feed their baby reported that they had given breast milk to their baby at some point.

[Figure 5.2; Table 5.2]

The vast majority of mothers who intended to breastfeed / express breast milk for their new baby did so at some point.

Figure 5.2: Have you ever breastfed or expressed breast milk for your new baby? (Percentage of respondents who indicated that they had ever given breast milk to their new baby, by feeding intention prior to birth).



Source: Q29, Q21, 8-12 Week Survey

It should be noted that these questions asked new mothers to recall their pre-birth feeding intentions retrospectively. As a result, some respondents may have had difficulty in accurately recalling their pre-birth feeding intentions. Furthermore, respondents' answers may have been influenced by their actual experience after giving birth.

The 2010 IFS also found that most mothers who had decided before the birth how they planned to feed their baby went on to carry out their intentions, at least initially.⁷



Other factors associated with incidence of ever giving breast milk (8-12 week survey)

Other factors were found to be associated with the incidence of ever giving breast milk:

- **Previous feeding experience:** Respondents who had breastfed / expressed milk before were more likely to give breast milk to their new baby. This likelihood increased depending on the length of time that a mother had previously given breast milk (previous mothers who had never given breast milk 19%; previously given for < 2 months 74%; 2- < 6 months 94%; 6+ months 99%).
- **Skin-to skin contact:** Respondents who had skin-to-skin contact with their baby within an hour of the birth were more likely to report giving breast milk (77%) than those who had not had this contact (63%).

[Table 5.2]

The incidence of ever giving breast milk was found not to be associated with the following factors:

- **Gestation period:** There was no significant difference in the incidence of giving breast milk between respondents who had given birth prematurely (before 37 weeks) and those who had reached full term (79% and 75% respectively). However, it should be noted that only 5% of respondents gave birth prematurely. Amongst a very small group of respondents (0.5%) who had given birth before 32 weeks, all had breastfed or expressed milk for their new baby at some point.
- **Extra care:** There was no significant difference in the incidence of giving breast milk between respondents whose babies had spent time in any type of extra care (special care baby unit, neonatal unit, transitional care ward or a children's hospital) and those whose babies had not (79% and 74% respectively). However, it should be noted that only 13% of respondents had a baby that spent time in this type of care.
- **Birth weight:** There was no significant difference in the incidence of giving breast milk to infants of different birth weights; note that the majority (81%) of babies in this survey were found to be of normal birth weight.

[Table 5.2]



5.2 Giving breast milk in the early days

Feeding on leaving hospital / maternity unit (8-12 week survey)

On leaving hospital / the maternity unit, just over half of all respondents were exclusively giving breast milk (53%), with a further 16% mix feeding (giving both breast and formula milk) and 30% giving formula milk only.^{*,†}

Of respondents who had ever given breast milk to their new baby, the vast majority (92%) were doing so on leaving hospital / the maternity unit; 71% were giving breast milk exclusively and 21% were mix feeding. Seven percent (7%) of these respondents were giving formula milk only.

[Figure 5.3; Table 5.3a & 5.3b]

The majority of respondents were giving breast milk to their baby when they left hospital / the maternity unit.

Figure 5.3: Which statement best describes how you were feeding your baby when you left the hospital / maternity unit? (Percentage of respondents who indicated each method. All respondents / respondents who gave breast milk).

Feeding method(s) on leaving hospital	All respondents	Respondents who gave breast milk
Only giving my baby breast milk	53%	71%
Giving my baby both breast and formula milk	16%	21%
Only giving my baby formula milk	30%	7%

Source: Q32, Q29, 8-12 Week Survey

In the 2010 IFS, 73% of respondents across the UK who had ever given breast milk to their baby were exclusively giving breast milk when they left hospital / the maternity unit. Only 16% were mix feeding, with 10% giving formula milk only.⁷

Ability to recognise if baby was getting enough breast milk (8-12 week survey)

Nearly two-thirds of respondents (64%) who had ever given breast milk to their new baby said that they had been offered an explanation, shortly after the birth, about how to recognise whether their baby was getting enough breast milk. Fifty-eight percent (58%) had received this explanation, while 6% had declined the offer of an explanation. Just over a third of respondents (35%) had not been given or offered an explanation.

[Table 5.4]

^{*} For the "All respondents" analysis, it has been assumed that respondents who had never given breast milk to their new baby were giving formula milk on leaving hospital / the maternity unit.

[†] Note that respondents who had given birth at home were asked to indicate how they were feeding their baby 48 hours after the birth.



In the 2010 IFS, 54% of Scottish respondents who had given birth in hospital / a maternity unit, and who had given breast milk, said that somebody had explained to them how to recognise whether their baby was getting enough milk.⁷

Overall, a third of respondents (33%) who had given breast milk felt that they could “definitely” recognise whether their baby was getting enough milk. A further 30% felt that they “probably” could. Thirteen percent (13%) were unsure, and 13% felt they “probably” could not. Seven percent (7%) said that that they “definitely” could not recognise whether their baby was getting enough milk.

[Table 5.5]

The ability to recognise whether a baby was getting enough breast milk was related to whether an explanation had been offered.

- 82% of respondents who had declined the offer of an explanation said that they felt able to recognise whether their baby was getting enough milk (61% “definitely” and 20% “probably”).
- However, only 35% of respondents who had not been offered an explanation said that they could recognise whether their baby was getting enough breast milk (16% “definitely” and 19% “probably”).

[Figure 5.4; Table 5.5]

Respondents who had been offered an explanation about how to tell if their baby was getting enough breast milk, felt more confident about recognising whether their baby was getting enough.

Figure 5.4: Shortly after the birth of your baby, did you feel that you could recognise whether your baby was getting enough breast milk? (Percentage of respondents who selected each statement, by whether an explanation had been offered. Respondents who gave breast milk).

Respondent could recognise whether baby was getting enough breast milk?	Explanation given / offered?		
	Yes	Offered, but declined	No - not given or offered
Yes, definitely	42%	61%	16%
Yes, probably	38%	20%	19%
Not sure / undecided	10%	9%	19%
No, probably not	7%	1%	25%
No, definitely not	2%	0%	17%
Didn't breastfeed / express milk shortly after the birth	1%	8%	4%

Source: Q34, Q33, 8-12 Week Survey



5.3 Prevalence of giving breast milk

The prevalence of giving breast milk is defined as the proportion of **all** respondents who were giving breast milk to their infant at a specified age, even if the baby was also receiving infant formula or complementary foods.

Prevalence of giving breast milk in the first six weeks (8-12 week survey)

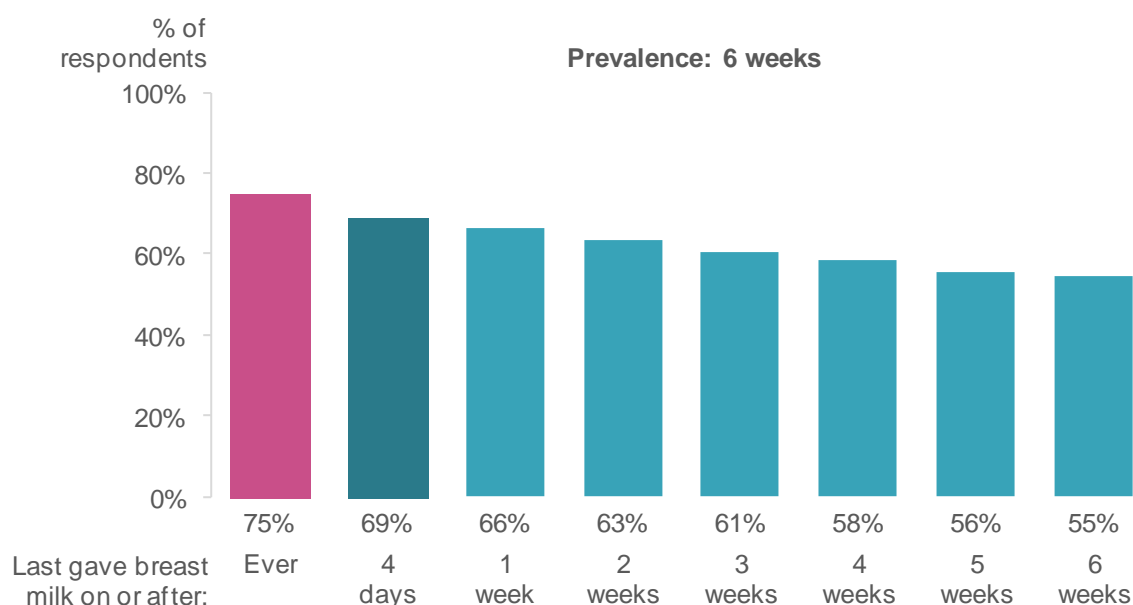
Seventy-five percent (75%) of respondents to the 8-12 week survey indicated that they had given breast milk to their new baby at some stage. By the time that infants were four days old, 69% of respondents reported that they were giving breast milk (a drop of six percentage points). After one week, prevalence had fallen further to 66% (a drop of nine percentage points from the initial rate).

The prevalence of giving breast milk continued to decline, at a slower rate, with each passing week. By the time infants were six weeks of age, 55% of respondents reported that they were giving breast milk (a drop of 20 percentage points from the initial rate). Drop-off rates are discussed in more detail in section 5.4.

[Figure 5.5; Table 5.6a]

Fifty-five percent of respondents reported giving breast milk by the time infants were six weeks old.

Figure 5.5: Prevalence of giving breast milk. (Percentage of respondents giving breast milk on or after various time periods up to six weeks after the birth).



Source: Q29, Q31, 8-12 Week Survey

The 2010 IFS reported that the initial rate for Scottish respondents fell from 74% to 64% by the time that infants were four days old, to 61% by one week, to 58% by two weeks, and to 50% by six weeks.^{7,*}

* Although results from the 2010 IFS and this survey are broadly comparable, it should be noted that the methodology and the wording of the related questions were slightly different in each survey.



Prevalence in the first six weeks by age and deprivation (8-12 week survey)

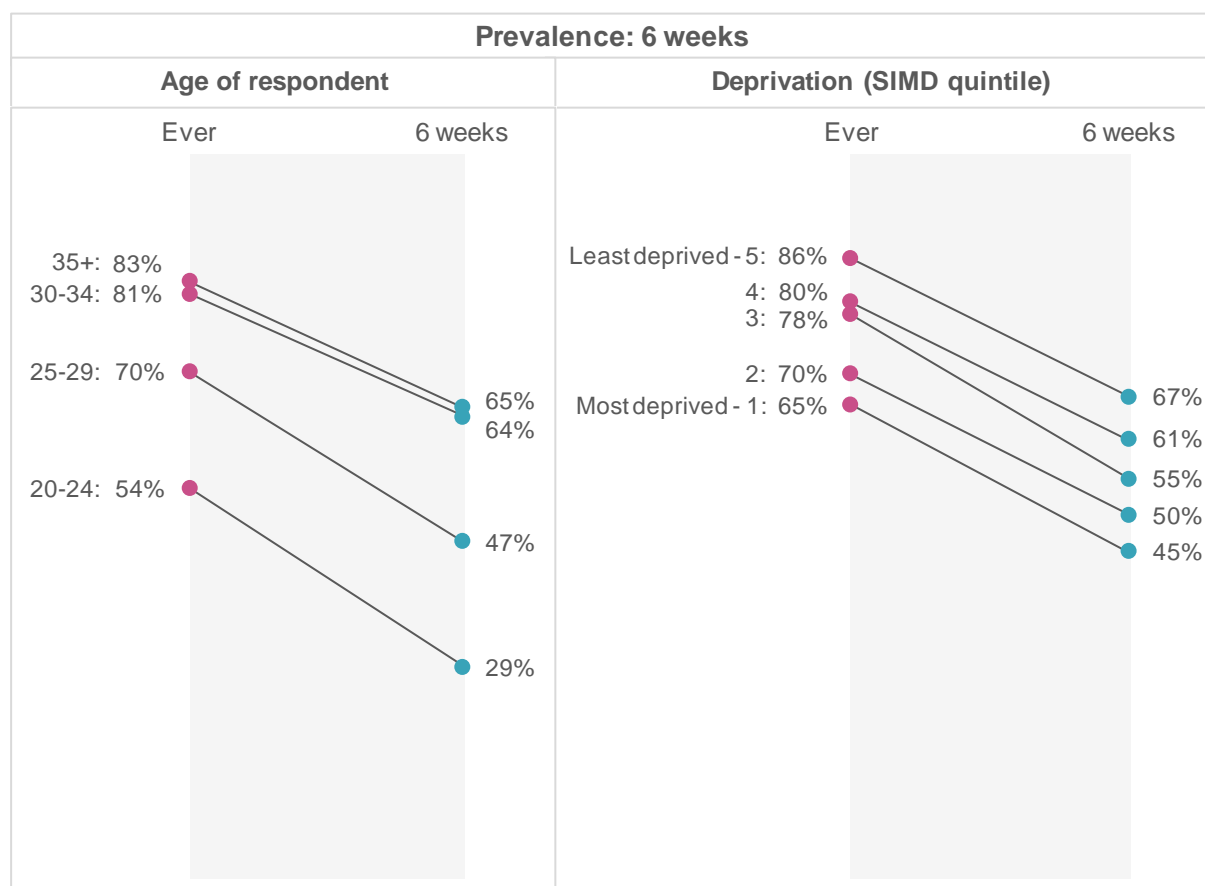
There was some variation in the prevalence of giving breast milk at six weeks depending on the respondent's age and the level of deprivation in their area of residence:

- 54% of respondents aged 20-24 indicated that they had ever given breast milk to their baby. By the time that infants were six weeks old, only 29% reported that they were giving breast milk (a drop of 25 percentage points).
- Amongst mothers aged 35 and over, the initial rate fell from 83% to 65% at six weeks (18 percentage point drop).
- For respondents who lived in the most deprived areas, the initial rate fell from 65% to 45% by six weeks (20 percentage point drop).
- Amongst respondents who lived in the least deprived areas, the initial rate fell from 86% to 67% by six weeks (19 percentage point drop).

[Figure 5.6; Table 5.6a & 5.6b]

The prevalence of giving breast milk at six weeks varied by respondent age and deprivation.

Figure 5.6: Prevalence of giving breast milk by age and deprivation. (Percentage of respondents giving breast milk to their new baby ever and at six weeks, by respondent age and deprivation).*



Source: Q29, Q31, Q58, 8-12 Week Survey

* There were too few respondents aged 19 or under to produce meaningful results for this group.



Prevalence in the first six weeks by other factors (8-12 week survey)

There were a number of factors associated with the prevalence of infants receiving breast milk at six weeks old:

- **Feeding intention prior to birth:** Over three-quarters of mothers (77%) who had intended to breastfeed / express milk only before their baby was born were giving breast milk at six weeks. This compared to 47% of those who had intended to mix feed, 30% of those who had been undecided and only 1% of those who had intended to formula feed.
- **Previous feeding experience:** Fifty-three percent (53%) of first time mothers were giving breast milk at six weeks. Amongst respondents who already had children, prevalence at six weeks varied according to the length of time that a mother had previously given breast milk (previous mothers who had never given breast milk 11%; previously given for < 2 months 29%; 2- < 6 months 77%; 6+ months 97%).
- **Feeding method(s) on leaving hospital:** Eighty-six percent (86%) of respondents who were exclusively giving breast milk when they left hospital were giving breast milk at six weeks, compared to 53% of those who were mix feeding on leaving hospital. Only 2% of mothers who had been exclusively giving formula milk when they left hospital were giving breast milk at six weeks.

[Table 5.6c & 5.6d & 5.6e]



Prevalence: how babies were being fed at 8-12 weeks

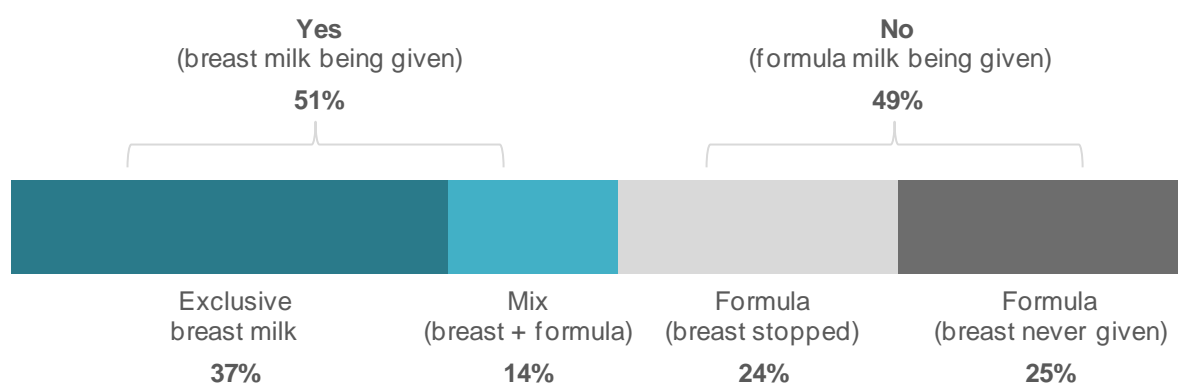
Respondents to the 8-12 week survey were asked whether they were breastfeeding or expressing breast milk for their baby at the time of completing the survey, and if so, whether their baby was being given breast milk exclusively or being mix fed (given breast milk and formula milk).

Fifty-one percent (51%) of respondents reported that they were giving breast milk at the time of survey completion; 37% were exclusively giving breast milk, while a further 14% were mix feeding. The remaining 49% were giving formula milk to their babies.

[Figure 5.7; Table 5.7]

Half of respondents were giving breast milk at the time of survey completion (8-12 week survey).

Figure 5.7: Are you still breastfeeding or expressing breast milk for your baby now? (Percentage of respondents who indicated each feeding method).



Source: Q30, Q29, 8-12 Week Survey

The 2016/17 official national Infant Feeding Statistics for Scotland reported that 41% of infants were being given breast milk at the time of their 6-8 week Health Visitor review. Thirty percent (30%) were receiving breast milk exclusively and 11% were being mix fed. The remaining 59% were being given formula milk only.⁹

Within the current survey, 53% of infants aged six to less than nine weeks were receiving breast milk at the time of survey completion. Thirty-seven percent (37%) were being given breast milk exclusively, 15% were being mix fed, and 47% were being given formula milk only.

[Table 5.7]

As noted in section 5.1, the information collected via a survey of this nature may overestimate the true rates of women giving breast milk both initially and in the weeks following a baby's birth. Nevertheless, results from the current survey are useful in identifying patterns of behaviour amongst various groups of mothers and for highlighting factors that may be associated with giving breast milk. However, the rates presented in the official national Infant Feeding Statistics for Scotland should be regarded as the definitive source of this information.



Prevalence of giving breast milk in the first six months (8-12 month survey)

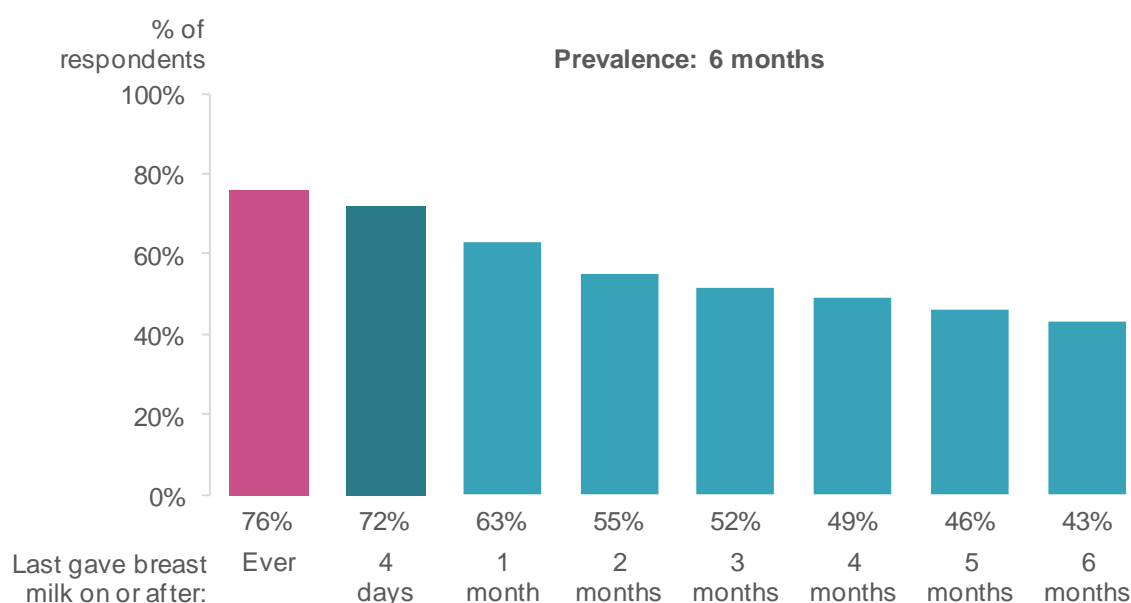
Seventy-six percent (76%) of respondents to the 8-12 month survey indicated that they had given breast milk to their new baby at some stage. By the time that infants were four days old, 72% of respondents reported that they were giving breast milk (a drop of four percentage points). After one month, prevalence had fallen further to 63% (a drop of 13 percentage points from the initial rate).

The prevalence of giving breast milk continued to decline with each passing month. By the time infants were six months of age, 43% of respondents reported that they were giving breast milk (a drop of 32 percentage points from the initial rate). Drop-off rates are discussed in more detail in section 5.4.

[Figure 5.8; Table 5.8a]

Forty-three percent of respondents reported giving breast milk by the time infants were six months old.

Figure 5.8: Prevalence of giving breast milk. (Percentage of respondents giving breast milk on or after various time periods up to six months after the birth).



Source: Q26, Q28, 8-12 Month Survey

The 2010 IFS reported that the initial rate for Scottish respondents fell from 74% to 64% by the time that infants were four days old, to 39% by four months, and to 32% by six months.⁷ This suggests that, although the initial incidence of giving breast milk has changed little in Scotland since 2010, mothers who do give breast milk are now doing so for longer. However, care must be taken when interpreting any differences in results between the two surveys.*

* Although results from the 2010 IFS and this survey are broadly comparable, it should be noted that the methodology and the wording of the related questions were slightly different in each survey.



