Association between breastfeeding support and breastfeeding rates in the UK: a comparison of late preterm and term infants

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To cite: Rayfield S, Oakley L, Quigley MA. Association between breastfeeding support and breastfeeding among late preterm and term infants. BMJ Open 2015;5:e009144. doi:10.1136/bmjopen-2015-009144

Prepublication history and additional material is available. To view please visit the journal (http://dx.doi.org/10.1136/bmjopen-2015-009144).

Received 26 June 2015
Revised 18 September 2015
Accepted 14 October 2015

ABSTRACT

Objective: To explore the association between breastfeeding support and breastfeeding among late preterm (gestation 34–36 weeks) and term (gestation ≥37 weeks) infants.

Methods: Secondary analysis of the UK 2010 Infant Feeding Survey. Logistic regression was used to determine the association of breastfeeding support with breastfeeding at 10 days and 6 weeks in late preterm and term infants.

Results: The study included 14 525 term and 579 late preterm infants. A total of 11 729 infants initiated breastfeeding (11 292 (81.1%) term, 437 (79.4%) late preterm infants, p=0.425). Of these, 9230 (84.3%) term and 365 (85.6%) late preterm infants were breastfeeding at 10 days (p=0.586); of these 7547 (82.0%) term and 281 (75.4%) late preterm infants were still breastfeeding at 6 weeks (p=0.012). Mothers who reported receiving contact details for breastfeeding support groups had a higher likelihood of breastfeeding late preterm (adjusted ORs, aOR 3.14, 95% CI 1.40 to 7.04) and term infants (aOR 2.24, 95% CI 1.86 to 2.68) at 10 days and term infants at 6 weeks (aOR 1.83, 95% CI 1.51 to 2.22). Those who reported that they did not receive enough help with breastfeeding in hospital had a lower likelihood of breastfeeding late preterm at 10 days and term infants at 10 days and 6 weeks, compared to those who reported having enough help.

Conclusions: Receiving sufficient help with breastfeeding in hospital and the contact details for breastfeeding support groups is associated with breastfeeding term infants up to 6 weeks and late preterm infants at 10 days.

INTRODUCTION

Infants born between 34+0 and 36+6 weeks gestation are increasingly described as ‘late preterm’.1 This highlights that despite their size and weight often being similar to term infants, they are physiologically relatively immature,2 with higher rates of morbidity and mortality3–4 compared to term infants. Breastfeeding protects against gastrointestinal5–10 and respiratory illnesses11–12 and is associated with better cognitive development in childhood, particularly in preterm infants.13 Despite potential benefits for this group, late preterm infants experience lower rates of breastfeeding initiation and continuation compared to term infants.14 15

The WHO and UK Departments of Health recommend exclusive breastfeeding for the first 6 months.16 Although 81% of UK mothers initiate breastfeeding, this rapidly
drops to 55% at 6 weeks and 34% at 6 months, with less than 1% of infants exclusively breastfeeding at 6 months. Predictors of breastfeeding success in high-income countries include non-white ethnicity, increasing maternal age and higher age of leaving full-time education. Similar sociodemographic patterns have been shown in late preterm infants, although in general, evidence regarding breastfeeding in late preterm infants is limited.

Breastfeeding support is recommended in the Baby Friendly Hospital initiative (BFHI) and can comprise professional or lay support, educational or supportive interventions, or any combination of these. Breastfeeding support is more likely to be effective if it is proactive, delivered face to face and provided on an ongoing basis. However, the majority of studies evaluating the effects of breastfeeding support are restricted to healthy term infants or they evaluate the impact of breastfeeding given in the neonatal unit (NNU) to preterm infants. In the UK, at the time of the survey, support and advice about breastfeeding is usually provided initially by midwives during pregnancy. Advice may also be offered during antenatal classes, either provided through the NHS, or by third sector organisations. After the birth of an infant, breastfeeding support would initially be provided by midwives or midwife care assistants within a hospital setting. Most hospitals offer breastfeeding support sessions including breastfeeding counsellors. At around day 10 of life, care of the mother and infant is transitioned from midwifery to the health visiting team who continue to care for the child until the age of 5 years. Health visitors can offer guidance and support with breastfeeding. In addition, breastfeeding support groups including counsellors and peer support are often provided in children’s centres or by third sector organisations. After the birth of an infant, breastfeeding support would initially be provided by midwives or midwife care assistants within a hospital setting. Most hospitals offer breastfeeding support sessions including breastfeeding counsellors.