Prevalence in the first six months by age and deprivation (8-12 month survey)

There was some variation in the prevalence of giving breast milk at six months depending on the respondent's age and deprivation in their area of residence:

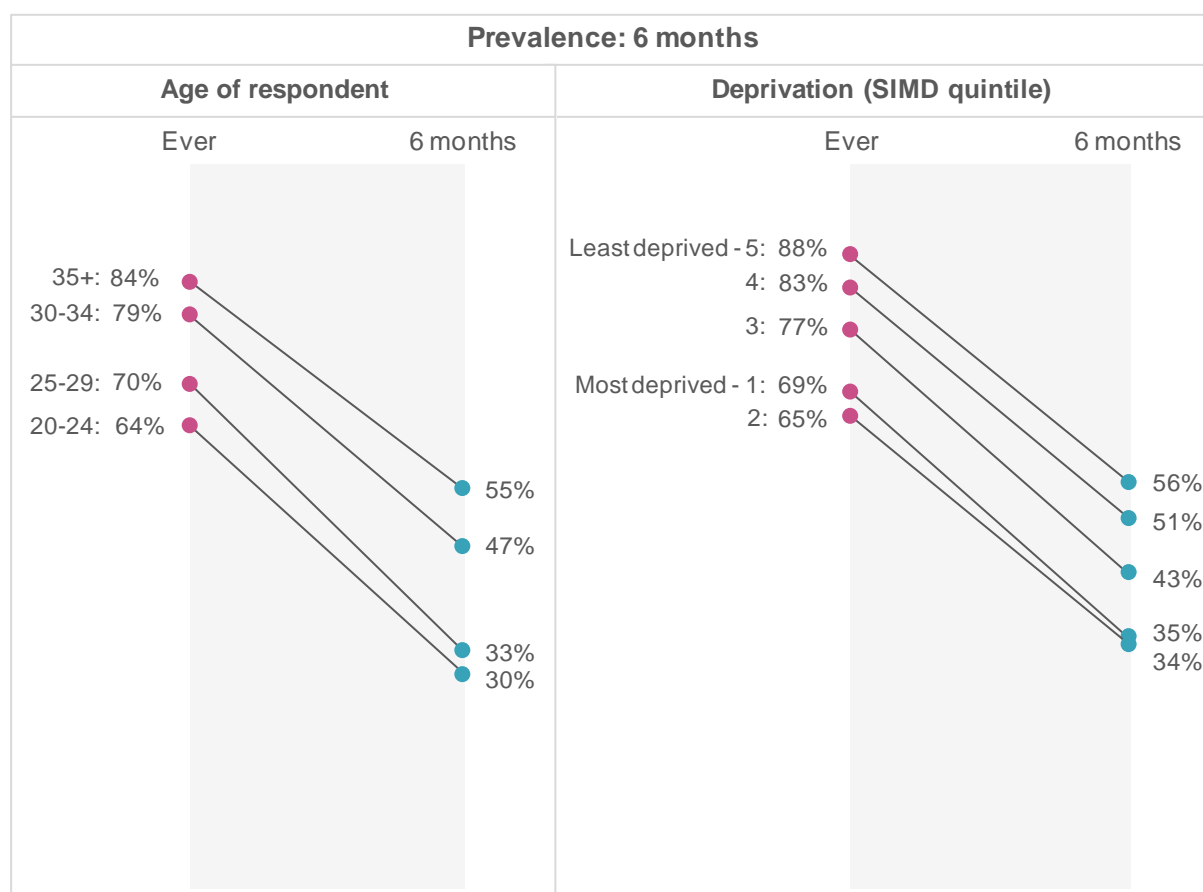
Initial rates for respondents aged 20-24 more than halved, from 64% to 30% by the time infants were six months old (a drop of 34 percentage points).

- Amongst mothers aged 35 and over the initial rate fell from 84% to 55% at six months (29 percentage point drop).
- For respondents who lived in the most deprived areas, the initial rate fell from 69% to 35% at six months (34 percentage point drop).
- The equivalent figures for those who lived in the least deprived areas were 88% to 56% respectively (32 percentage point drop).

[Figure 5.9; Table 5.8a & 5.8b]

Prevalence of giving breast milk at six months varied by respondent age and deprivation.

Figure 5.9: Prevalence of giving breast milk by age and deprivation. (Percentage of respondents giving breast milk to their new baby ever and at six months, by respondent age and deprivation).*



Source: Q26, Q28, Q50, 8-12 Month Survey

* It was not possible to present results for respondents aged 19 or under; there were too few respondents in this group to produce meaningful results.



Prevalence in the first six months by other factors (8-12 month survey)

There was a difference in the prevalence of infants receiving breast milk at six months old depending on whether the respondent was a first time mother or not.

- 41% of first time mothers were giving breast milk at six months; the equivalent figure for respondents who already had children was 46%.

Note that results from the 8-12 week survey showed wide variation in incidence and prevalence rates amongst mothers who already had children, depending on previous feeding experience. Analysis by previous feeding experience was not possible for the 8-12 month survey.

[Table 5.8c]



5.4 Drop-off in giving breast milk

Drop-off is defined as the proportion of respondents, who had given breast milk at some stage, who had stopped giving breast milk by a specified age. The results in this section focus only on mothers who had given breast milk and exclude mothers who had not.

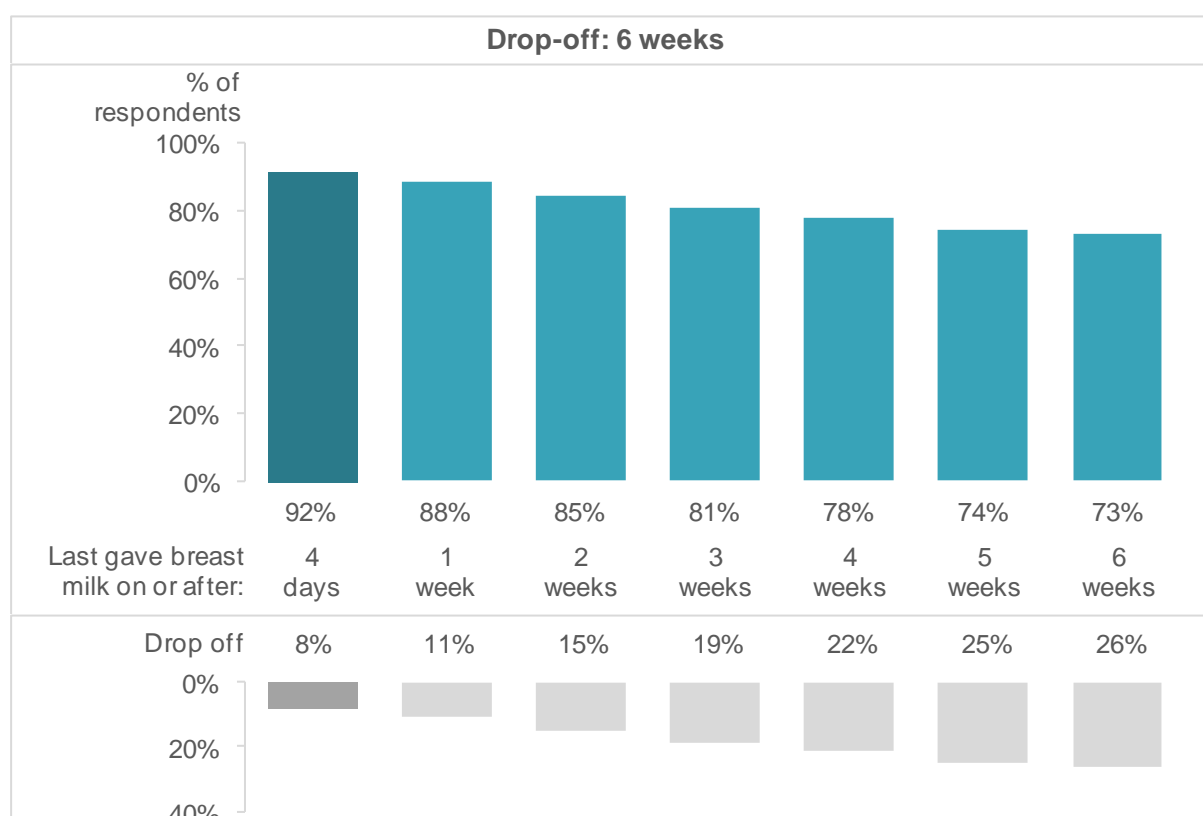
Drop-off in the first six weeks (8-12 week survey)

In the 8-12 week survey, 92% of respondents who had ever given breast milk to their new baby were still doing so when their infant was four days old (8% had stopped giving breast milk). At one week, the proportion of respondents still giving breast milk had fallen to 88% (11% drop-off). This drop-off continued with each passing week and at the time infants were six weeks of age, 73% of respondents were still giving breast milk (26% drop-off).*

[Figure 5.10; Table 5.9a]

Nearly three-quarters of respondents who had been giving breast milk were still giving breast milk when their baby was six weeks old.

Figure 5.10: Drop-off in giving breast milk. (Percentage of respondents who were still giving breast milk at or after a various time periods up to six weeks. Respondents who gave breast milk).*



Source: Q31, 8-12 Week Survey

* A small number of respondents did not confirm when their baby was last given breast milk (0.5%); this is why the percentage of respondents still giving breast milk and the percentage of those who had stopped (drop-off) does not always sum to 100%.



The 2010 IFS reported that 87% of Scottish respondents who had ever given breast milk were still doing so when their infant was four days old (13% drop-off). This fell to 83% at one week (17% drop-off), 79% at two weeks (21% drop-off) and to 67% at six weeks (33% drop-off).⁷

Drop-off in the first six weeks by other factors (8-12 week survey)

Age and deprivation were associated with a drop-off in giving breast milk at six weeks:

- **Respondent age:** Drop-off rates were highest amongst younger mothers. Fifty-four percent (54%) of mothers aged 20-24 who had given breast milk at some stage were still giving breast milk at six weeks (44% drop-off). This compared to 79% of mothers aged 35 and over (21% drop-off).
- **Deprivation:** Drop-off rates were also highest amongst respondents who lived in the most deprived areas, however differences between deprivation groups were less marked than those observed between respondents of different ages. Sixty-nine percent (69%) of mothers who lived in the most deprived areas were still giving breast milk at six weeks (29% drop-off). This compared to 78% of mothers living in the least deprived areas (22% drop-off).

[Table 5.9a & 5.9b]

As with prevalence, there were a number of other factors associated with a drop-off in infants receiving breast milk at six weeks:

- **Feeding intention prior to birth:** Eighty percent (80%) of mothers who had intended to breastfeed / express milk only before their baby was born were still giving breast milk at six weeks. This compared to 52% of those who had intended to mix feed and 46% of those who had been undecided. Only a very small number of respondents who intended to formula feed went on to give breast milk (< 30); therefore no drop-off analysis has been presented for this group.
- **Previous feeding experience:** Sixty-eight percent (68%) of first time mothers were still giving breast milk at six weeks. Amongst mothers who already had children, results varied according to the length of time that a mother had previously given breast milk (previous mothers who had never given breast milk 56%; previously given for < 2 months 39%; 2- < 6 months 82%; 6+ months 98%).
- **Feeding method(s) on leaving hospital:** Eighty-six percent (86%) of respondents who were exclusively giving breast milk when they left hospital were still giving breast milk at six weeks, compared to 53% of those who were mix feeding on leaving hospital. Only 11% of mothers who had been exclusively giving formula milk when they left hospital were giving breast milk at six weeks.

[Table 5.9c & 5.9d & 5.9e]



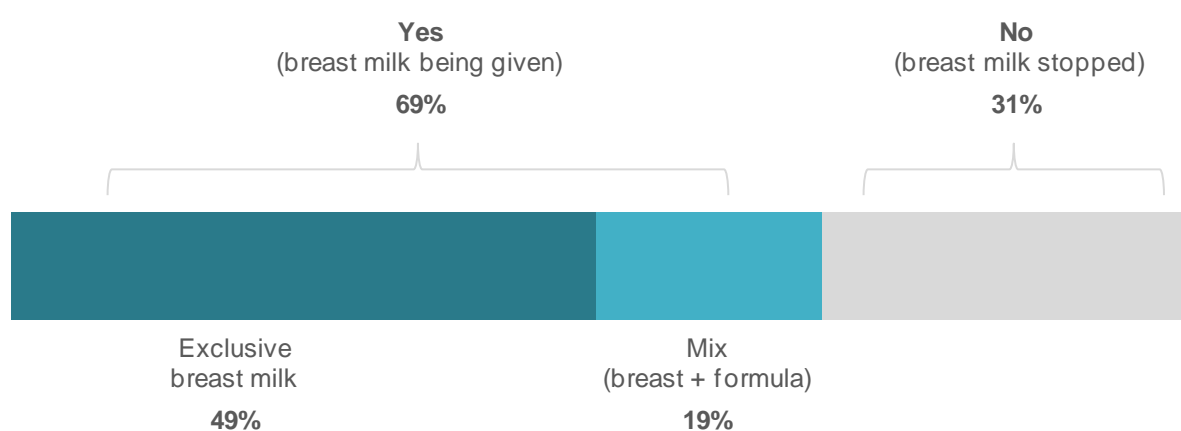
Drop-off: how babies were being fed at 8-12 weeks

Sixty-nine percent (69%) of respondents to the 8-12 weeks survey, who had ever given breast milk to their new baby, were still doing so at the time of survey completion; 49% were exclusively giving breast milk, while a further 19% were mix feeding. The remaining 31% were giving formula milk to their babies.

[Figure 5.11; Table 5.10a]

Half of respondents, who had ever given breast milk to their new baby, were exclusively giving breast milk at the time of survey completion (8-12 week survey).

Figure 5.11: Are you still breastfeeding or expressing breast milk for your baby now? (Percentage of respondents who indicated each feeding method. Respondents who gave breast milk).



Source: Q30, 8-12 Week Survey

The 2016/17 official national Infant Feeding Statistics for Scotland reported that, amongst infants who had ever been given breast milk, 65% were still being given breast milk at the time of their 6-8 week Health Visitor review. Forty-eight percent (48%) were receiving breast milk exclusively and 17% were being mix fed. The remaining 35% were no longer receiving breast milk and were being given formula milk only.⁹

Within the current survey, 71% of infants aged six to less than nine weeks, who had ever been given breast milk, were receiving breast milk at the time of survey completion. Fifty-one percent (51%) were being given breast milk exclusively, 20% were being mix fed, and 29% were being given formula milk only.

[Table 5.10a]

As noted in section 5.1, the current survey is likely to overestimate the true rates of women giving breast milk both initially and in the weeks following a baby's birth. The rates presented in the official national Infant Feeding Statistics for Scotland should be regarded as the definitive source of this information.



Nearly two-thirds of respondents (64%) who were giving breast milk only when they left hospital / the maternity unit indicated that they were exclusively giving breast milk when they completed the 8-12 week survey. This compared to 16% of those who were mix feeding on leaving hospital and 3% of mothers who had been exclusively giving formula milk.

[Figure 5.12; Table 5.10b]

Nearly two-thirds of respondents who were giving breast milk only when they left hospital were exclusively giving breast milk at the time of survey completion (8-12 week survey).

Figure 5.12: Are you still breastfeeding or expressing breast milk for your baby now? (Percentage of respondents who indicated each feeding method, by feeding method(s) on leaving hospital. Respondents who gave breast milk).

Feeding method(s) on leaving hospital	Feeding method(s) at time of survey completion		
	Exclusive breast milk	Mix (breast + formula)	Formula (breast milk stopped)
Breast milk only	64%	17%	18%
Mix (breast + formula)	16%	29%	55%
Formula milk only	3%	7%	90%

Source: Q30, Q32, 8-12 Week Survey



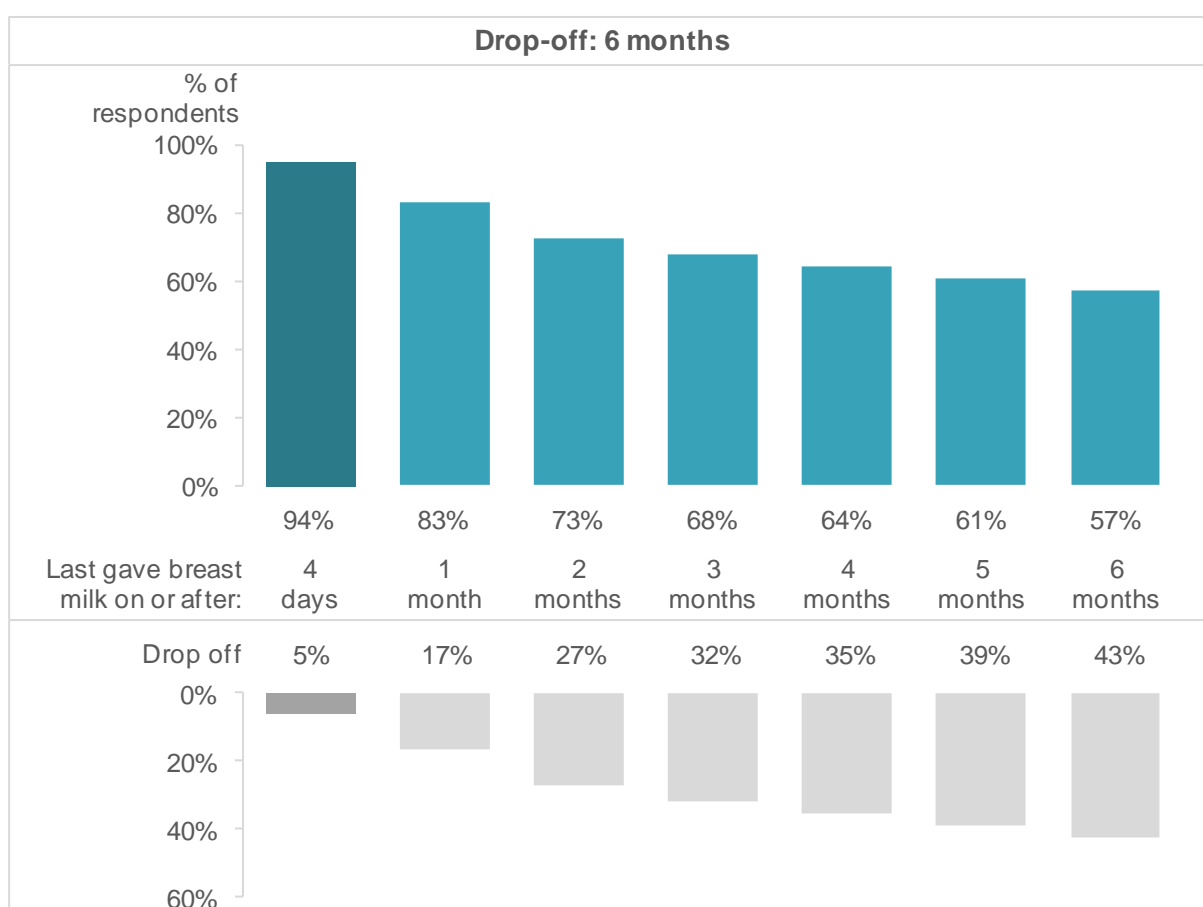
Drop-off in the first six months (8-12 month survey)

In the 8-12 month survey, 94% of respondents who had ever given breast milk to their new baby were still doing so when their infant was four days old (5% had stopped giving breast milk). At one month, the proportion of respondents still giving breast milk had fallen to 83% (17% drop-off). This drop-off continued with each passing month and at the time infants were six months of age, 57% of respondents were still giving breast milk (43% drop-off).*

[Figure 5.13; Table 5.11a]

More than half of respondents who had been giving breast milk were still giving breast milk when their baby was six months old.

Figure 5.13: Drop-off in giving breast milk. (Percentage of respondents who were still giving breast milk at or after a various time periods up to six months. Respondents who gave breast milk).*



Source: Q28, 8-12 Month Survey

The 2010 IFS reported that 87% of Scottish respondents who had ever given breast milk were still doing so when their infant was four days old (13% drop-off). This fell to 52% at four months (48% drop-off) and to 43% at six months (57% drop-off).⁷ This suggests that mothers who give breast milk now are doing so for longer than they did

* A small number of respondents did not confirm when their baby was last given breast milk (<0.5%); this is why the percentage of respondents still giving breast milk and the percentage of those who had stopped (drop-off) does not always sum to 100%.



in 2010. The 2010 IFS found that between 2005 and 2010 there was also an increase in duration of breastfeeding in Scotland. However, care must be taken when interpreting any differences in results between the IFS and this survey.*

Drop-off in the first six months by other factors (8-12 month survey)

Age and deprivation were associated with a drop-off in giving breast milk at six months:

- **Respondent age:** Drop-off rates at six months were highest amongst younger mothers. Forty-six percent (46%) of mothers aged 20-24 who had given breast milk at some stage were still doing so at six months (54% drop-off). This compared to 66% of mothers aged 35 and over (34% drop-off).
- **Deprivation:** Drop-off rates at six months were also highest amongst respondents who lived in the most deprived areas. Fifty-one percent (51%) of mothers who lived in the most deprived areas were still giving breast milk at six months (49% drop-off). This compared to 64% of mothers living in the least deprived areas (36% drop-off).

[Table 5.11a & 5.11b]

There was a difference in drop-off in giving breast milk at six months depending on whether the respondent was a first time mother or not:

- 52% of first time mothers who had given breast milk at some stage were still doing so at six months (48% drop-off); the equivalent figure for respondents who already had children was 64% (36% drop-off).

Note that results from the 8-12 week survey showed wide variation in drop-off rates amongst mothers who already had children, depending on previous feeding experience. Analysis by previous feeding experience was not possible for the 8-12 month survey.

[Table 5.11c]

* Although results from the 2010 IFS and this survey are broadly comparable, it should be noted that the methodology and the wording of the related questions were slightly different in each survey.



5.5 Breastfeeding challenges

As previously indicated, 75% of respondents to the 8-12 week survey reported that they had given breast milk to their new baby at some point. Of these respondents, 67% reported that they had experienced problems while breastfeeding or expressing milk. The proportion of respondents who had experienced problems varied amongst different groups:

- Respondents who had stopped giving breast milk to their baby were more likely to have experienced breastfeeding / expressing problems (80%) than those who were mix feeding (69%) or those who were giving breast milk exclusively (58%).
- 75% of first time mothers reported that they had experienced problems. Amongst mothers who already had children, results varied according to the length of time that a mother had previously given breast milk (previous mothers who had never given breast milk 64%; previously given for < 2 months 69%; 2- < 6 months 61%; 6+ months 53%).

[Table 5.12a & 5.12b]

Amongst respondents who had experienced a problem breastfeeding or expressing milk, the types of problems reported varied according to when the problem had been experienced.

- The most common issues reported while respondents were still in hospital related to attachment issues (52%) and concerns around milk supply (44%). Forty-two percent (42%) of respondents indicated that they had experienced difficulty in attaching the baby to the breast themselves while in hospital, and 34% said that the baby wouldn't attach at the breast. Twenty-eight percent (28%) were worried about how much milk their baby was getting.
- While still in hospital, infant issues such as a baby being sleepy and reluctant to feed (23%), a baby being premature, small or unwell (11%), or the need for a baby to be tested for hypoglycaemia (10%) were mentioned reasonably frequently. However, these issues were mentioned less often after the respondent had gone home.
- When at home, within two weeks of the birth, attachment issues were still apparent (37%), but concerns around milk supply (65%) and maternal issues (65%) became more prominent. At this stage, 41% indicated that they were worried about how much milk their baby was getting and 42% reported prolonged or frequent feeds. Fifty-three percent (53%) of respondents reported having sore nipples at this stage.
- While at home, more than two weeks after the birth, attachment issues were much less evident (13%), but concerns around milk supply were still reported frequently (44%). Thirty-one percent (31%) of respondents reported prolonged or frequent feeds at this stage, but they seemed less worried about how much milk their baby was getting than before (22%). A quarter of respondents (25%) reported having sore nipples more than two week after the birth.

[Figure 5.14; Table 5.13]



Challenges around attachment to the breast were reported frequently while respondents were still in hospital. Concerns around milk supply and maternal issues became more prominent after leaving hospital.

Figure 5.14: Have you had any of the following problems breastfeeding or expressing breast milk for your baby and, if so, when did these problems arise? (Percentage of respondents who selected each type of problem / location. Respondents who gave breast milk and experienced a problem. Most common problems **highlighted**).

Type(s) of problem (Tick all that apply)	When did problems arise?		
	In hospital	At home (within 2 weeks)	At home (after 2 weeks)
Attachment issues (any)	52%	37%	13%
Difficulty attaching baby to breast myself	42%	30%	10%
Baby wouldn't attach at the breast	34%	22%	8%
Baby attached, but wouldn't suck	15%	9%	4%
Milk supply issues (any)	44%	65%	44%
Worried how much milk baby getting	28%	41%	22%
Prolonged or frequent feeds	16%	42%	31%
Didn't produce enough milk	16%	19%	13%
Baby wouldn't settle after feeds	11%	19%	12%
Baby lost a lot of weight	9%	15%	1%
Baby's weight gain was very slow	4%	13%	7%
Maternal issues (any)	25%	65%	38%
Sore nipples	21%	53%	25%
Sore breasts	11%	36%	20%
Full or engorged breasts	7%	38%	17%
Mastitis	1%	7%	10%
Infant issues (any)	37%	21%	10%
Baby sleepy and wouldn't feed	23%	13%	3%
Baby premature, small or unwell	11%	3%	2%
Baby had to be tested for hypoglycaemia	10%	1%	0%
Tongue tie causing problems	7%	7%	5%
Other			
Other problem	3%	4%	4%

Source: Q36, 8-12 Week Survey

It should be noted that some respondents stopped giving breast milk before leaving hospital / before two weeks. It is possible that some issues that were mentioned frequently shortly after giving birth were reported less frequently thereafter because the respondents who were experiencing these issues had stopped giving breast milk.

* Note that some respondents had stopped giving breast milk before leaving hospital / before two weeks. Percentages are based on all respondents who had given breast milk at any time and who had experienced a problem at some point.



Amongst respondents who had experienced a breastfeeding / expressing problem, the types of problems reported varied between mothers who had stopped breastfeeding / expressing and those who were still giving breast milk.

[Figure 5.15; Table 5.14]

Respondents who had stopped giving breast milk frequently reported challenges around attachment to the breast and concerns about milk supply.

Figure 5.15: Have you had any of the following problems breastfeeding or expressing breast milk for your baby? (Percentage of respondents who selected each type of problem, by whether respondent is still breast feeding. Respondents who gave breast milk and experienced a problem. Most common problems highlighted).

Type(s) of problem (Tick all that apply)	Still giving breast milk to new baby?		
	No (stopped)	Yes (mix feeding)	Yes (exclusive)
Attachment issues (any)	77%	62%	65%
Difficulty attaching baby to breast myself	65%	53%	56%
Baby wouldn't attach at the breast	60%	39%	39%
Baby attached, but wouldn't suck	31%	16%	17%
Milk supply (any)	86%	92%	78%
Worried how much milk baby getting	70%	74%	49%
Prolonged or frequent feeds	47%	67%	62%
Didn't produce enough milk	46%	51%	15%
Baby wouldn't settle after feeds	35%	42%	22%
Baby lost a lot of weight	20%	33%	19%
Baby's weight gain was very slow	16%	31%	19%
Maternal issues (any)	69%	82%	90%
Sore nipples	57%	72%	81%
Sore breasts	46%	49%	59%
Full or engorged breasts	39%	54%	63%
Mastitis	10%	19%	18%
Infant issues (any)	47%	47%	50%
Baby sleepy and wouldn't feed	27%	34%	35%
Baby premature, small or unwell	15%	10%	11%
Baby had to be tested for hypoglycaemia	13%	11%	10%
Tongue tie causing problems	13%	10%	15%
Other			
Other problem	5%	7%	9%

Source: Q36, Q30, 8-12 Week Survey

- Attachment issues were frequently mentioned by respondents who had stopped breastfeeding / expressing breast milk for their new baby (77%). Sixty-five percent (65%) of these respondents indicated that they had experienced difficulty in attaching the baby to the breast themselves, and 60% said that the baby wouldn't attach at the breast. Supply issues were also very prominent amongst



respondents who had stopped giving breast milk (86%), with 70% indicating that they were worried about how much milk their baby was getting.

- Concerns around milk supply were also mentioned by the vast majority of respondents (92%) who were mix feeding their baby at the time of survey completion. Nearly three-quarters (74%) of these respondents said that they were worried about how much milk their baby was getting and 67% reported prolonged or frequent feeds. Maternal issues such as sore nipples were also frequently mentioned by mothers who were mix feeding (72%).
- Amongst respondents who were still giving breast milk to their baby, the most frequently reported challenges were related to maternal issues (90%). Eighty-one percent (81%) of these respondents reported experiencing sore nipples and 63% reported full or engorged breasts. Sixty-two percent (62%) of this group also reported milk supply issues relating to prolonged or frequent feeds.

[Figure 5.15; Table 5.14]

Help and information with breastfeeding / expressing challenges

Eight-nine percent (89%) of respondents who had experienced problems with breastfeeding or expressing got help with and/or information about these problems; however 11% did not receive help / information.

[Table 5.15]

- Respondents most frequently indicated that they had received help / information from Midwives and Maternity Staff (91%). Of those who had received support from this source the majority indicated that it had been easy to access (89%) and helpful (83%).
- Health Visitors were also frequently cited as a source of support for breastfeeding / expressing challenges (74%). Ninety-four percent (94%) of respondents who had received help / information from a Health Visitor said that it had been easy to access; 85% reported that it had been helpful.
- Other sources of support were reported less frequently; family and friends (50%), a local breastfeeding group (24%), a NHS breastfeeding support worker (19%), a NHS Infant Feeding Advisor (16%), or a counsellor / consultant / supporter from a voluntary organisation (16%). Where used, respondents generally found this type of help easy to access and helpful (often “very helpful”).
- 13% of respondents had sought help / information from their GP. While this was reasonably easy to access (86%), 10% of respondents who had received help / information from their GP had not found it helpful (5% reported that it was “not helpful at all”).
- 8% of mothers had received help / information from a NHS tongue tie clinic. In contrast to other sources of support, 23% of these respondent reported that this had not been easy to access. However, where accessed, 82% of respondents had found this help / information helpful (66% “very helpful”).

[Figure 5.16; Table 5.16a & 5.16b & 5.16c]



Respondents frequently got information and help for breastfeeding problems from their Midwife and/or Health Visitor.

Figure 5.16: Who gave you information about and/or help with these breastfeeding problems? (Percentage of respondents. Respondents who got information / help with problems).

Source of information / help	% who received help from this source?	How easy to access?			How helpful?		
		Not easy	Not sure	Easy	Not helpful	Not sure	Helpful
Midwives and maternity staff	91%	6%		89%	7%		83%
Health visiting team	74%	2%		94%	6%		85%
Family member, partner or friend	50%	1%		96%	3%		88%
Local breastfeeding group	24%	2%		91%	6%		82%
NHS breastfeeding support worker	19%	7%		89%	7%		89%
NHS Infant Feeding Advisor	16%	8%		85%	5%		89%
Breastfeeding counsellor, lactation consultant or peer supporter from a voluntary organisation	16%	7%		87%	5%		90%
GP	13%	8%		86%	10%		81%
NHS tongue tie clinic	8%	23%		66%	7%		82%
Breastfeeding telephone helpline	7%	7%		87%	15%		71%

Source: Q38, 8-12 Week Survey



Only seven percent (7%) of respondents who had received help / information about breastfeeding / expressing problems had received this support from the breastfeeding telephone helpline. Generally speaking, respondents who had used this service had found it easy to access (87%), but 15% had not found it to be helpful (6% reported that it was “not helpful at all”).

It should be noted that, unlike the other sources of support asked about in this survey, the telephone helpline does not provide face-to-face support for mothers who are experiencing breastfeeding / expressing problems. This point should be borne in mind when interpreting these results.

[Figure 5.16; Table 5.16a & 5.16b & 5.16c]

Amongst all respondents to the 8-12 week survey who had ever given breast milk to their new baby, 59% were aware of the National Breastfeeding Helpline and 6% reported that they had used it.

[Table 5.17]



5.6 Stopping breastfeeding / expressing milk

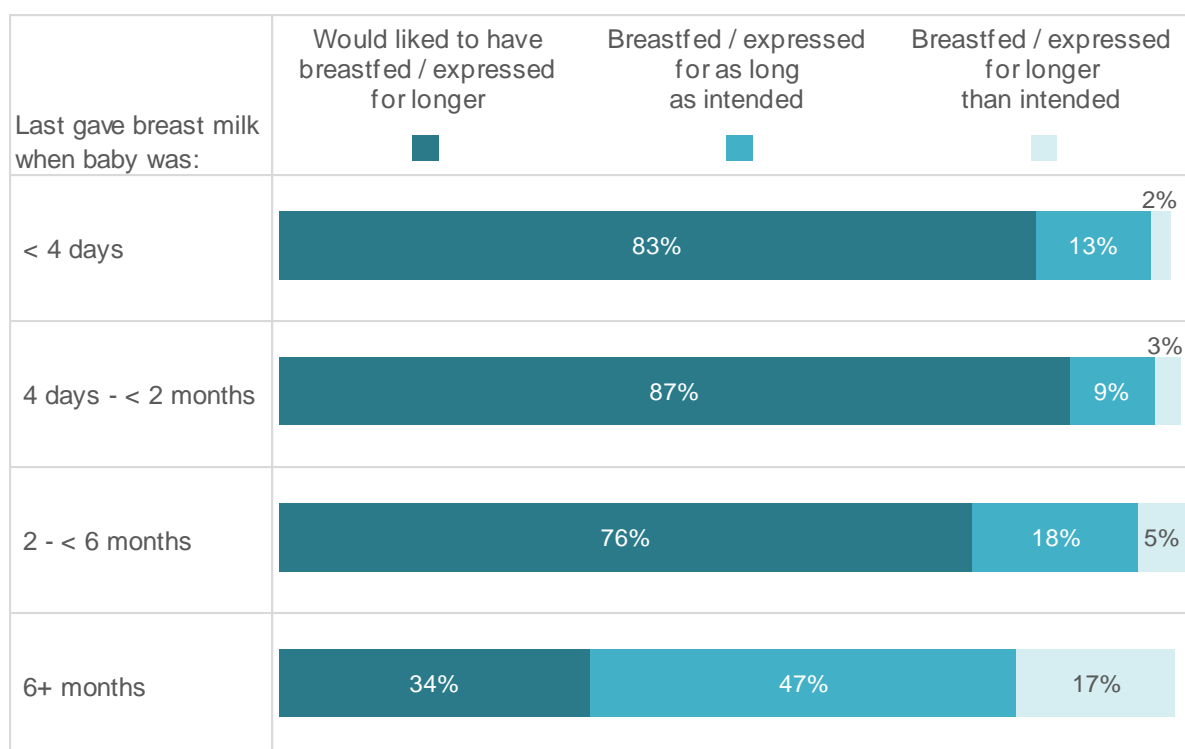
Overall, three-quarters (75%) of respondents to the two postnatal surveys, who had stopped giving breast milk to their new baby, reported that they would like to have given breast milk for longer.

However, amongst respondents who had given breast milk for six months or more the majority reported that they had breastfed / expressed for as long or for longer than intended (47% had given breast milk for as long as intended; 17% had given breast milk for longer than intended).

[Figure 5.17; Table 5.18]

Most respondents who breastfed / expressed milk for less than six months would like to have done so for longer.

Figure 5.17: Which of the following statements best describes how long you breastfed / expressed breast milk for your new baby? (Percentage of respondents who selected each statement, by age baby last had breast milk. Respondents who gave breast milk, but who have now stopped).



Source: Q31, Q44, 8-12 Week Survey
Q28, Q29, 8-12 Month Survey

Reasons for stopping breastfeeding / expressing milk

The predominant reasons given for stopping breastfeeding / expressing milk were feeding problems (49%) and thinking that the baby was not getting enough milk (45%). A quarter of respondents (25%) also indicated that they had found it “too difficult”.

Reasons relating to maternal wellbeing, such as being too tired (16%) or being unwell (11%) were mentioned by more than one in ten respondents. Similar numbers



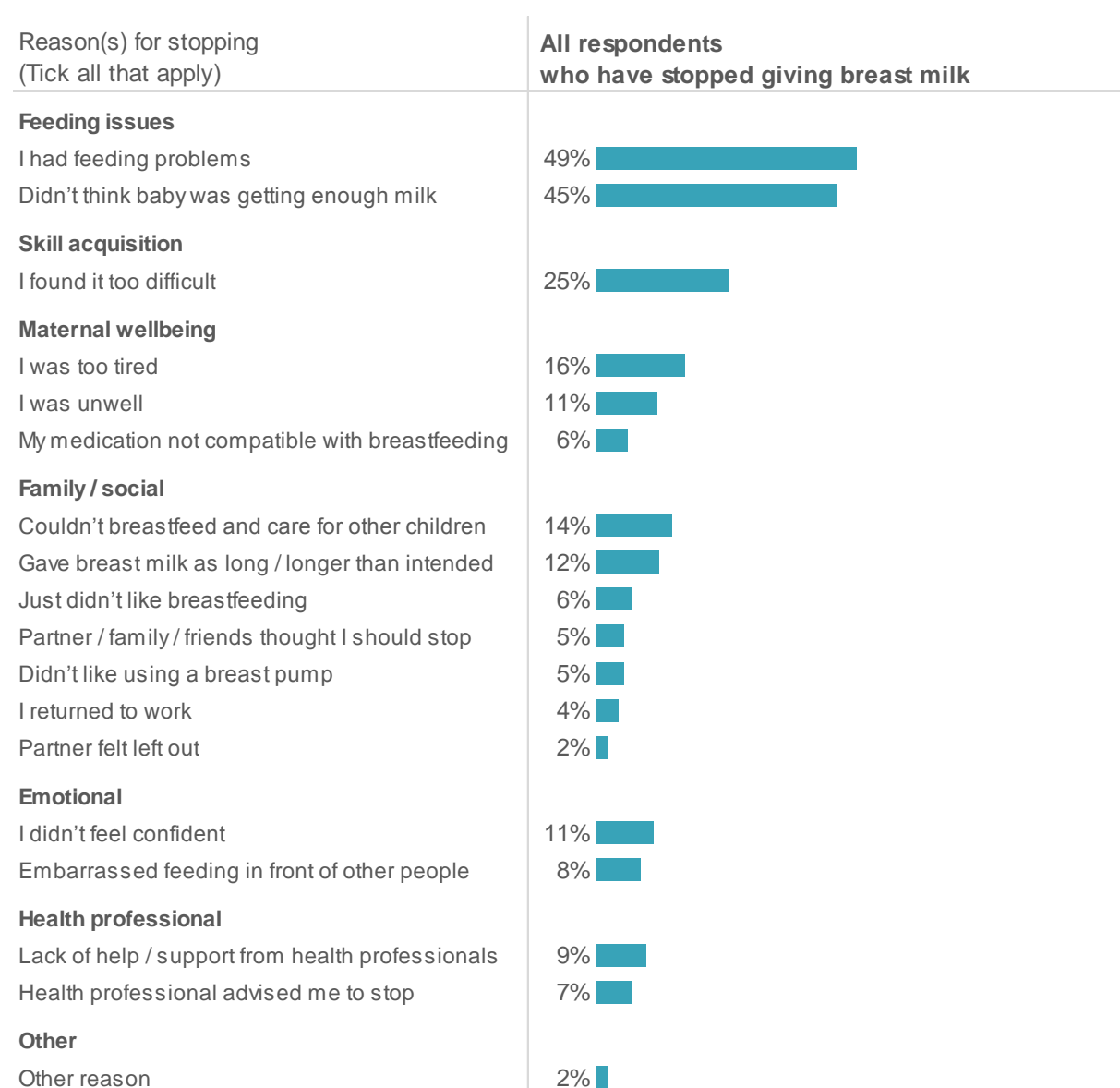
reported being unable to breastfeed their new baby and care for their other children (14%).

Only 12% of respondents said that the reason they stopped was that they had given breast milk for as long as or for longer than intended. Nearly one in ten (9%) said that they did not get enough support from their Doctor / Midwife / Health Visitor.

[Figure 5.18; Table 5.19]

Feeding problems and worries about how much milk the baby was getting were the main reasons respondents stopped breastfeeding / expressing milk.

Figure 5.18: What were the reasons you decided to stop breastfeeding / expressing breast milk? (Percentage of respondents who selected each reason. Respondents who gave breast milk, but who have now stopped).



Source: Q45, 8-12 Week Survey
Q30, 8-12 Month Survey



Reasons for stopping breastfeeding / expressing milk varied depending on when the respondent had stopped giving breast milk to her new baby.

[Figure 5.19; Table 5.19]

Reasons for stopping breastfeeding / expressing varied depending on when the respondent stopped.

Figure 5.19: What were the reasons you decided to stop breastfeeding / expressing breast milk? (Percentage of respondents who selected each reason, by age baby last had breast milk. Respondents who gave breast milk, but who have now stopped. Most common problems **highlighted**).

Reason(s) for stopping (Tick all that apply)	Age of baby when breast milk last given	
	< 4 days	4 days - < 2 months
Didn't think baby was getting enough milk	52%	52%
I had feeding problems	49%	54%
I found it too difficult	41%	30%
I didn't feel confident	23%	13%
Lack of help / support from health professionals	15%	12%
I was too tired	13%	21%
Just didn't like breastfeeding	13%	7%
I was unwell	11%	16%
Couldn't breastfeed and care for other children	10%	17%
Embarrassed feeding in front of other people	10%	10%
Health professional advised me to stop	8%	7%
Gave breast milk as long / longer than intended	4%	5%
My medication not compatible with breastfeeding	4%	7%
Partner / family / friends thought I should stop	4%	7%
Partner felt left out	2%	3%
Didn't like using a breast pump	2%	7%
I returned to work	0%	0%
Other reason	1%	2%
	2 - < 6 months	6+ months
Didn't think baby was getting enough milk	44%	21%
I had feeding problems	49%	31%
I found it too difficult	18%	6%
I didn't feel confident	6%	2%
Lack of help / support from health professionals	7%	1%
I was too tired	16%	8%
Just didn't like breastfeeding	4%	1%
I was unwell	9%	4%
Couldn't breastfeed and care for other children	15%	6%
Embarrassed feeding in front of other people	7%	5%
Health professional advised me to stop	7%	1%
Gave breast milk as long / longer than intended	10%	43%
My medication not compatible with breastfeeding	6%	6%
Partner / family / friends thought I should stop	6%	1%
Partner felt left out	1%	1%
Didn't like using a breast pump	5%	4%
I returned to work	3%	21%
Other reason	2%	5%

Source: Q45, Q31, 8-12 Week Survey
Q30, Q28, 8-12 Month Survey



- Around half of respondents (52%) who stopped giving breast milk before their baby was four days old indicated that they had done so because they did not think their baby was getting enough milk. A similar proportion (49%) said that they had stopped due to feeding problems and 41% said that they had found it too difficult. Nearly a quarter of these respondents (23%) indicated that they had stopped giving breast milk because they did not feel confident.
- Concerns around the baby getting enough milk and feeding problems remained important reasons for stopping breastfeeding / expressing for respondents who stopped after four days, but before six months. However, difficulty and lack of confidence and were mentioned progressively less frequently as duration of breastfeeding / expressing increased.
- Respondents who breast fed / expressed for six months or more still indicated that they had stopped because they did not think their baby was getting enough milk and/or due to feeding problems (21% and 31% respectively). However, 43% of these respondents said that they had stopped because they had breastfed or expressed milk for as long or for longer than intended. Twenty-one percent (21%) said that they had stopped because they had returned to work.

[Figure 5.19; Table 5.19]

The main reasons for stopping breastfeeding / expressing milk were similar for first time mothers and those who had previously had children. However, more than a third of respondents (35%) who already had children said that they had stopped because they were unable to breastfeed their new baby and care for their other children.

[Table 5.20]

In the 2010 UK-wide Infant Feeding Survey, feeding problems and worries around milk supply issues were also frequently mentioned as reasons for stopping breastfeeding / expressing milk. Reasons also varied according to the length of time that mothers chose to breastfeed / express milk.⁷ However, due to differences in methodology and in how this question was asked, it is not possible to directly compare results between the 2010 survey and this survey.



Help and encouragement to continue breastfeeding / expressing milk

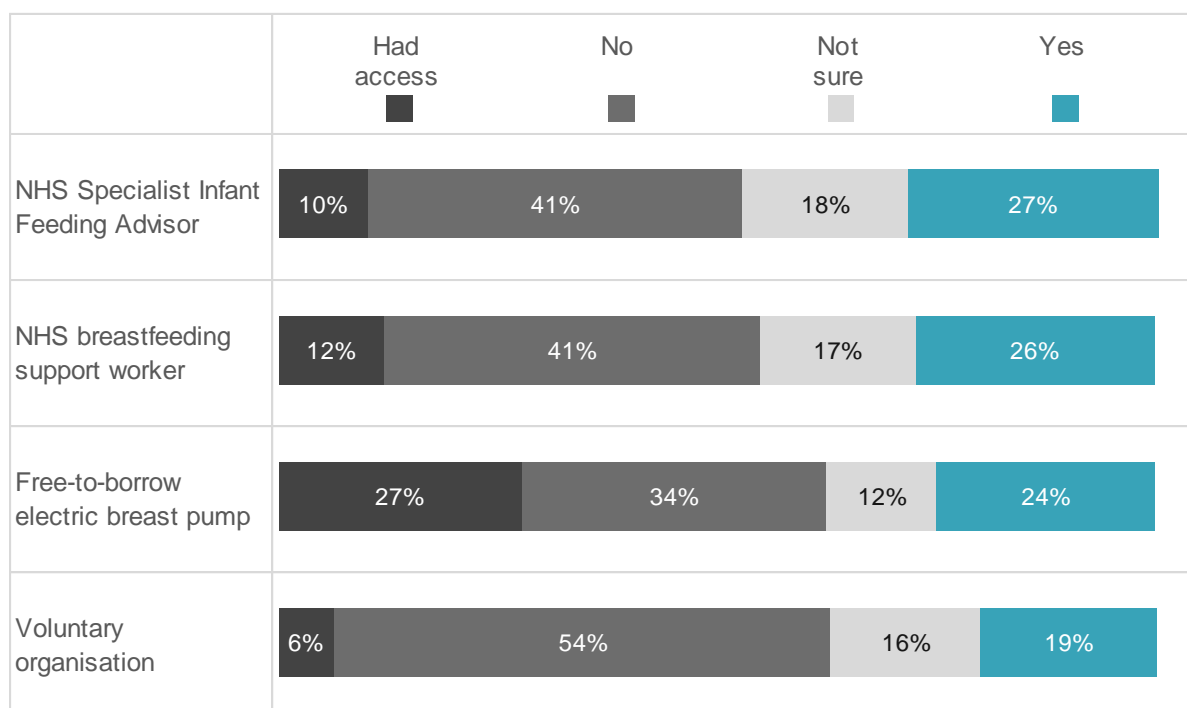
Around a quarter of respondents to the 8-12 week survey who had stopped breastfeeding / expressing milk thought that access to certain types of support would have helped and encouraged them to breastfeed / express milk for longer:

- 27% thought that an NHS Infant Feeding Advisor would have helped (11% definitely; 16% probably).
- 26% thought that an NHS Breastfeeding Support Worker would have helped (11% definitely; 15% probably).
- 24% thought that a free-to-borrow electric breast pump would have helped (13% definitely; 11% probably).
- 19% thought that access to a voluntary organisation would have helped (7% definitely; 12% probably).

[Figure 5.20; Table 5.21]

Around a quarter of respondents indicated that access to certain types of support would have helped and encouraged them to breastfeed / express milk for longer.

Figure 5.20: Would access to any of the following have helped and encouraged you to breastfeed / express for longer? (Percentage of respondents who selected each response. Respondents who gave breast milk, but who have now stopped).



Source: Q46, 8-12 Week Survey



5.7 Breast fed infants who were also given formula milk

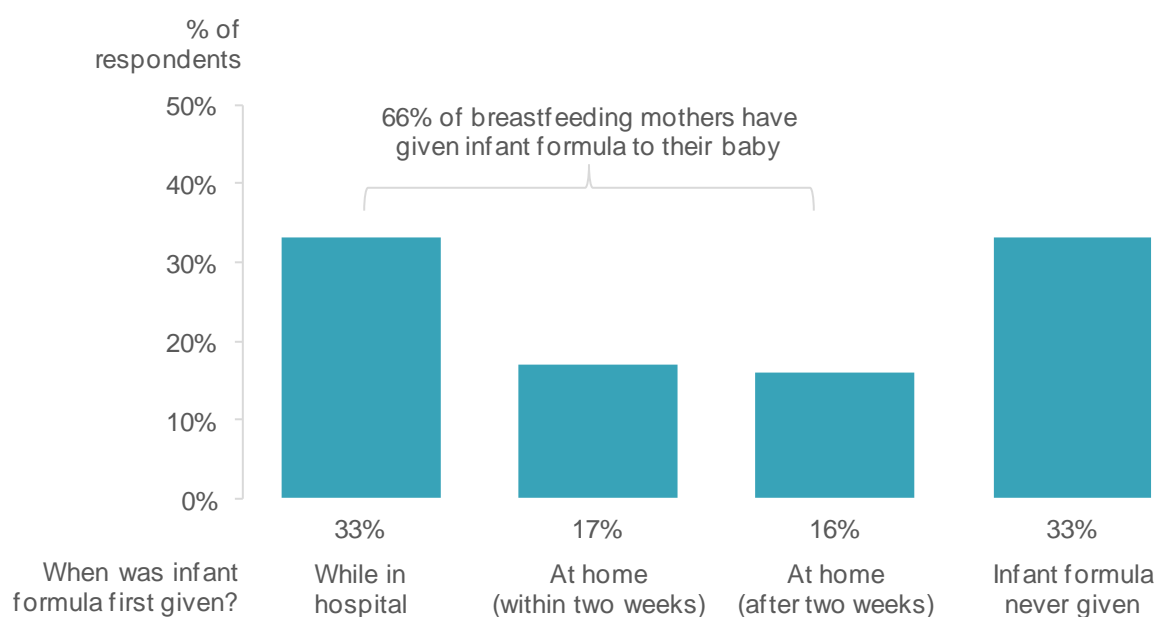
Respondents to the 8-12 week survey who had ever given breast milk were asked whether they had ever given their baby any infant formula. Overall, two-thirds of these respondents (66%) reported that they had given some formula milk to their baby:

- 33% had first given infant formula when they were still in hospital (or if a home birth, within the first 48 hours).
- 17% had first given infant formula at home within two weeks of the birth.
- 16% had first given formula at home more than two weeks after the birth.

[Figure 5.20; Table 5.22]

Two-thirds of respondents who had given breast milk had also given infant formula milk to their new baby.

Figure 5.20: Has your baby ever been given infant formula milk? / Please indicate when you baby was first given infant formula milk. (Percentage of respondents who selected each response. Respondents who gave breast milk).



Source: Q41, Q40, 8-12 Week Survey



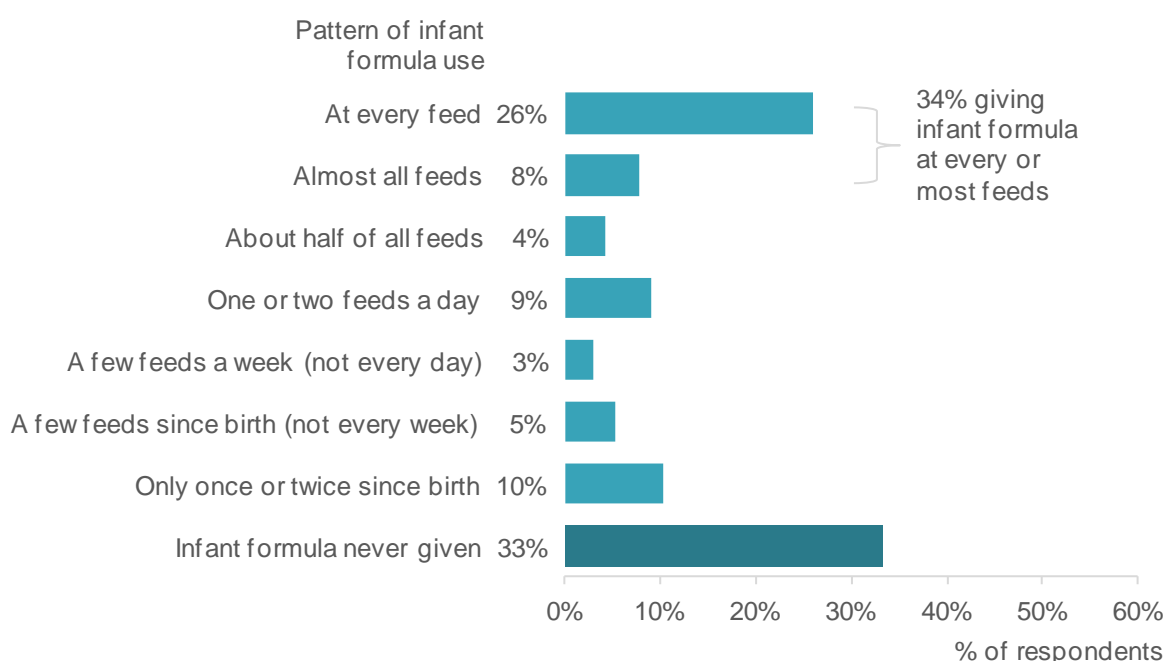
Frequency of infant formula use

Respondents who had given breast milk were asked how often their baby had been given infant formula. If their pattern of usage had varied, respondents were asked to indicate their current situation. Around a third (34%) reported that their babies were being fed infant formula at every feed or almost all feeds, however in 10% of cases formula had only been given once or twice since birth.

[Figure 5.21; Table 5.23]

A third of respondents who had given breast milk were giving formula at every feed or almost all feeds.

Figure 5.21: How often has your baby been fed infant formula? (Percentage of respondents who selected each response. Respondents who gave breast milk).



Source: Q43, Q40, 8-12 Week Survey

Reasons for giving infant formula

Reasons for introducing infant formula varied according to when it was first given.

- Respondents who introduced formula while in hospital frequently did so because of breastfeeding problems (49%), because a health professional had advised them to (36%), or because they were anxious about how much milk their baby was getting and decided to give a formula supplement (31%). Other reasons not listed in the survey, but specifically mentioned by respondents, were the baby being premature or in special care (5%), the mother or baby being unwell (3%) or the baby having hypoglycaemia (3%).



- Amongst those who introduced formula within the first two weeks at home, reasons relating to breastfeeding problems rose to 61%. Anxiety about how much milk the baby was getting was also reported by 44% of these respondents. Thirty-four percent (34%) said that they had introduced formula on the advice of a health professional at this stage.
- The most common reasons for introducing formula after two weeks were to make breastfeeding more manageable (33%) and because it allowed the respondent's partner to be involved (31%). However, breastfeeding problems (28%) and anxiety about the how much milk the baby was getting (23%) were still mentioned by many respondents at this stage. A variety of other reasons not listed in the survey, such as the mother or baby being unwell (4%), were also mentioned at this stage.

[Figure 5.22; Table 5.24]

Reasons for introducing infant formula varied depending on when it was first given.

Figure 5.22: What were the reasons you decided to give infant formula? (Percentage of respondents who selected each reason, by when infant formula was first given. Respondents who gave breast milk and who also gave infant formula. Most common reasons **highlighted**).

Reason(s) for introducing infant formula (Tick all that apply)	When was infant formula first given?		
	In hospital	At home (within 2 weeks)	At home (after 2 weeks)
I had problems breastfeeding	49%	61%	28%
A health professional advised me	36%	34%	11%
Anxious about how much milk baby getting	31%	44%	23%
I always intended to mix feed	21%	17%	17%
Previous experience with other baby	14%	15%	14%
It allowed my partner to be involved	13%	22%	31%
To make breastfeeding more manageable	12%	18%	33%
To help my baby to sleep longer	7%	10%	16%
Partner / friend / relative advised me	6%	10%	10%
Attending social event	2%	3%	16%
Other reason	18%	5%	19%

Source: Q42, 8-12 Week Survey



5.8 Breastfeeding in public and in the home

Sixty-eight percent (68%) of respondents to the 8-12 month survey, who had ever given breast milk to their new baby, had breastfed in a public place – i.e. somewhere other than the hospital where they gave birth or in their own home.

[Table 5.25]

Amongst all mothers who had given breast milk to their new baby, nearly a quarter (23%) indicated that they had been made to feel uncomfortable when breastfeeding their baby. One in ten (10%) had been made to feel uncomfortable in someone else's home or in a café or restaurant; 6% said that they had been made to feel uncomfortable in their own home.

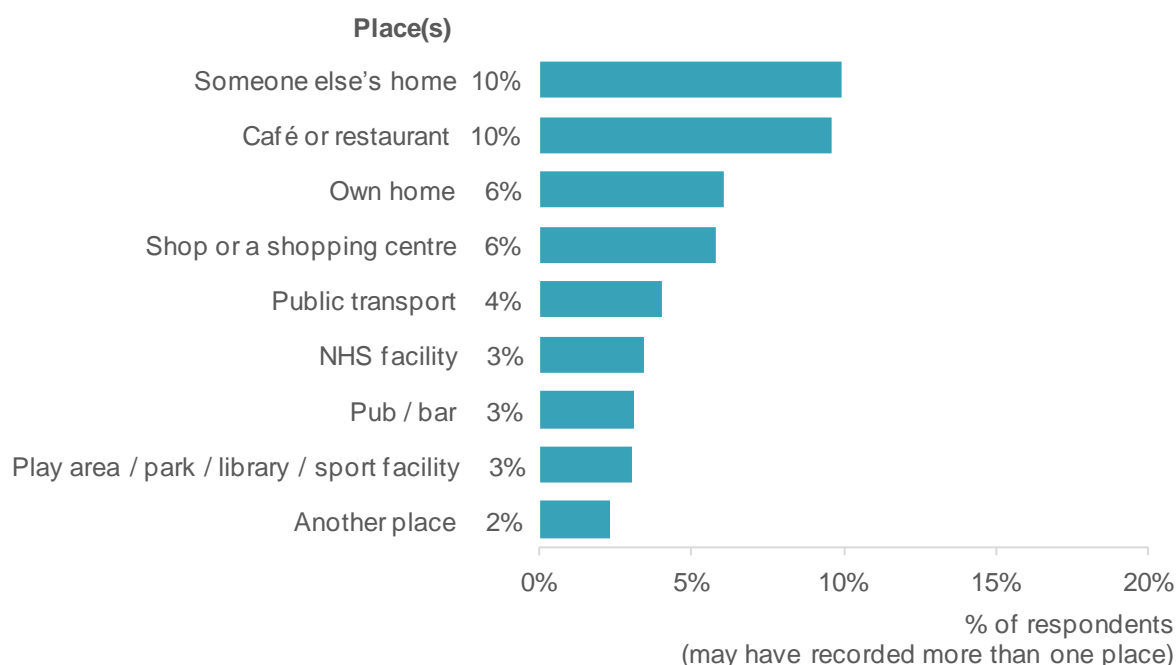
Three percent (3%) of respondents said that they had been made uncomfortable in a NHS facility such as a hospital, clinic or GP surgery.

Note that many respondents had not breastfed in some places listed in the survey.

[Figure 5.23; Table 5.26a]

One in ten respondents had been made to feel uncomfortable when breastfeeding their baby in someone else's home or in a café or restaurant.

Figure 5.23: Have you ever been made to feel uncomfortable when breastfeeding your baby in any of the following places? (Percentage of respondents who indicated that they had been made to feel uncomfortable in each place. Respondents who gave breast milk).



Source: Q32, 8-12 Month Survey



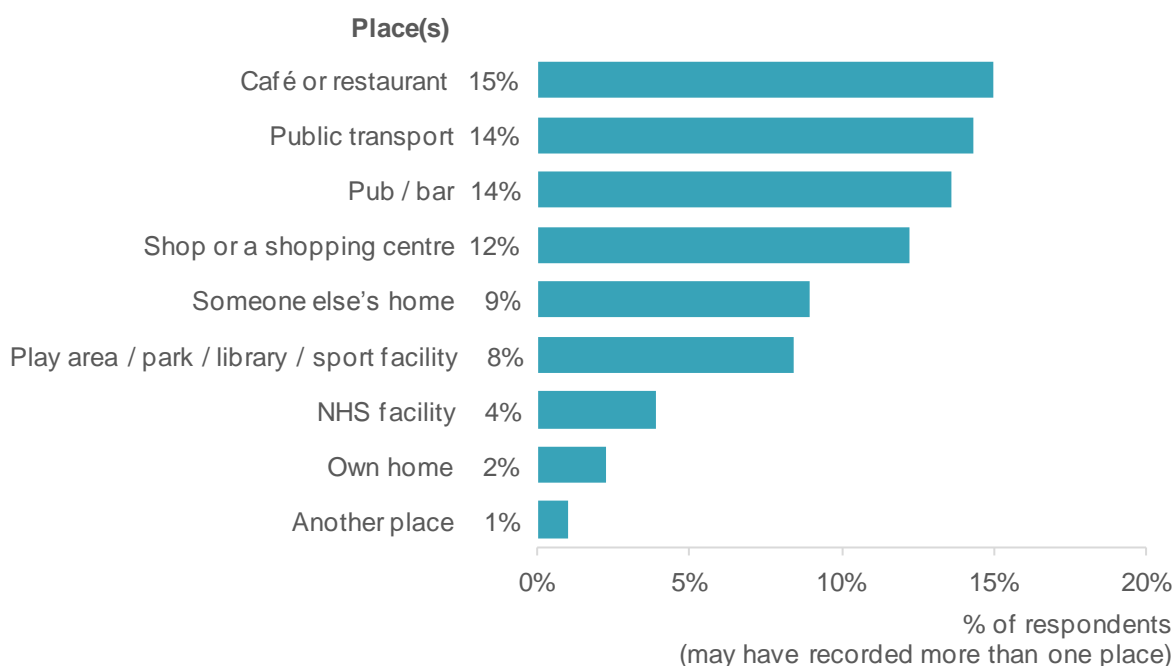
More than a quarter (27%) of respondents had sometimes decided not to breastfeed their baby in a certain place because they thought they would be made to feel uncomfortable.

The most common places where respondents had decided not to breastfeed were in a cafe / restaurant (15%), on public transport (14%), in a pub / bar (14%), or in a shop / shopping centre (12%).

[Figure 5.24; Table 5.26b]

Respondents sometimes decided not to breastfeed their baby in a certain place because they thought they would be made to feel uncomfortable.

Figure 5.24: Have you ever decided not to breastfeed your baby in any of the following places because you thought you would be made to feel uncomfortable? (Percentage of respondents who indicated that they had decided not to breastfeed in each place. Respondents who gave breast milk).



Source: Q33, 8-12 Month Survey



Scotland is one of the few countries in the world to have legislation protecting the right to feed (Breastfeeding etc (Scotland) Act 2005).³⁰ Under this legislation, it has been illegal to prevent a child under two years of age being fed milk (breast or formula) in a public place in Scotland, providing the child is lawfully permitted to be in that place. Despite this, 3% of respondents reported that they had been asked either not to breastfeed, or to stop breastfeeding, in a certain place (67 respondents (unweighted)). This included:

- 18 cases in someone else's home.*
- 16 cases in a café or restaurant.
- 14 cases on public transport.
- 12 cases around a children's' play area / park / library / sport facility.
- 11 cases in a shop or a shopping centre.

Other cases were mentioned in a NHS facility (8), a pub / bar (7), and in the respondent's own home (7)*. Eleven cases were reported in other locations not listed in the survey.

[Table 5.26c]

* Not cover by Scottish legislation (Breastfeeding etc (Scotland) Act 2005).



6 Infant Nutrition: Formula Feeding

Where a mother chooses not to breastfeed, or to combine breastfeeding with formula feeding, infant formula milk (often labelled “first milk”) should be used until the baby is 12 months old. Guidance regarding the safe preparation, storage and handling of infant formula should always be followed.

Most formula milk is processed and powdered cows’ milk which has been treated to make it suitable for infants. There are also some specialist formulations based on other types of milk which may be used in certain circumstances or on medical or dietetic advice.^{11, 23}

Formula sold in the UK must comply with regulations based on a 2006 EU directive. These regulations specify rules on the compositional labelling and advertising of infant formula and follow-on formula.³¹

This section of the report presents information on the use of formula milks, as reported by respondents to the two postnatal surveys.



6.1 Use of infant formula

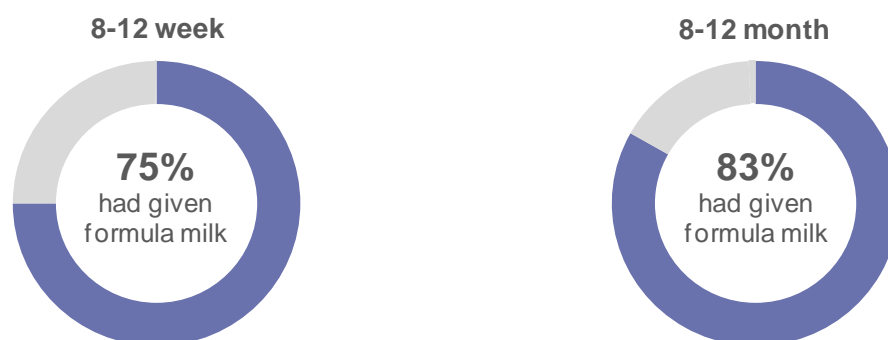
Three-quarters of respondents to the 8-12 week survey (75%) reported that their baby had been given infant formula milk at some stage. The remaining quarter (25%) indicated that their baby had never been given any formula. Twenty-five percent (25%) said that their baby had never been given any breast milk and thus had been fully formula fed since birth.

Amongst respondents to the 8-12 month survey, 83% reported that their baby had been given formula milk; 32% stated that their baby had been “fully formula fed from birth” and 52% reported giving “some formula milk”. Sixteen percent (16%) of respondents said that their baby had never been given any formula milk.

[Figure 6.1; Table 6.1a & 6.1b]

The majority of respondents had given their infant some formula milk.

Figure 6.1: Has your baby ever been given formula milk? (Percentage of respondents who indicated that their baby had been given formula milk at some stage).



Source: Q40, 8-12 Week Survey
Q35, 8-12 Month Survey

However, the results for the 8-12 month survey should be treated with caution. Some respondents who had given breast milk said that their baby had been “fully formula fed from birth”, while some respondents who had not given any breast milk said that their infant had been given “some formula”.*

Given that 24% of 8-12 month survey respondents stated that their baby had never been given any breast milk, it may be more accurate to say that 24% of respondents had infants who had been fully formula fed since birth.

* It is thought that some respondents were unclear about which response option best described their situation. For example, it is likely that some respondents who mix fed their baby (e.g. gave breast and formula milk) said that their baby had been “fully formula fed from birth”.



6.2 Making-up infant formula feeds

Guidelines are available for the use of formula milk to ensure that it is prepared properly and safely.^{11, 23} Formula powder is not sterile and, although rare, may contain bacteria that can cause infections and make an infant seriously ill. Current advice for making up powdered infant formula milk is as follows:

- Bottles should be made up freshly, one at a time, and any leftover formula should be thrown away.
- Feeds should be made using cooled boiled water that is still hotter than 70°C. In practice, this means filling the kettle with a litre of water (water that has not been boiled before), boiling and leaving to cool for no longer than 30 minutes.
- When access to freshly boiled water is difficult (e.g. when outside the home), it is recommended that a vacuum flask of hot water is used to make up the feed as required.
- Water should be added to the bottle before the milk powder.

Manufacturer's instructions for making up formula milk should always be followed.

Making up feeds

All respondents to the 8-12 week survey who indicated that they had used infant formula, either exclusively or in combination with breast milk, were asked about how they usually made-up feeds.

- 9% said that they only ever used ready to feed formula.
- In line with guidance for powdered formula, the majority of respondents (71%) indicated that they only made one feed at a time. However, one in ten (11%) reported making several feeds at a time.
- The remaining 9% of respondents did not specify how they usually made up formula feeds; these were primarily mothers who said that their infant had been given formula only once or twice, or a few times (see Figure 5.21 above)

[Figure 6.2; Table 6.2a]

Respondents, who indicated that they made either one or several feeds at a time, were asked for further details:

- The majority (82%) followed current guidance and used water that was either just boiled or that had been boiled and left to cool for 30 minutes or less. Around one in ten respondents (9%) used water that had been left to cool for more than 30 minutes, while a small percentage (1%) used water that had not been boiled at all.*

* 8% of respondents did not specify if boiled water had been used or how long it had been left to cool; however, several of these respondents spontaneously indicated on their questionnaire that they used a bottle preparation machine rather than a kettle. This may explain why these respondents did not answer this question.

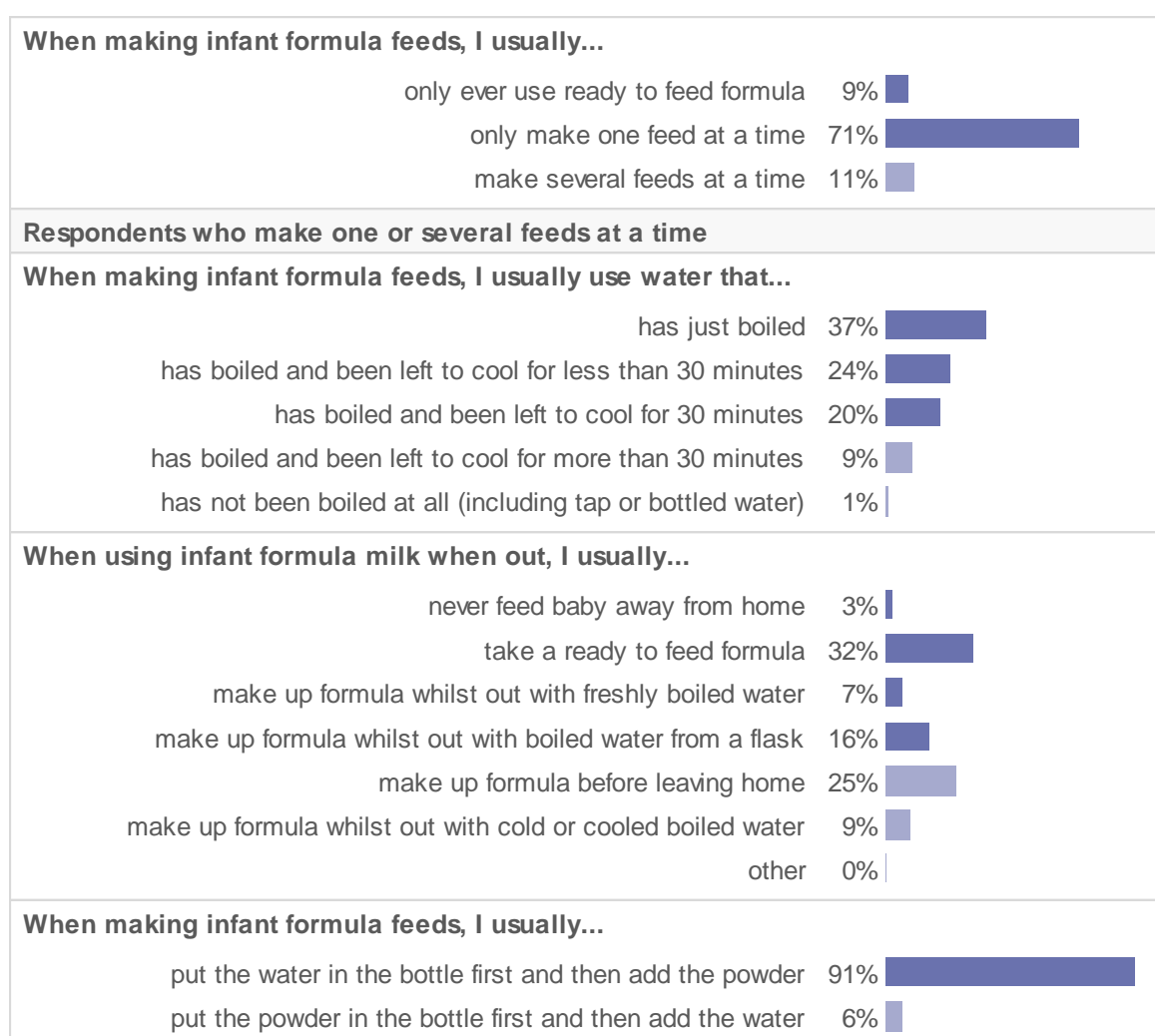


- When feeding away from home, 32% of respondents said that they used ready to feed formula. Twenty-three percent (23%) used freshly boiled water or boiled water from a flask (in line with current guidance). A quarter of respondents (25%) made up a bottle before leaving home, while 9% used cold water or cooled boiled water.
- When making infant formula, the majority of respondents (91%) reported that they put the water in the bottle first and then added the powder.

[Figure 6.2; Table 6.2b]

The majority of respondents followed current guidelines for making-up infant formula, but some did not.

Figure 6.2: Making up infant formula feeds (Percentage of respondents who selected each response to each question. Respondents who had given infant formula).



Source: Q47 - Q50, 8-12 Week Survey



6.3 Methods of cleaning and sterilising bottles and teats*

Current guidance states that all feeding equipment for infants should be cleaned and sterilised to protect against infection. Equipment should be sterilised until the infant is 12 months old.^{11, 23}

Equipment should be thoroughly cleaned using hot soapy water and rinsed under clear running cold water before sterilising. A dishwasher can be used, but equipment must still be sterilised afterwards.

Recommended methods for sterilising are cold water sterilising (in a sterilising solution), steam sterilising (electric or microwave) or boil sterilising (boiling water).

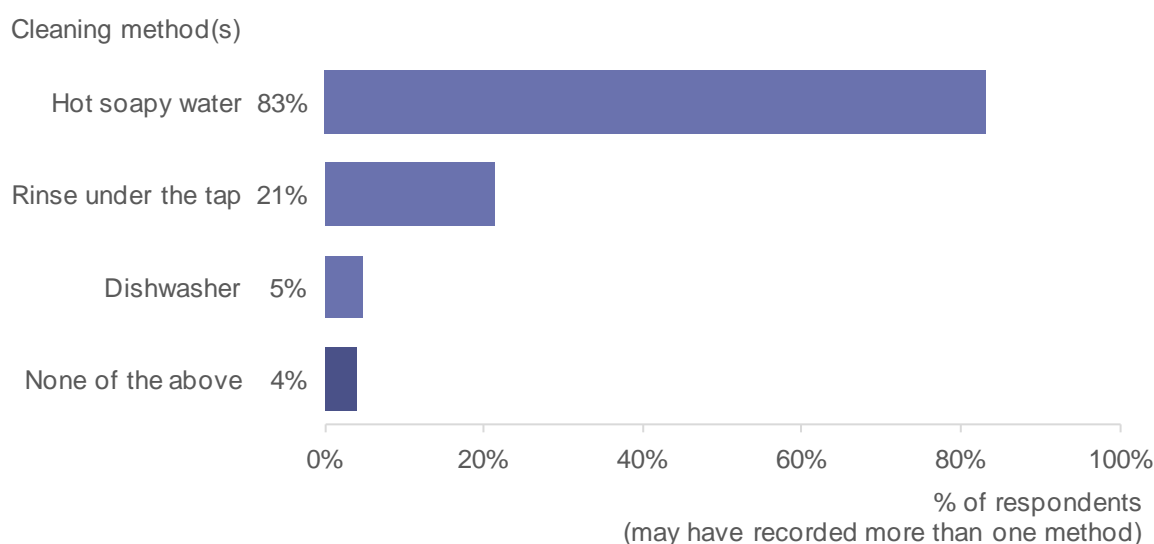
Cleaning bottles and teats

The majority of 8-12 week survey respondents (83%) reported that they used hot soapy water to clean their baby's bottles and teats. Twenty-one percent (21%) indicated that they rinsed bottles and teats under the tap. Only 5% of respondents reported using a dishwasher. Eight percent (8%) of respondents did not specify a cleaning method.

[Figure 6.3; Table 6.3]

Most respondents used hot soapy water to clean their infant's bottles and teats.

Figure 6.3: What method(s) do you usually use to clean bottles and teats? (Percentage of respondents who selected each method. Respondents who had given infant formula).



Source: Q51, 8-12 Week Survey

* Note that the questions in this survey about cleaning and sterilising were only asked in relation to formula feeding, not in relation to expressed breast milk.



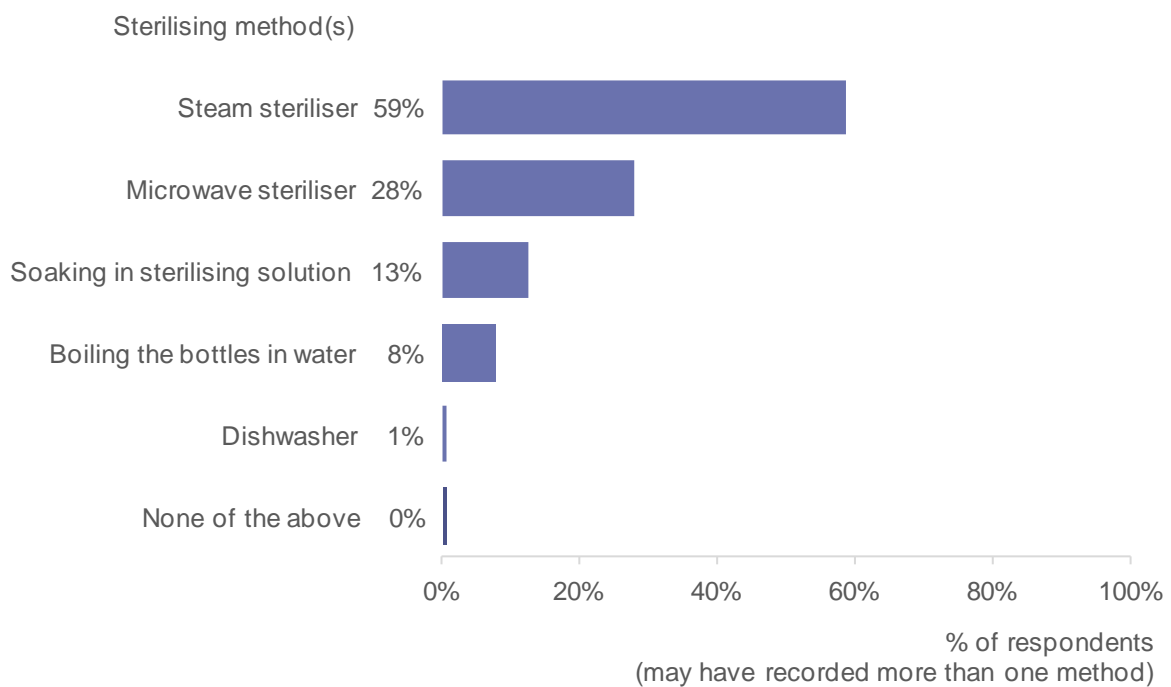
Sterilising bottles and teats

The most popular method of sterilising bottles and teats was with a steam steriliser (59%). Microwave sterilisers were also used frequently (28%). Only 13% of respondents reported using sterilising solution and 8% indicated that they boiled the bottles in water. Seven percent (7%) of respondents did not specify which method of sterilisation they used.

[Figure 6.4; Table 6.4]

Most respondents used a steam steriliser to sterilise their infant's bottles and teats.

Figure 6.4: What method(s) do you usually use to sterilise bottles and teats? (Percentage of respondents who selected each method. Respondents who had given infant formula).



Source: Q52, 8-12 Week Survey



6.4 Types of formula and other types of milk given

Where a mother chooses to formula feed, current guidance is that infant formula milk should be used until the baby is 12 months old.^{11, 23}

- Infant formula milk (or first stage formula) is suitable for use from birth. After 12 months a baby can begin drinking full fat cows' milk.
- Second stage milk / follow-on milk is not suitable for babies who are younger than six months old. While infants over six months of age can be given second / follow-on milk, there is currently no recommendation for families to switch to this type of formula.

Other specialised formula types may be recommended based on medical or dietetic advice.

8-12 week survey: types of formula milk given in the last seven days

- Amongst respondents to the 8-12 week survey who had ever given their baby formula milk, the majority of mothers reported that their baby had been given infant formula in the last seven days (82%). Two percent (2%) reported that their baby had been given second milk or a follow-on formula.
- Four percent (4%) of respondents reported that they had given their baby another type of milk in the last seven days. This included specialist milks that can be bought over the counter (e.g. anti-reflux milk) and milks that may be prescribed by a doctor (e.g. milks suitable for babies with a cows' milk allergy).
- Fourteen percent (14%) of respondents did not specify which types of formula milk had been given in the last seven days; these were primarily mothers who said that their infant had been given formula only once or twice, or a few times (see Figure 5.21 above).

[Table 6.5]

8-12 month survey: types of formula milk ever given

- Respondents to the 8-12 month survey who had given their baby formula milk, were asked what types of formula milk their baby had ever received. Nearly all respondents (92%) reported that their baby had been given infant formula, while 15% had been given second milk and 13% a follow-on formula.
- Seven percent (7%) of respondents reported that they had given their baby another type of formula milk. Again, this included specialist milks available over the counter and milks that are medically prescribed.
- Only 1% of respondents said that their baby had been given a soya infant formula.

[Table 6.6]



6.5 Use of second milk / follow-on formula

Postnatal survey respondents who had given any type of formula milk to their baby were asked if their infant had ever been given second milk or a follow-on formula.

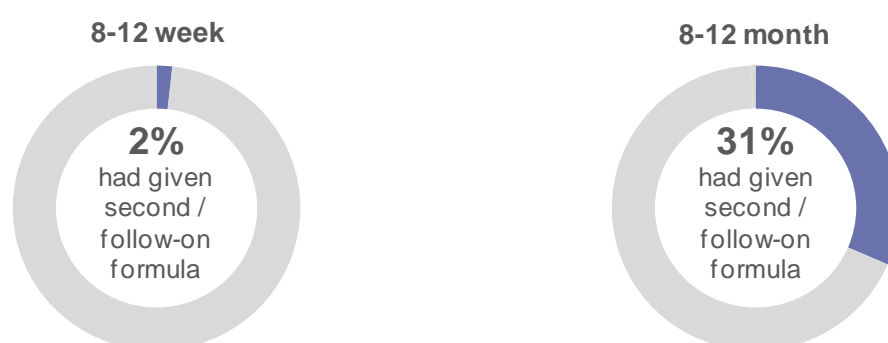
Amongst respondents who had ever given formula: *

- Only 2% in the 8-12 week survey reported that their baby had been given second milk or a follow-on formula.
- 31% in the 8-12 month survey reported that their baby had been given second milk or a follow-on formula.

[Figure 6.5; Table 6.7a & 6.7b]

Amongst 8-12 month survey respondents who had ever given their infant any type of formula milk, nearly a third reported that their baby had been given second milk or follow-on formula.

Figure 6.5: Has your baby ever been given a second milk or follow-on formula milk? (Percentage of respondents who indicated that a second milk / follow-on formula had been given. Respondents who had given infant formula).



Source: Q54, 8-12 Week Survey
Q37, 8-12 Month Survey

Amongst the small number of 8-12 week survey respondents who reported that their baby had been given second / follow-on milk, nearly half (47%) indicated that this was on the advice of a health care professional. It is thought that some respondents may have been unsure of the differences between the various types of formula.

* Note that respondents were not always consistent when answering questions about the use of second / follow-on formula milk. Throughout the rest of section 6.5, responses to Q54 from the 8-12 week survey and Q37 from the 8-12 month survey have been used. Therefore results in this section vary slightly from those presented in section 6.4 above.

It is thought that some respondent may have been unsure of the differences between infant formula and some other types of formula and this may have lead to inconsistencies in response.



8-12 month survey: use of second milk / follow-on formula

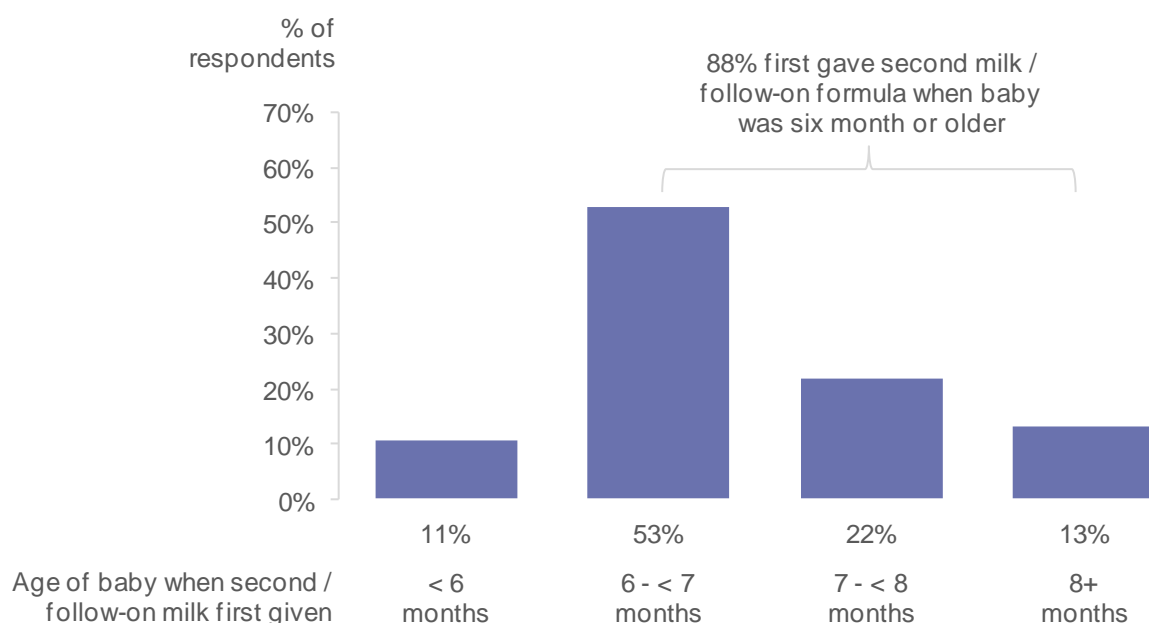
The majority of respondents to the 8-12 month survey, who had given their baby second milk or follow-on formula, reported that their infant had been at least six months old when it was first given (88%). However, 11% of these respondents indicated that it had been given before six months.

Again, it is thought that some respondents may have been unsure of the differences between the various types of formula.

[Figure 6.6; Table 6.8]

The majority of 8-12 month survey respondents who had given their infant second milk / follow-on formula waited until their baby was at least six months old.

Figure 6.6: How old was your baby when he/she was first given second milk or follow-on formula? (Percentage of respondents who recorded each age. Respondents who had given second milk / follow-on formula).



Source: Q38, 8-12 Month Survey



8-12 month survey: reasons for giving second milk / follow-on formula

Overall, the most common reason reported for giving second milk or follow-on formula was the belief that it would be better for the baby / contained more nutrition (48%). Previous experience with another baby was another frequently given reason (20%).

Amongst respondents who had introduced second milk or follow-on formula before their baby was six months old, 26% indicated that they had done so because their baby was waking up during the night. Advice from a health care professional (23%) was also a frequently reported reason given by group of respondents.

[Figure 6.7; Table 6.9]

Nearly half of respondents who had given second milk or follow-on formula had done so because they thought it would be better for the baby.

Figure 6.7: What were the reasons you decided to give second milk / follow-on formula to your baby? (Percentage of respondents who selected each reason, by age of baby when first given. Respondents who had given second milk / follow-on formula. Most common reasons highlighted).

Reason(s) for introducing second milk / follow-on formula (Tick all that apply)	Age when second milk / follow-on formula was introduced		
	All respondents	< 6 months	6+ months
Believed it would be better for baby	48%	44%	49%
Previous experience with other baby	20%	23%	20%
Read leaflets / info that advised me	16%	2%	17%
A health care professional advised me	14%	23%	12%
Baby waking up during the night	13%	26%	11%
Partner / friend / relative advised me	10%	8%	10%
Baby not gaining enough weight	2%	7%	1%
Saw different type of advert (magazine etc.)	2%	0%	2%
Saw a TV advert	2%	0%	2%
Other reason	12%	10%	12%

Source: Q39, Q38, 8-12 Month Survey



7 Infant Nutrition: Complementary Foods

The gradual introduction of a variety of complementary foods* to an infant's diet, alongside usual milk feeds (breast or formula), is commonly referred to as “weaning”. However, SACN's recent draft report on “Feeding in the First Year of Life” indicates that the purpose of introducing complementary foods is to “diversify the diet whilst breastfeeding continues during the early year of life, not to “wean” the infant from the breast”.⁵

Scottish Government policy recommends that complementary foods should be introduced to infants around six months of age. This is based on WHO guidance that has been in place since 2003.³²

For the first six months of life, an infant's nutritional needs can be met by breast milk or infant formula; from six months onwards an infant gradually needs more nutrients than milk alone can provide.^{1,24} Around the age of six months, parents are advised to look for signs that their infant is developmentally ready to begin eating complementary foods.²⁴

It is recognised that some infants may be introduced to complementary foods earlier than six months for a variety of reasons. However, current advice states that this should never happen before an infant is four months old (17 weeks).^{5, 24, 32, 33}

It is recommended that the quantity and variety of complementary foods are gradually increased, so that by the time an infant is a year old, food rather than milk forms the main part of his/her diet.^{1, 24}

It is also recommended that an assortment of tastes and textures should be introduced to help promote the acceptance of a wide range of foods and ensure a balanced diet. Infants should progress from soft finger and mashed foods to lumpy and then minced foods.^{1, 5,, 24, 34}

Creating the right environment to encourage good nutritional habits, together with the social aspects of feeding, are important when introducing complementary foods,²⁴ however these topics were not covered in this survey.

This section of the report provides information on the introduction of complementary foods, as reported by mothers who responded to the 8-12 month postnatal survey. The vast majority of respondents to this survey (95%) had infants aged between eight and ten months. Please note that the terms “complementary foods” and “solid foods” are used interchangeably throughout this report.

* Complementary foods are often called solid foods, even when the food has been mashed, pureed or cut into slices.



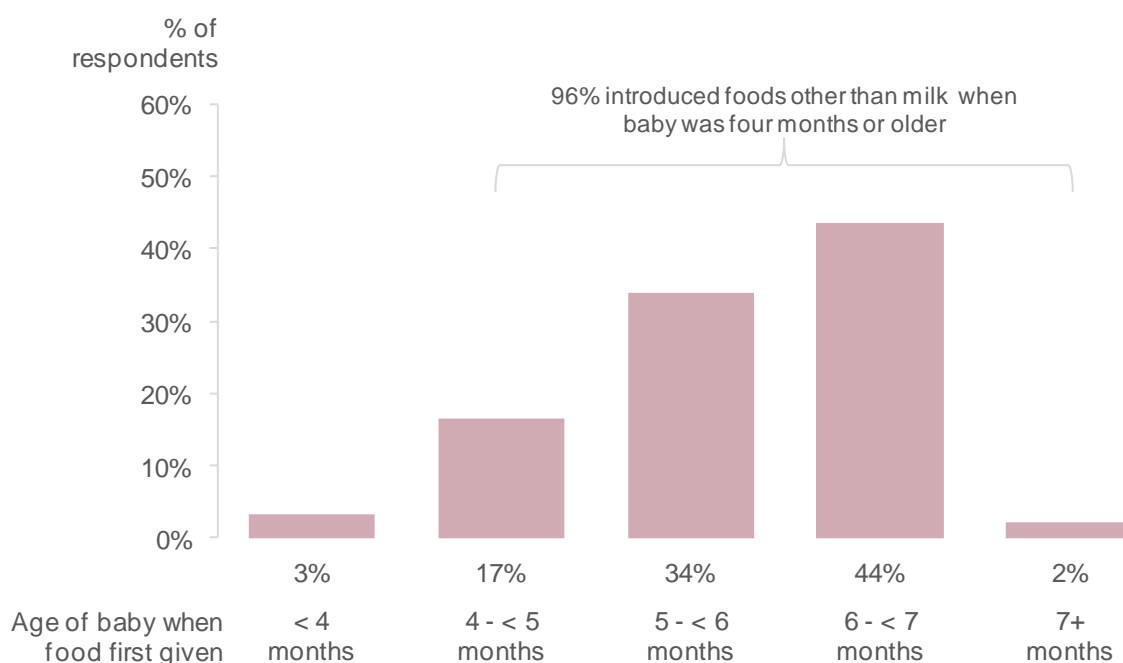
7.1 Introducing complementary foods

Almost all mothers who responded to the 8-12 month survey indicated that their baby had been given foods other than milk (99.9%). The vast majority of these respondents (96%) waited until their infant was at least four months old before introducing complementary foods, with 46% waiting until six months or later. Only 3% of respondents reported introducing solid foods before their baby was four months old.

[Figure 7.1; Table 7.1 & 7.2]

The vast majority of infants were at least four months old when complementary foods were first introduced.

Figure 7.1: How old was your baby when he/she first had any food apart from milk? (Percentage of respondents who recorded each age. Respondents who had introduced complementary foods).



Source: Q5, 8-12 Month Survey

The 2010 UK-wide Infant Feeding Survey (IFS) showed a shift towards the later introduction of complementary foods.⁷ Due to small differences in the way this question was asked and reported on in the IFS and in this survey, it is not possible to present a direct comparison of results for the two surveys. However, it is clear that the trend highlighted in the IFS has continued since 2010.

In the 2010 survey, 32% of mothers in Scotland had already introduced solid foods by the time their baby was four months old (17 weeks), rising to 74% by the time babies were five months old (22 weeks).



Breastfeeding / expressing status

In general, infants who had never been given breast milk were introduced to complementary foods earlier than infants who had received breast milk. Seven percent (7%) of respondents who had never given their baby breast milk introduced solid foods before four months. The equivalent figure for mothers who had given their baby breast milk was 2%.

Almost half of respondents (49%) who had given breast milk waited until their baby was at least six months old before introducing complementary foods. By comparison, only 37% of mothers who did not give breast milk waited until this time.

[Table 7.3]

However, the timing of the introduction of complementary foods varied amongst infants who had been given breast milk. Overall, infants who had been given breast milk for less than six months were introduced to solid foods earlier than those who had been given breast milk for six months or more. Only 39% of infants who had been given breast milk for less than six months were introduced to complementary foods after they were six months old. The equivalent figure for babies who had been given breast milk for six months or more was 56%.

[Figure 7.2; Table 7.4]

Infants who were last given breast milk when they were six months or older were introduced to complementary foods later than other infants.

Figure 7.2: How old was your baby when he/she first had any food apart from milk? (Percentage of respondents who recorded each age, by age of baby when last given breast milk. Respondents who had introduced complementary foods).

Age of baby when food first given	Age of baby when breast milk last given	
	No breast milk given	Last breast milk < 4 months
< 4 months	7%	5%
4 - < 5 months	24%	21%
5 - < 6 months	32%	35%
6 - < 7 months	36%	37%
7+ months	1%	3%
	Last breast milk 4 - < 6 months	Last breast milk 6+ months
< 4 months	2%	0%
4 - < 5 months	18%	9%
5 - < 6 months	39%	34%
6 - < 7 months	37%	53%
7+ months	4%	2%

Source: Q5, Q28, 8-12 Month Survey



Age of respondent

Overall, infants with younger mothers were introduced to complementary foods earlier than those with older mothers:

- While 8% of respondents aged 20-24 introduced solid foods before four months, only 1% of those aged 35 or over did so.
- 38% of mothers aged 20-24 waited until their baby was at least six months old before introducing solid foods, compared to 53% of respondents aged 35 or over.
- No results are presented for respondents aged 19 or under; there were too few respondents in this age group to produce meaningful results.

[Table C1: 8-12 Months – Results by Age of Respondent]

Deprivation

There was also an association between deprivation and the age at which complementary foods were introduced to infants. However, the differences between respondents who lived in the least / most deprived areas were less pronounced than those that were observed between younger / older mothers:

- Respondents who lived in the most deprived areas were more likely to introduce solid foods before four months (SIMD1: 5%) than those who lived in the least deprived areas (SIMD 5: 2%).
- 44% of respondents who lived in the most deprived areas (SIMD 1) waited until their baby was at least six months old, compared to 50% in the least deprived areas (SIMD 5).

[Table C2: 8-12 Months – Results by SIMD]

NHS board of Residence

There was some variation in the timing of the introduction of complementary foods depending on the respondent's NHS board of residence.

In NHS Greater Glasgow and Clyde, 52% of respondents waited until at least six months before introducing solid foods to their baby and very few reported giving solids before four months (1%). However, in NHS Ayrshire and Arran, only 39% waited until at least six months and 9% of mothers indicated that their baby had been given solid foods before four months.

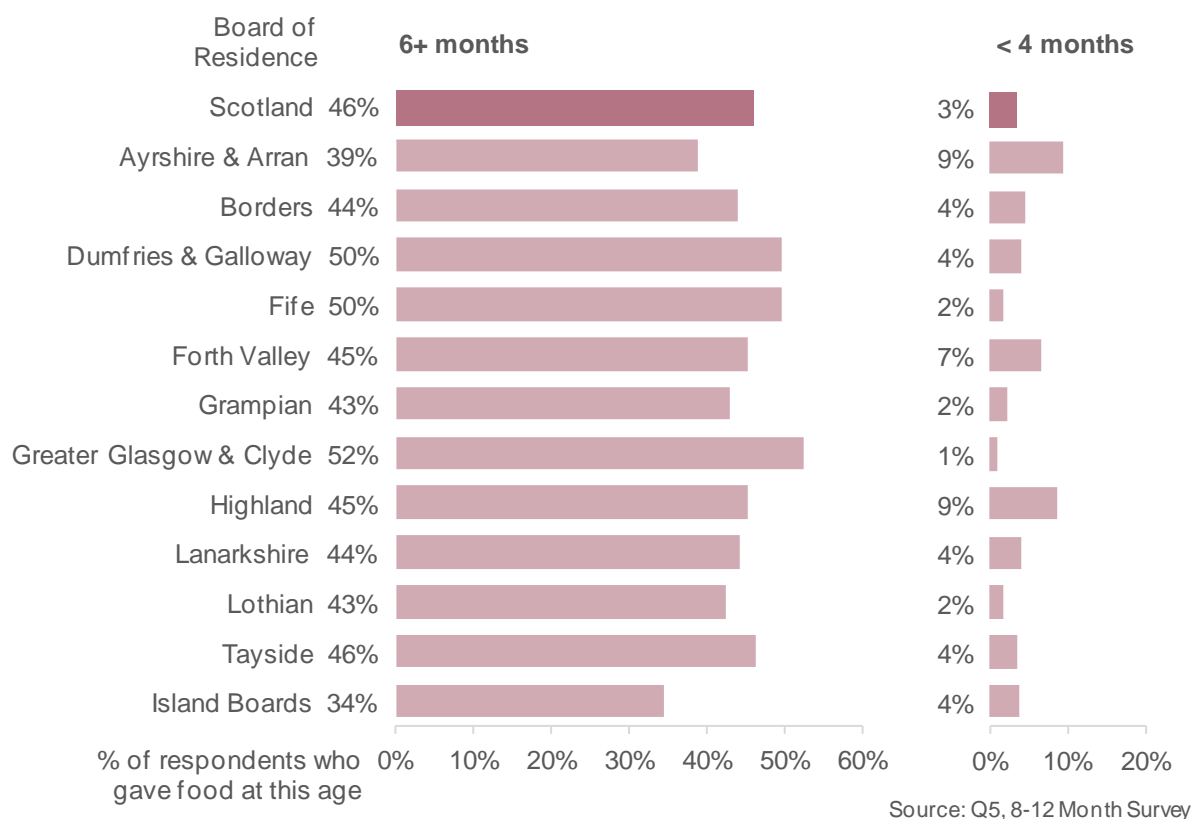
There may be a variety of reasons for differences amongst geographical areas and care should be taken when comparing board results. For example, some areas have higher numbers of young mothers and some boards contain fewer areas of deprivation than others. There may also be differences in local practices within Health Visitor and Primary Care teams regarding support for infant feeding, and varying local initiatives.

[Figure 7.3; Table C3: 8-12 Months – Results by Board]



Infants who live in some NHS boards are given complementary foods earlier than those who live in others.

Figure 7.3: How old was your baby when he/she first had any food apart from milk? (Percentage of respondents who recorded six months or more / less than four months, by NHS board of residence. Respondents who had introduced complementary foods).



7.2 Reasons for introducing complementary foods

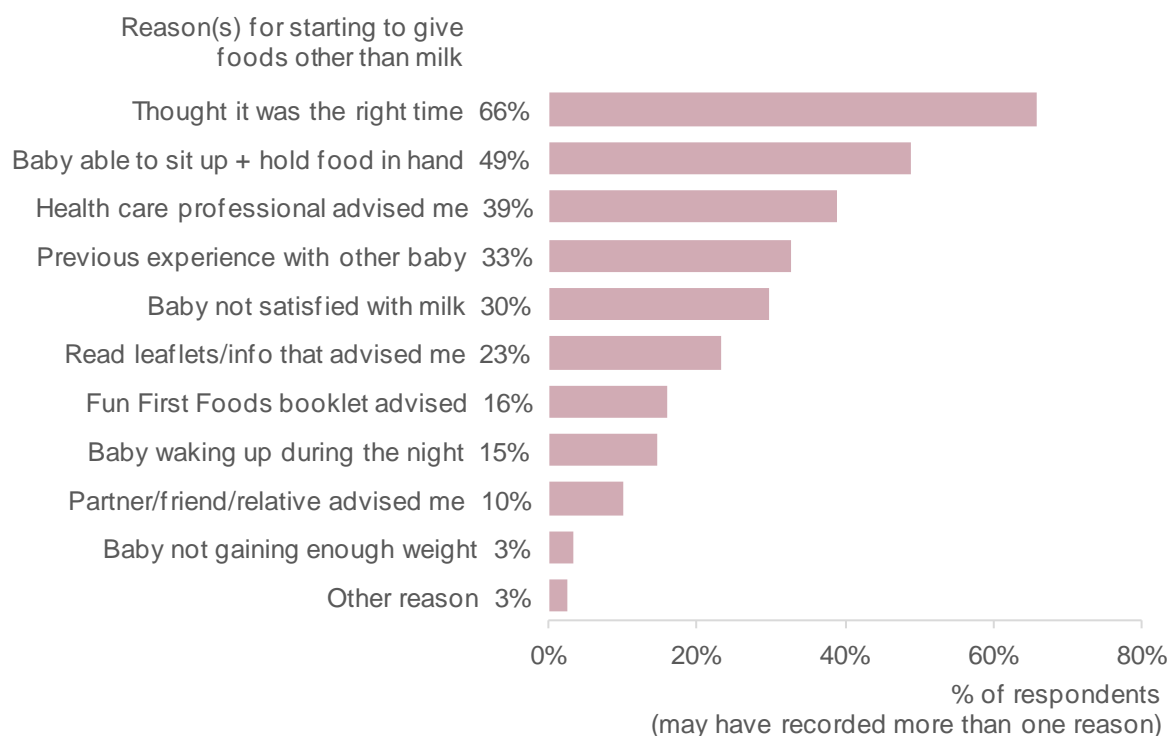
Mothers chose to introduce complementary foods to their infants, at the time that they did, for a variety of reasons. The most common reason given by survey respondents was that they “thought that it was the right time” for their baby (66%). Other frequently given reasons included: their “baby was able to sit up and hold food” (49%); “a health care professional advised” them to (39%); “previous experience with another baby” (33%).

[Figure 7.4; Table 7.5]



Most respondents introduced complementary foods when they thought that it was the “right time” to do so.

Figure 7.4: Why did you decide to start giving your baby foods other than milk at this age? (Percentage of respondents who selected each reason. Respondents who had introduced complementary foods).



Source: Q6, 8-12 Month Survey

In the 2010 UK-wide IFS, the most common reason given by mothers across the UK for introducing solid foods was that their baby was “not satisfied with milk” (52%). This reason was only selected by 30% of respondents in the current survey.⁷ However, it should be noted that respondents to both surveys were asked to select from a pre-determined list of reasons, and the lists presented in each survey varied slightly. This may have affected the way mothers responded to this question in the two surveys.

The reasons given for introducing complementary foods in the current survey varied widely depending on when complementary foods were first introduced:

- Respondents who introduced complementary foods before four months frequently indicated that they did so because their baby was “not satisfied with milk” (70%) or because their baby was “waking up during the night” (26%). These reasons were mentioned progressively less frequently by those who introduced solid foods later.
- Respondents who introduced solid foods earlier were also more likely to indicate that they had been influenced by an “other” reason, not explicitly listed in the questionnaire. Six percent (6%) of mothers who introduced solid foods before five months specifically mentioned “reflux” as a reason.



- Where solid foods were introduced at six months or later, mothers were more likely to indicate that they had been influenced by formal information sources such as a health care professional (59%) or NHS Health Scotland’s Fun First Foods booklet (29%).²⁴ They were also more likely to mention other leaflets and information, including information found on the Internet (41%).

[Figure 7.5; Table 7.5]

Reasons for starting to give complementary foods varied depending on when these foods were first introduced.

Figure 7.5: Why did you decide to start giving your baby foods other than milk at this age? (Percentage of respondents who selected each reason, by age of baby when foods first given. Respondents who had introduced complementary foods. Most common reasons highlighted).

Reason(s) for starting to give foods other than milk (Tick all that apply)	Age of baby when food first given	
	< 4 months	4 - < 5 months
Baby not satisfied with milk	70%	54%
Thought it was the right time	59%	61%
Previous experience with other baby	32%	30%
Baby waking up during the night	26%	23%
Partner/friend/relative advised me	17%	14%
Health care professional advised me	14%	22%
Baby able to sit up + hold food in hand	13%	33%
Fun First Foods booklet advised	5%	3%
Read leaflets/info that advised me	2%	8%
Baby not gaining enough weight	1%	4%
Other reason	8%	7%
	5 - < 6 months	6 + months
Baby not satisfied with milk	36%	14%
Thought it was the right time	73%	63%
Previous experience with other baby	31%	35%
Baby waking up during the night	19%	7%
Partner/friend/relative advised me	11%	8%
Health care professional advised me	22%	59%
Baby able to sit up + hold food in hand	56%	52%
Fun First Foods booklet advised	5%	29%
Read leaflets/info that advised me	9%	41%
Baby not gaining enough weight	4%	2%
Other reason	3%	0%

Source: Q6, Q5, 8-12 Month Survey













7.3 Types of food given

The majority of respondents indicated that they gave breakfast cereal / porridge (70%), whole or pureed fruit (69%), and vegetables, other than potatoes and green leafy vegetables (52%), to their infants every day. These foods along with starchy foods, such as potatoes, rice and pasta, and dairy produce were the key features of the infants' diets in this survey.

[Figure 7.6; Table 7.6]

Breakfast cereal, fruit and vegetables are the foods given to infants most often.

Figure 7.6: How often does your baby have each of the following foods? (Percentage of respondents who selected each frequency. Respondents who had introduced complementary foods).

	Every day	5-6 days / week	2-4 days / week	1 day / week	< 1 day / week	Never
 Commercial baby foods	32%	9%	23%	9%	14%	13%
 Breakfast cereal or porridge	70%	10%	11%	2%	2%	3%
 Any type of potatoes, lentils, beans, sweet potatoes, rice or pasta	40%	29%	24%	3%	1%	1%
 Any type of bread	16%	16%	34%	10%	7%	13%
 Whole or pureed fruit	69%	18%	9%	1%	0%	0%
 Green leafy vegetables	15%	23%	32%	9%	7%	11%
 Any other vegetables (not including potatoes)	52%	24%	17%	2%	1%	1%
 Meat or fish	18%	26%	32%	9%	4%	7%
 Eggs	1%	2%	23%	22%	20%	27%
 Dairy produce such as yoghurt, fromage frais or cheese (not milk)	39%	22%	21%	4%	4%	10%

Source: Q7, Q8, 8-12 Month Survey



- Foods such as meat and fish, green leafy vegetables, and bread were given less frequently, but were still provided several times a week in the majority of cases.
- However, more than one in ten respondents reported never giving any type of bread (13%) or green leafy vegetables (11%) to their babies. Ten percent (10%) reported never giving any dairy produce, such as yogurt or cheese, and 7% never give meat or fish.
- Of the foods specifically listed in the survey, eggs were given least frequently; 47% of respondents indicated that eggs were given less than once a week or never.
- Respondents were also asked to indicate how frequently they gave commercial baby foods to their infants (for example, pouches, snacks, jars, tubs, bars). Forty-one percent (41%) of respondents reported using commercial baby foods five days or more per week. Twenty-seven percent (27%) give commercial baby foods less than once a week or never.

Results from the UK-wide 2010 IFS, were similar to the current survey in that breakfast cereals, fruit and vegetables were the foods given most frequently to infants. Eggs were also reported as being given infrequently in the 2010 survey.⁷ However, differences in the way that questions were asked in the two surveys mean that it is difficult to directly compare specific percentages across food groups.

[Figure 7.6; Table 7.6]

Age of respondent

There was some variation in the diets of infants depending on the age of the mother:

- Respondents aged 20-24 were more likely to use commercial baby foods on a daily basis (42%) than those aged 30-34 (29%) or mothers aged 35 or over (31%).
- 57% of respondents aged 20-24 gave fruit on a daily basis, compared to 73% of those aged 30-34 and 35 and over.
- 5% of respondents aged 20-24 reported never giving vegetables, excluding potatoes or green leafy vegetables. Mothers in all other age groups (25+) only reported this in 1% of cases.
- 31% of respondents aged 20-24 gave dairy foods on a daily basis, compared to 41% of those aged 30-34 and 35 and over.
- No results are presented for respondents aged 19 or under; there were too few respondents in this age group to produce meaningful results.

[Table C1: 8-12 Months – Results by Age of Respondent]

Deprivation

There were also some differences in diet depending on whether respondents lived in the most / least deprived areas:



- Respondents who lived in the most deprived areas were more likely to use commercial baby foods on a daily basis (SIMD 1: 38%) than those in the least deprived areas (SIMD 5: 25%).
- Respondents who lived in the most deprived areas were less likely to give fruit on a daily basis (SIMD 1: 61%) than mothers in less deprived areas (SIMD 5: 76%).
- Respondents who lived in the most deprived area were less likely to give vegetables, excluding potatoes or green leafy vegetables, on daily basis (SIMD 1: 44%) than those in the least deprived areas (SIMD 5: 61%).
- Respondents who lived in the most deprived area were less likely to give dairy produce on daily basis (SIMD 1: 33%) than mothers in the least deprived area (SIMD 5: 44%).

[Table C2: 8-12 Months – Results by SIMD]

Food texture

In general, respondents reported feeding mashed, lumpy or pureed food to their babies, rather than allowing infants to feed these types of foods to themselves. On the other hand, infants were reported to frequently eat finger foods by themselves.

[Figure 7.7; Table 7.7]

Infants frequently feed finger foods to themselves, but tend to be fed mashed, lumpy or pureed food.

Figure 7.7: On average how often do you feed the following types of food to your baby and how often does he/she eat these foods by him/herself? (Percentage of respondents who selected each frequency. Respondents who had introduced complementary foods).

Frequency	Mashed, lumpy or pureed foods...	
	Fed to baby	Baby eats by him/herself
More than once per day	72%	13%
Once a day	10%	14%
4-6 times per week	2%	3%
1-3 times per week	3%	7%
Never	5%	53%
Frequency	Finger foods...	
	Fed to baby	Baby eats by him/herself
More than once per day	27%	55%
Once a day	20%	20%
4-6 times per week	2%	3%
1-3 times per week	6%	4%
Never	35%	9%

Source: Q9, Q10, 8-12 Month Survey



7.4 Meals, snacks and treats

NHS Health Scotland advice is that the number of meals containing solid foods should be gradually increased from one to two, and then to three meals per day as an infant seems ready. By the time a baby is a year old, food rather than milk should form the main part of his/her diet.²⁴

Meals per day

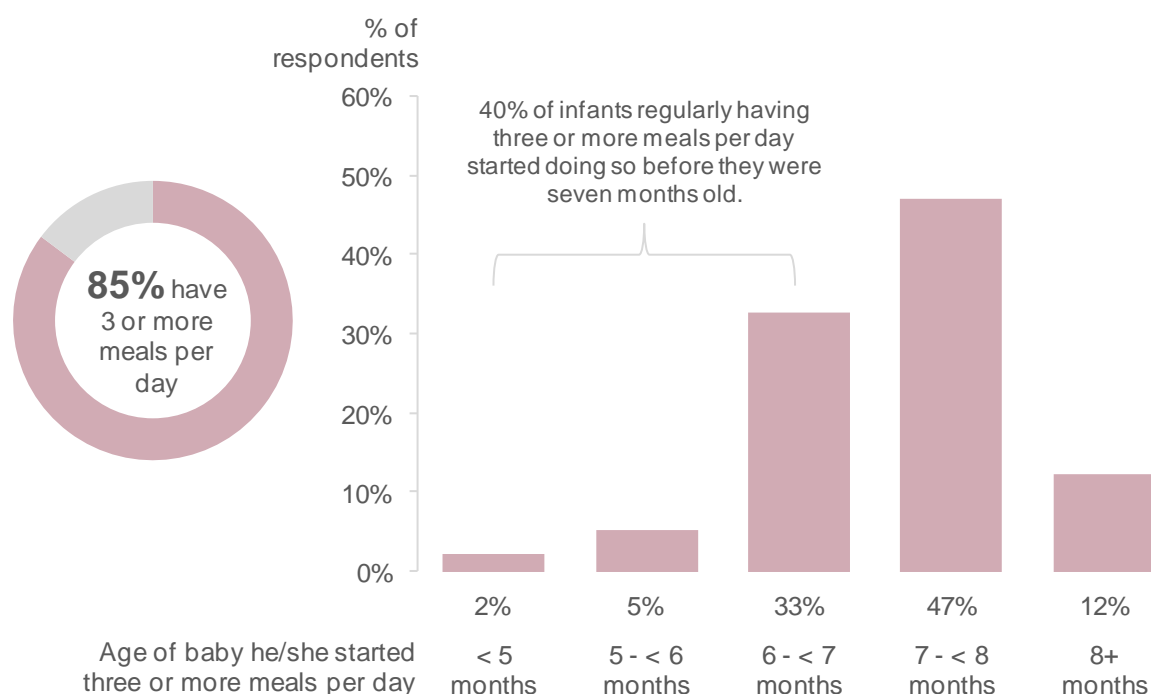
The majority of respondents (85%) indicated that their infants were already being given three or more meals per day. However, respondents were not asked to provide any information about the quantity of food served at each meal.

Of those infants who were receiving three or more meals per day, most (59%) did not start this until they were at least seven months old. However, 40% of these infants began three meals per day before seven months, with 7% starting before six months.

[Figure 7.8; Table 7.8 & 7.9]

Forty percent of infants, who regularly have three or more meals per day, started doing so before they were seven months old.

Figure 7.8: How many meals does your baby have per day? / How old was your baby when he/she regularly started having three or more meals of foods other than milk a day? (Percentage of respondents who indicated that their infant was having three or more meals per day / percentage of respondents who selected each age (respondents whose infant was having three or more meals per day only)).



Source: Q11, Q12, 8-12 Month Survey



In the 2010 UK-wide IFS, mothers with infants aged four to six months were asked how many meals they gave to their babies. At a UK level, 28% reported giving three or more meals of solid foods per day.⁷

Due to differences in the age bracket of the infants in the 2010 IFS and the current survey it is not possible to present a direct comparison of results. However, the 2010 survey also showed a clear trend to towards giving an increased number of daily meals as infants got older.

Snacks and “treats”

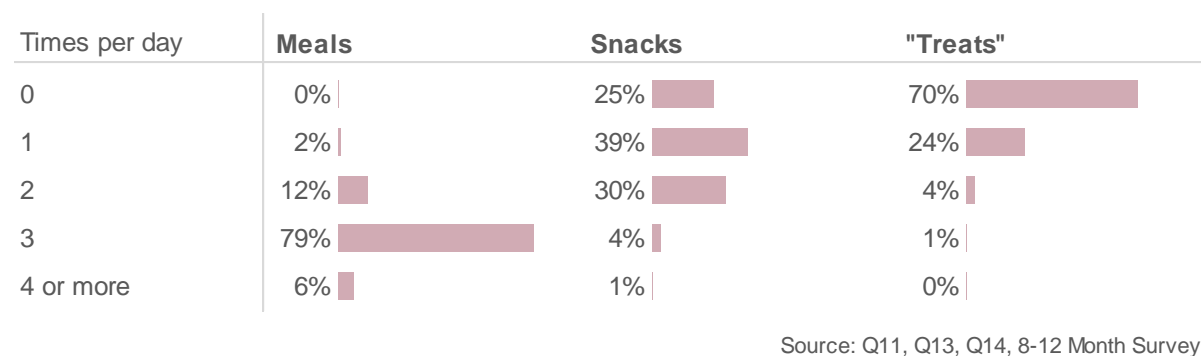
Respondents were also asked to provide information on the number of snacks and “treats” given to their babies on a daily basis. The majority of infants (74%) received one or more snacks throughout the day. The term snack was not tightly defined within the questionnaire, but respondents were asked not to count foods such as “chocolate buttons, ice cream, crisps or cheese puffs” as a snack.

Twenty-nine percent (29%) of respondents indicated that they gave “treats” to their infant one or more times per day. For the purposes of the survey, treats were defined as items such as “chocolate buttons, ice cream, crisps or cheese puffs”. A small number of survey respondents commented on their completed questionnaires that they had concerns about these types of foods being referred to as “treats”.

[Figure 7.9; Table 7.8]

On average, more than a quarter of infants are given “treats” at least once a day.

Figure 7.9: On average how many meals, snacks and treats does your baby have per day? (Percentage of respondents who selected each frequency. Respondents who had introduced complementary foods).





Age of respondent

- Younger respondents were more likely to give their baby a snack than older mothers. On average, 78% of mothers aged 20-24 gave at least one snack per day, compared to 69% of those aged 35 and over.
- Younger respondents were also more likely to give their babies “treats”. Nearly half of all mothers aged 20-24 gave one or more treats per day (49%), whereas less than a quarter of those aged 35 and over offered treats (22%).

[Table C1: 8-12 Months – Results by Age of Respondent]

Deprivation

- 78% of respondents from the most deprived areas (SIMD 1) offered three or more meals per day, compared to 91% of mothers in the least deprived areas (SIMD 5).
- However, mothers who lived in the most deprived areas were more likely to offer one or more snacks per day (79%) than those who lived in the least deprived areas (70%).
- Respondents who lived in the most deprived areas were also more likely to give their babies “treats”. Thirty-nine percent (39%) of mothers in the most deprived areas gave one or more treats per day, whereas only 18% of those in the least deprived areas did so.

[Table C2: 8-12 Months – Results by SIMD]



7.5 Sources of information

Types of food

Almost all respondents (99.6%) indicated that they had access to information relating to the **types** of food they should give to their infants. A high proportion of all mothers reported that they had received information from web based resources (55%), a health care professional (55%), NHS Health Scotland’s Fun First Foods booklet (47%), or other written materials such as books and leaflets (49%).

However, the source of information varied depending on whether this was the respondent’s first baby or not. The vast majority of mothers who already had children reported using previous experience (92%). First time mothers were more likely to report receiving information from friends and family (46%) than mothers who already had children (17%).

[Figure 7.10; Table 7.10]

First time mothers are more likely to obtain information about what types of food to give from other people, including friends and family.

Figure 7.10: Still thinking about foods other than milk, where did you get information about **what types** of food to give to your baby? (Percentage of respondents who selected each source, by whether this is respondent’s first baby. Most common sources **highlighted**).

Source(s) of information (type of food - tick all that apply)	All respondents	First baby	Not first baby
Internet / Web based resources	55%	65%	44%
A health care professional	55%	63%	46%
Other books / leaflets / magazines	49%	59%	37%
The Fun First Foods booklet	47%	53%	41%
Previous experience with other baby	44%	3%	92%
My partner, friend and/or relative	33%	46%	17%
A weaning fayre	8%	9%	6%
Television / radio	2%	1%	2%
Somewhere / someone else	2%	3%	1%
Did not get any information	0%	1%	0%

Source: Q15, Q1, 8-12 Month Survey



How much food

Overall, respondents were less likely to report having access to information about **how much** food to give to their babies. First time mothers in particular were more likely to report that they had not received any information on this topic (15%). Four percent (4%) of mothers who already had children indicated that they had not received any information about how much food to give their baby.

Again, respondents who already had children reported using previous experience (83%) as a source of information. First time mothers were more likely to obtain information from friends and family (31%) than previous mothers (10%).

[Figure 7.11; Table 7.11]

One in ten mothers did not have any information about how much food to give their infant.

Figure 7.11: Still thinking about foods other than milk, where did you get information about **how much** food to give to your baby? (Percentage of respondents who selected each source, by whether this is respondent's first baby. Most common sources **highlighted**).

Source(s) of information (how much food - tick all that apply)	All respondents	First baby	Not first baby
Previous experience with other baby	39%	2%	83%
A health care professional	35%	42%	27%
Internet / Web based resources	32%	39%	24%
Other books / leaflets / magazines	30%	36%	23%
The Fun First Foods booklet	28%	32%	23%
My partner, friend and/or relative	21%	31%	10%
A weaning fayre	6%	6%	5%
Television / radio	1%	1%	1%
Somewhere / someone else	4%	4%	4%
Did not get any information	10%	15%	4%

Source: Q16, Q1, 8-12 Month Survey



7.6 Drinks other than breast and formula milk

From around six months of age, breast milk or first milk infant formula can continue to be given alongside appropriate complementary foods. Other types of milk, such as cows' milk, are not recommended as a main drink until after an infant is 12 months old.²⁴

Generally speaking, tap water is the only alternative drink recommended for infants aged six to twelve months that can be given between meals. However, NHS Health Scotland's Fun First Foods advises that water or small amounts of unsweetened and diluted fresh fruit juice can be given alongside meals in a free-flow cup.²⁴

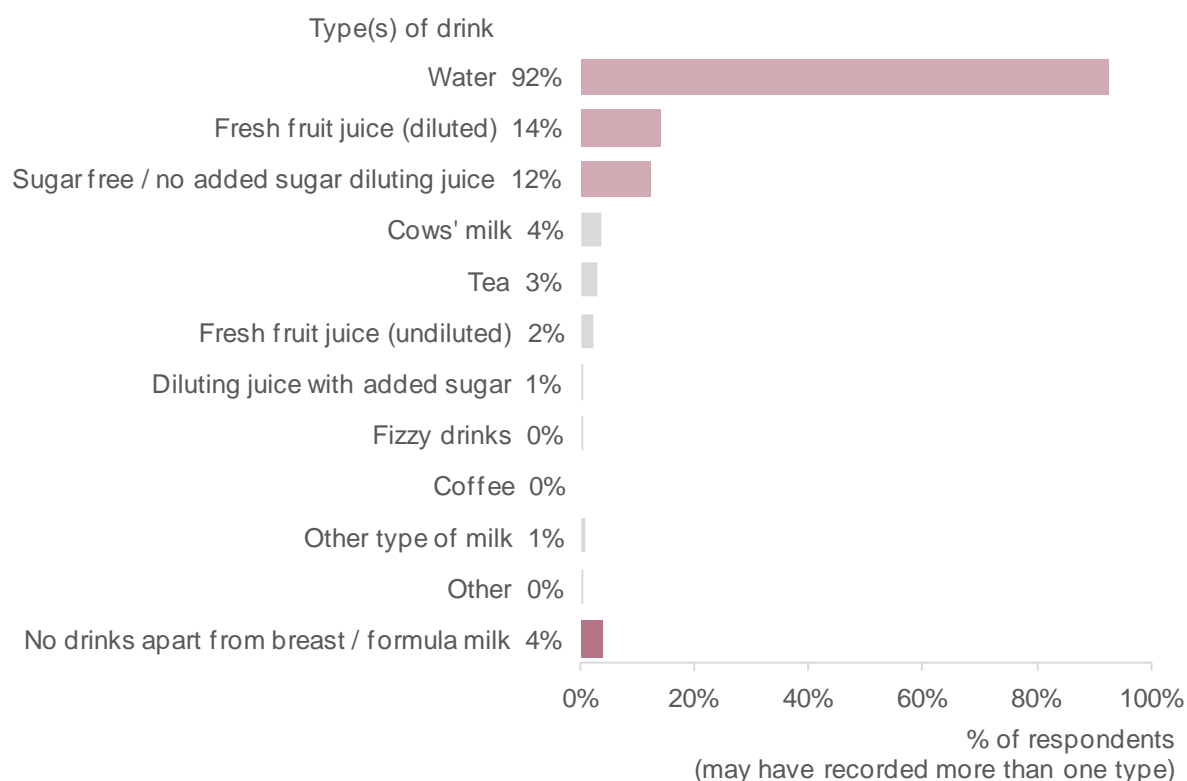
Only 4% of respondents reported giving no drinks apart from breast or formula milk, with the vast majority (92%) indicating that they offered water to their babies. More than one in ten respondents reported giving diluted fresh fruit juice (14%).

Some respondents did report giving drinks that are not recommended for infants, such as sugar free / no added sugar diluting juice (12%), cows' milk (4%), tea (3%), undiluted fresh fruit juice (2%), or diluting juice with added sugar (1%).

[Figure 7.12; Table 7.12]

Water is frequently offered to infants in addition to breast and/or formula milk.

Figure 7.12: Do you give your baby any drinks apart from breast milk or formula milk? (Percentage of respondents who selected each type of drink. Most common types of drink highlighted).



Source: Q17, 8-12 Month Survey



In the 2010 UK-wide IFS, 78% of infants in Scotland were reported as receiving drinks other than milk by the time they were six months old. This had risen to 97% by the time infants were nine months. No information was captured regarding the specific types of drinks that were given.⁷

7.7 Use of vitamin drops

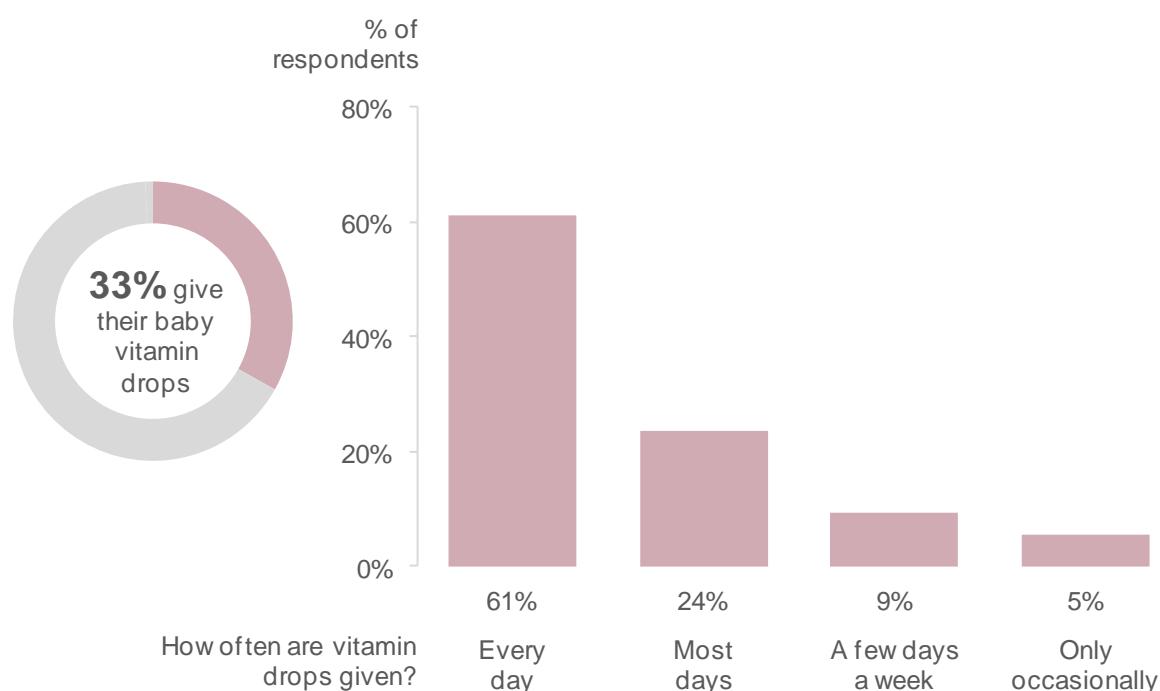
It is currently recommended that infants should be given Vitamin D drops from birth,^{*} unless receiving 500mls or more of formula milk a day.⁵

Overall, 33% of mothers who responded to the 8-12 month survey reported giving their baby vitamin drops. Of those who were giving vitamin drops, the majority (85%) gave them every day or on most days.

[Figure 7.13; Table 7.13 & 7.14]

One third of infants are given vitamin drops at least some of the time.

Figure 7.13: Do you give your baby any vitamin drops? / How often do you give your baby vitamin drops? (Percentage of respondents who indicated that they give vitamin drops / percentage of respondents who selected each frequency (respondents who give vitamin drops only)).



Source: Q18, Q20, 8-12 Month Survey

In the 2010 UK-wide IFS, only 13% of mothers in Scotland reported giving vitamin drops to infants aged between eight and ten months.⁷

^{*} Note that Scottish Government advice on Vitamin D was updated in November 2017. Prior to November 2017, it was recommended that Vitamin D should be given to infants from 6 months of age. For further details, see <http://www.gov.scot/Resource/0051/00515947.pdf>.



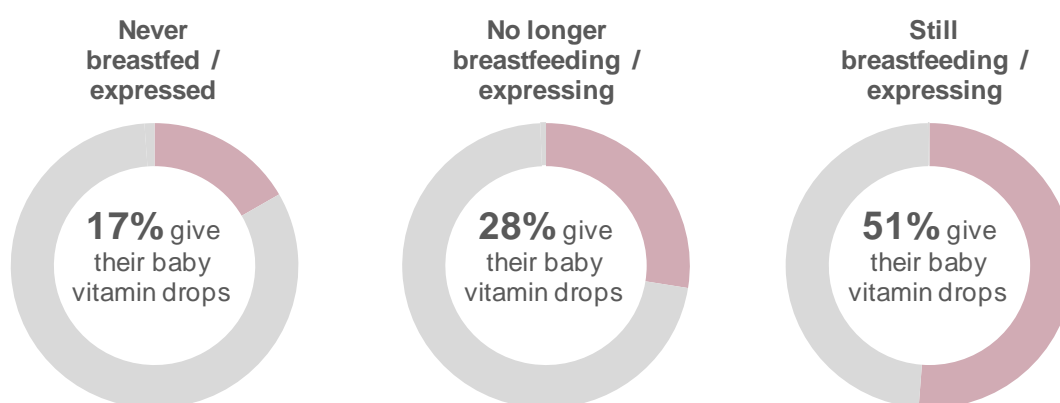
Breastfeeding / expressing status

Vitamin drop usage varied amongst mothers depending on whether they had ever given their infant breast milk and by whether they were still giving breast milk to their baby at the time of completing the survey. Seventeen percent (17%) of respondents who had never given their baby breast milk reported giving vitamin drops. Mothers who had been giving breast milk, but who had now stopped, were less likely to be giving vitamin drops (28%) than those who were still breastfeeding / expressing milk (51%).

[Figure 7.14; Table 7.13]

Mothers who were still breastfeeding / expressing milk were more likely to be giving their baby vitamin drops.

Figure 7.14: Do you give your baby any vitamin drops? (Percentage of respondents who indicated that they were giving vitamin drops, by whether respondent was still breastfeeding / expressing milk for her baby).



Source: Q18, Q26, Q27, 8-12 Month Survey

Age of respondent

- Younger respondents reported giving vitamin drops to their baby less frequently than older mothers. Twenty-three percent (23%) of respondents aged 20-24 indicated that they gave vitamin drops; the equivalent figure for respondents aged 35 and over was 35%.

[Table C1: 8-12 Months – Results by Age of Respondent]

Deprivation

- Nearly a third of respondents (31%) who lived in the most deprived areas (SIMD 1) reported that they gave vitamin drops to their baby; the equivalent figure for respondents who lived in the least deprived areas (SIMD 5) was 41%.

[Table C2: 8-12 Months – Results by SIMD]



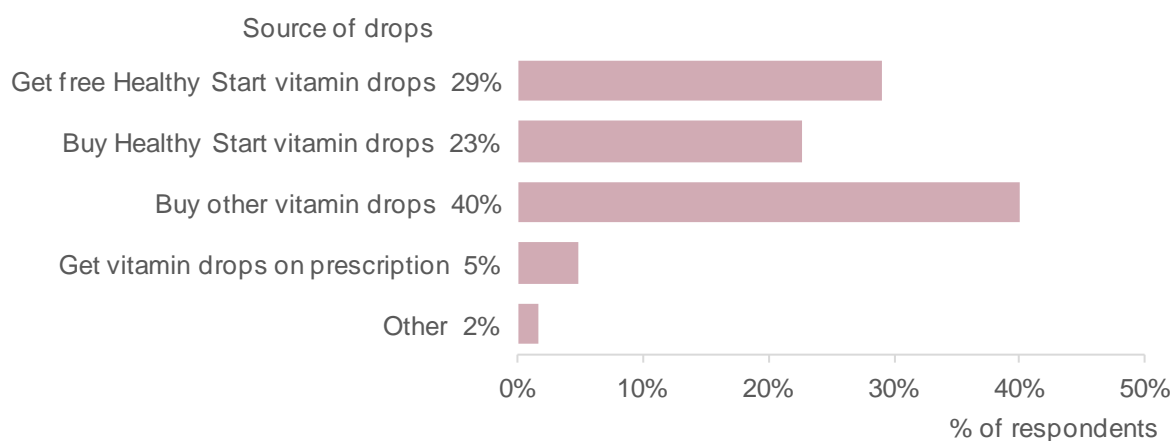
Source of vitamin drops

Twenty-nine percent (29%) of respondents who indicated that they gave vitamin drops to their infants said that they received free Healthy Start vitamin drops. Sixty-three percent (63%) of respondents indicated that they bought vitamin drops (Healthy Start 23%, other type 40%), while 5% said that they got them on prescription.

[Figure 7.15; Table 7.15]

Most mothers who give vitamin drops to their infant buy them.

Figure 7.15: How do you usually get the vitamin drops for your baby? (Percentage of respondents who selected each source. Respondents who give vitamin drops).



Source: Q19, 8-12 Month Survey

In the 2010 UK-wide IFS, when infants were 8-10 months old, a similar proportion of mothers across the UK reported getting free Healthy Start vitamin drops (28%). However, only 10% of respondents reported buying Healthy Start vitamin drops, while 46% bought a different brand. Fifteen percent (15%) got vitamins on prescription.⁷



7.8 Postnatal dietary supplements

In line with general health advice, women should aim to eat a healthy and varied diet following the birth of a baby. In addition, there is a specific recommendation that women who are breastfeeding should take a Vitamin D supplement.¹

Respondents to the 8-12 month postnatal survey were asked about their vitamin / iron intake. Thirty-five percent (35%) indicated that they were taking a supplement at the time of survey completion.

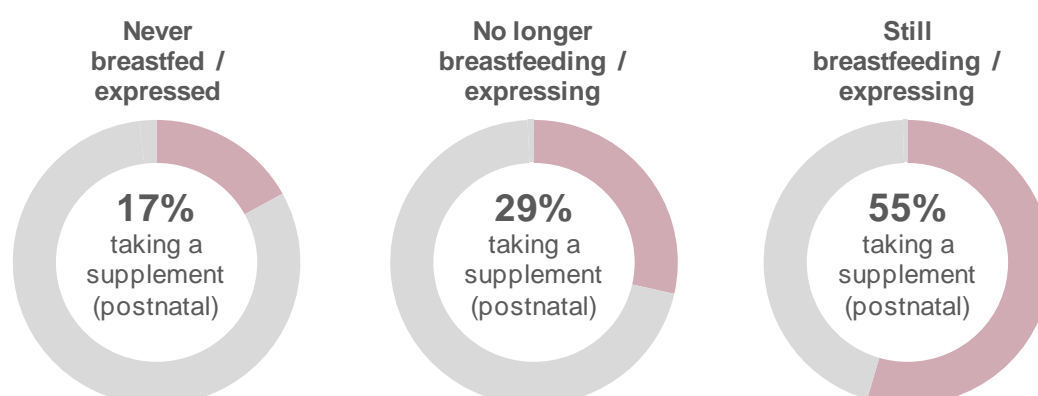
Dietary supplement use varied between mothers who were still giving breast milk compared with those who had stopped giving breast milk to their baby and those who had never breast fed /expressed milk:

- Over half of mothers (55%).who were still giving breast milk reported taking a supplement at the time of survey completion
- Less than a third (29%) of those who had been giving breast milk, but who had now stopped, were now taking a supplement.
- 17% of mothers who had never given their baby breast milk reported taking a supplement at the time they completed the survey.

[Figure 7.16; Table 7.16]

Mothers who were still breastfeeding / expressing milk at 8-12 months were more likely to be taking a vitamin / iron supplement.

Figure 7.16: Are you currently taking any vitamin or iron supplements yourself? (Percentage of respondents who indicated that they were taking a supplement, by whether mother was still breastfeeding / expressing milk for her baby).



Source: Q21, Q26, Q27, 8-12 Month Survey

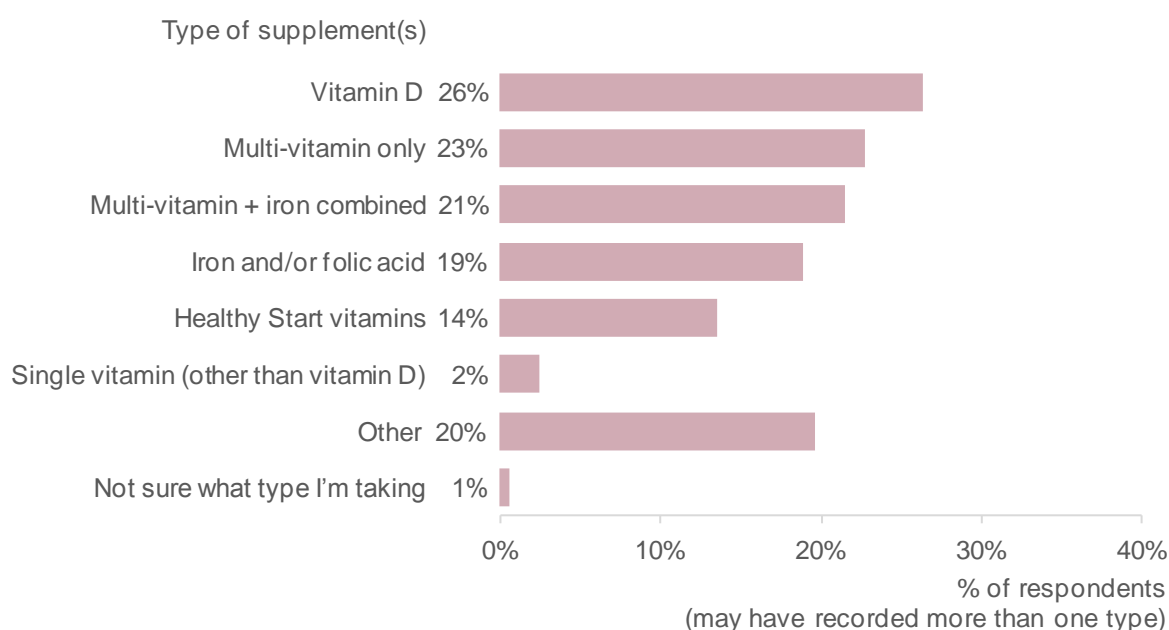


The supplements most frequently taken by respondents to the 8-12 month survey were Vitamin D (26%), multi-vitamin (23%), multi-vitamin + iron combined (21%) or iron and/or folic acid (19%). Only 14% of these respondents reported taking Healthy Start vitamins.

[Figure 7.17; Table 7.17]

Vitamin D, multi-vitamin and iron were the supplements most often taken by postnatal respondents.

Figure 7.17: What types of supplements are you taking? (Percentage of respondents who selected each type of supplement. Respondents who were taking a supplement).



Source: Q22, 8-12 Month Survey

Other types of supplements, suitable for postnatal women, were frequently mentioned by respondents (8%); this included various branded multi-vitamin supplements for new / breastfeeding mothers. A further 11% of respondents mentioned other types of supplements (for example, Vitamin B12, calcium, Omega 3 and cod liver oil).

[Table 7.17]



8 The Healthy Start Scheme

The Healthy Start scheme³⁵ is a UK-wide government initiative that aims to help and encourage low income families to eat a healthier diet. Introduced across the UK in 2006, the scheme provides families with vouchers that can be put towards the cost of cows' milk, plain fresh or frozen fruit and vegetables, and infant formula. Vouchers can be used in a wide variety of registered retailers, including supermarkets and pharmacies.

The scheme is open to women who are at least ten weeks pregnant and families with children under the age of four if they are in receipt of certain benefits. Pregnant women under the age of 18 also qualify during the whole of their pregnancy, even if they do not receive benefits.

The following section of this report provides information about awareness of the Healthy Start Scheme and the use of Healthy Start vouchers, as reported by women who responded to the antenatal and 8-12 month survey. Note that a small number of antenatal survey respondents had already given birth when they completed the questionnaire (weighted = 58; unweighted = 62). These respondents have been excluded from the antenatal analysis within this section.

Respondents 8-12 month survey were also asked about their awareness and receipt of the Sure Start Maternity Grant.³⁶ These results are available in the tables that accompany this report (Tables 8.6 – 8.9).



8.1 Awareness of the Healthy Start Scheme

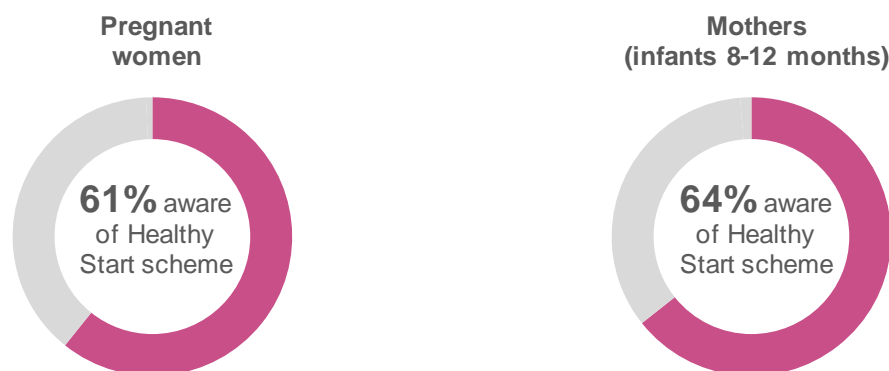
Overall, less than two-thirds of antenatal / 8-12 month survey respondents were aware of the Healthy Start Scheme (61% and 64% respectively).

- Amongst antenatal respondents, those who had previously been pregnant were more frequently aware of the scheme (67%) than those who were in their first pregnancy (55%).
- Similarly, amongst 8-12 month survey respondents, those who already had children were more often aware of the scheme (67%) than those who did not (62%).

[Figure 8.1; Table 8.1a & 8.1b]

Less than two-thirds of survey respondents were aware of Healthy Start Scheme.

Figure 8.1: Were you aware of the Healthy Start scheme before reading the description in this survey? (Percentage of respondents who indicated that they were aware of the scheme. Excludes antenatal respondents who had already given birth).



Source: Q34, Antenatal Survey
Q40, 8-12 Month Survey

In the 2010 UK-wide Infant Feeding Survey (IFS), only women who thought they were eligible for the scheme, but who had not registered for the scheme, were asked if they were aware of the scheme.⁷ Therefore results not directly comparable.



Sources of awareness

Most women found out about the scheme through their Midwife / Health Visitor; 60% of antenatal respondents and 74% of postnatal respondents. The NHS Health Scotland publication, Ready Steady Baby, was also frequently indicated as a source by respondents to both surveys (antenatal 27%; 33% postnatal).

[Figure 8.2; Table 8.2a & 8.2b]

Most women found out about the Healthy Start scheme through their Midwife or Health Visitor.

Figure 8.2: How did you find out about the Healthy Start scheme? (Percentage of respondents who selected each source. Respondents who were aware of the scheme (excludes antenatal respondents who had already given birth)).

Source(s) (Tick all that apply)	Pregnant women	Mothers (infants 8-12 months)
Midwife	53%	42%
Health Visitor	7%	31%
Ready Steady Baby book	27%	33%
Family or friend	17%	14%
Other:	20%	17%
- Through my job / partner's job	6%	6%
- Internet / web based resources	5%	2%
- Poster / leaflet / other advert	2%	2%
- Previous experience with other baby	2%	3%

Source: Q35, Antenatal Survey
Q41, 8-12 Month Survey

In the 2010 IFS only mothers who were eligible for the scheme were asked how they found out about it, therefore results are not directly comparable to the current survey. However, in the 2010 survey, respondents were also most likely to have found out through their Midwife or Health Visitor.⁷



8.2 Eligibility for the Healthy Start scheme

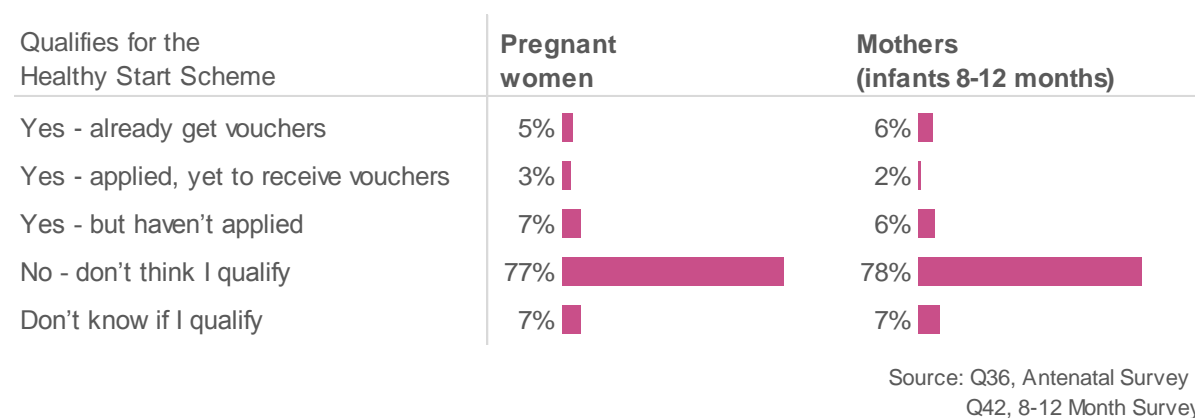
A similar proportion of antenatal and postnatal respondents thought that they qualified for the scheme:

- Amongst antenatal respondents, 15% of women thought that they qualified, however only 5% reported that they were already receiving vouchers.
- Amongst 8-12 month survey respondents, 13% thought that they qualified, with 6% already receiving vouchers.

[Figure 8.3; Table 8.3a & 8.3b]

More than one in ten respondents thought that they qualified for the Healthy Start scheme.

Figure 8.3: Do you think that you qualify for the Healthy Start scheme? (Percentage of respondents who selected each category. Excludes antenatal respondents who had already given birth).



- Just under 10% of women who were unaware of the scheme thought that they qualified, but hadn't applied (7% antenatal / 9% postnatal).
- Around one in ten respondents who were unaware of the Health Start Scheme did not know whether they qualified for the scheme or not (antenatal 10%; postnatal 12%).

[Table 8.3a & 8.3b]



Age of respondent

Younger mothers were more likely to think that they qualified for the scheme and to be in receipt of Health Start vouchers than older mothers.

Amongst antenatal respondents:

- 33% of those aged 20-24 thought that they qualified for the scheme, but only 9% were currently receiving vouchers.
- By comparison, only 7% of respondents age 35 or over thought that they qualified for the scheme; 3% were currently receiving vouchers.

Amongst postnatal respondents:

- 43% of those aged 20-24 thought that they qualified for the scheme and 20% were currently receiving vouchers.
- Again, only 7% of respondents age 35 or over thought that they qualified for the scheme; 3% were currently receiving vouchers.

[Table A1: Antenatal – Results by Age of Respondent & C1: 8-12 Months – Results by Age of Respondent]

Deprivation

There was also some variation by deprivation amongst antenatal respondents:

- 30% of those living in the most deprived areas (SIMD 1) thought that they qualified for the scheme, but only 10% were currently receiving vouchers.
- By comparison, only 4% of respondents living in the least deprived areas (SIMD 5) thought that they qualified for the scheme; 1% were currently receiving vouchers.

This was also the case amongst postnatal respondents:

- 26% of those living in the most deprived areas (SIMD 1) thought that they qualified for the scheme and 15% were currently receiving vouchers.
- Only 5% of respondents living in the least deprived areas (SIMD 5) thought that they qualified for the scheme; 1% were currently receiving vouchers.

[Table A2: Antenatal – Results by SIMD & C2: 8-12 Months – Results by SIMD]



8.3 Use of Healthy Start vouchers

The vast majority of antenatal respondents who had received Health Start vouchers had used them (97%). This was also the case for postnatal respondents, where 93% reported that they had used the vouchers since the birth of their baby.

[Figure 8.4; Table 8.4a & 8.4b]

The overwhelming majority of women who had received Healthy Start vouchers had used them.

Figure 8.4: Have you used your Healthy Start vouchers? / Since the birth of your baby, have you used your Healthy Start vouchers? (Percentage of respondents who indicated that they had used the vouchers. All respondents who had received vouchers (excluding antenatal respondents who had already given birth)).



Source: Q37, Antenatal Survey
Q43, 8-12 Month Survey

Only a handful of respondents to each survey indicated that they had not used their vouchers, so no further analysis of this had been presented in this report.



Items purchased with vouchers

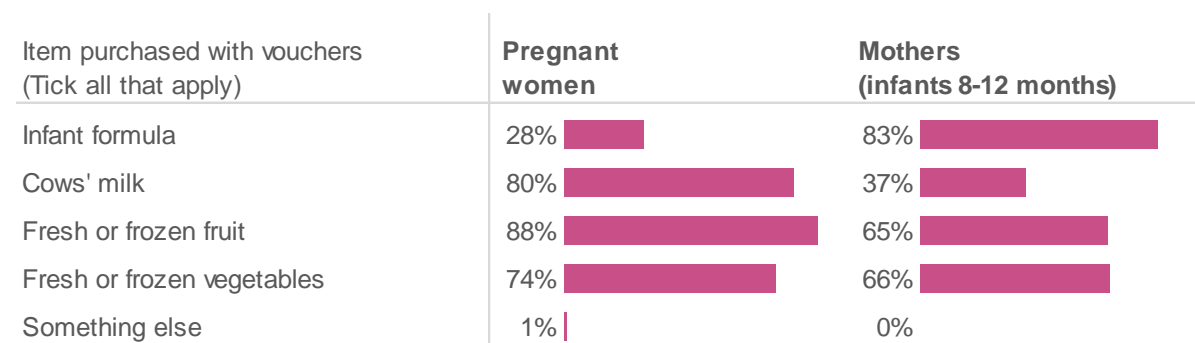
Amongst antenatal respondents, the majority used their vouchers to buy cows' milk (80%), fruit (88%) or vegetables (74%). More than a quarter of these respondents (28%) reported using the vouchers to buy infant formula.

Amongst respondents to the 8-12 month survey, vouchers were also frequently used to buy fruit or vegetables (65% and 66% respectively), but higher proportion of respondent (83%) reported using the vouchers to buy infant formula.

[Figure 8.5; Table 8.5a & 8.5b]

All respondents frequently used Healthy Start vouchers to buy fruit and vegetables, but antenatal women often bought cows' milk and postnatal respondents often purchased infant formula.

Figure 8.5: What did you buy with your Healthy Start vouchers? (Percentage of respondents who indicated that they had purchased each item. All respondents who had used vouchers (excluding antenatal respondents who had already given birth)).



Source: Q38, Antenatal Survey
Q44, 8-12 Month Survey

Concluding Remarks

The 2017 Scottish Maternal and Infant Nutrition Survey has gathered vital information on maternal nutrition, breastfeeding, infant feeding and related health behaviours. The Scottish Government requires this information to support the implementation of the Maternal and Infant Nutrition Framework for Action (2011).¹

The Scottish Maternal and Infant Nutrition Survey has gathered information on:

- Nutritional and health adjustments made by respondents both preconception and during pregnancy.
- Factors associated with mothers' feeding intentions and feeding practices adopted in the early weeks.
- The types of breastfeeding challenges experienced by mothers and their reasons for stopping breastfeeding.
- The use of infant formula including infant formula preparation and methods used for cleaning and sterilising formula feeding equipment.
- The introduction of complementary foods to infants and mothers' experiences of receiving information in relation to this.
- Awareness of, and registration on, the Healthy Start Scheme and understand how Healthy Start vouchers are being used.
- Variations in practice amongst different population groups.

The survey findings provide valuable insights into the way that women in Scotland plan and prepare for pregnancy, particularly the extent to which they take recommended actions prior to and during pregnancy. It also provides a wealth of information on maternal and infant nutrition in Scotland, particularly around infant feeding choices and the reasons survey respondents had for making these decisions. The survey findings also highlight important differences between the behaviours, choices and experiences of different groups within the population.

The information obtained via the survey will be used by the Scottish Government to assess where key policy issues are having an impact and where public health messaging could be further refined and tailored, particularly to different population groups. This will also assist health services and other partner organisations to design and implement nutritional advice and support for families.

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ScotCen Social Research undertook the cognitive testing, preparation of materials and fieldwork for the survey.

National Records of Scotland (NRS) drew the sample for the two postnatal surveys, undertook death checks, and mailed survey packs out to women.

Approval to carry out this research was obtained from the Public Benefit and Privacy Panel for Health and Social Care, the NHS National Research Ethics Service and the NHS Research Management Service at each of the 14 territorial NHS Boards.

Images used in this publication were sourced from The Noun Project. A list of credits for the images used can be found in Appendix B.

Scottish Government Children and Families Directorate
ISD Scotland

Appendix A:

Maternal and Infant Nutrition Survey Implementation Group

Name	Designation	Organisation
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Ms Anne Tainsh	Professional Lead for Scotland, Baby Friendly Initiative	UNICEF
Dr Heather Whitford	Lecturer in Midwifery	Mother and Infant Research Unit, School of Nursing and Health Sciences, University of Dundee
Dr Kate Woodman	Public Health Adviser – Early Years	NHS Health Scotland
Professor Charlotte Wright	Professor of Community Child Health (Medicine)	University of Glasgow

Appendix B:

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Pregnant by Gan Khoon Lay



Hospital by Ramesha



Crossroads by Dinosoft Labs



Breastfeeding by Edward Boatman



Infant Formula by Chiara Rossi



Shopping Voucher by farias



High Chair by By Dave Linabury



Baby Food by Becris



Bow Tie Pasta by Fabio Meroni
Potatoes by IYIKON



Wheat by Marwa Boukarim



Bread by Adrien Coquet



Fruits by Gelindrang



Cabbage by Michał Czekala



Carrot by by Adrien Coquet
Bell Pepper by Adrien Coquet



Fish by satria icon
Meat by darwis



Eggs by anbilero adaleru



Yogurt by Vashte Johnson
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