At around day 10 of life, care of the mother and infant is transitioned from midwifery to the health visiting team who continue to care for the child until the age of 5 years. Health visitors can offer guidance and support with breastfeeding. In addition, breastfeeding support groups including counsellors and peer support are often provided in children’s centres or by third sector organisations. After the birth of an infant, breastfeeding support would initially be provided by midwives or midwife care assistants within a hospital setting. Most hospitals offer breastfeeding support sessions including breastfeeding counsellors.

Given the increased vulnerability in the late preterm population and higher likelihood of breastfeeding difficulties, it is particularly necessary to understand which breastfeeding support is the most effective for this group. The objective of this study was to investigate the association between different forms of breastfeeding support on breastfeeding rates at 10 days and 6 weeks in late preterm and term infants.

METHODS

Study design

This was a cross-sectional study involving secondary analysis of data from the UK 2010 Infant Feeding Survey (IFS). The IFS is undertaken every 5 years in order to monitor breastfeeding prevalence and infant feeding practices. In 2010, it comprised a nationally representative unclustered sample of 30,760 infants with oversampling of mothers from the most deprived quintile of the Index for Multiple Deprivation (IMD). The use of weights in the survey analysis allowed for this oversampling and differential non-response according to mother’s age and IMD, and aims to make the survey representative of the UK population. The IFS included three postal questionnaires assessing feeding status of the infant at 6–10 weeks, 4–6 months and 8–10 months. They were completed by self-report, usually by the mother of the infant. The IFS questionnaire in 2010 was based on the previous version and was piloted in all four countries of the UK prior to being rolled out. The original survey was approved by the Ethics committee, Department of Health Sciences at the University of York.

This study primarily used data from the first questionnaire, which a total of 15,724 mothers responded to (51% response rate). This questionnaire contained 150 questions over 39 pages (see web appendix 1: Questionnaire) including questions on breastfeeding duration and breastfeeding support accessed. For infants who were less than 6 weeks at the first questionnaire, data were also used from the second questionnaire (3582 infants). The analysis was restricted to singleton births born at more than 34+0 weeks gestation (15,104 infants) (see web appendix 2: flow chart). Only those infants who initiated breastfeeding were included in the analysis of breastfeeding at 10 days. Only those still breastfeeding at 10 days were included in the subsequent analysis at 6 weeks.

Measures

Breastfeeding support variables were identified from questions in the stage 1 questionnaire (box 1). Specific variables were chosen to reflect different times at which support was given, from antenatal and immediately following delivery, to subsequent support given at home. To fully explore the association of breastfeeding support, these variables were also chosen to reflect the different nature of support ranging from direct support such as skin to skin contact to provision of information. Outcomes included the prevalence of breastfeeding at 10 days and 6 weeks. Infants were classified as having initiated breastfeeding if any breastmilk (direct or expressed) was received after birth, even if only once. Subsequently, infants were classified as breastfed if they were receiving any breastmilk as part of their nutrition, regardless of other fluids or solids. This included infants who were regarded as ‘partial breastfeeding’, but also those who were exclusively breastfed (when no other food or drink, not even water, except breastmilk is received). Outcome timepoints were chosen as the transition from midwife care to the health visiting team occurs at 10 days postpartum and it is accepted that breastfeeding can take 6 weeks to be fully established.

Potential confounding factors were divided into sociodemographic characteristics and pregnancy and delivery characteristics. Sociodemographic characteristics included the infant’s ethnicity, maternal age, marital status, age at leaving full-time education, socioeconomic status (as defined by maternal occupation using the NSSEC system), and IMD as a measure of area-based
Answers were based on parental recall at approximately 6 weeks delivery characteristics (model B), and graphic variables (model A), then the antenatal and to large numbers of variables: fi

During pregnancy, were you taught how to position your baby for breastfeeding and how to attach your baby to your breast?

Did you receive ‘skin to skin’ contact with your baby immediately after delivery?

How soon following delivery was your baby put to your breast?

In the days after birth, were you given advice on how to recognise if your baby was getting enough milk?

Were you offered support for feeding problems encountered in the hospital or birth centre?

While you were in the hospital, birth centre or unit, did you get enough help and support with feeding your baby?

Since leaving the hospital, birth centre or unit, were you given details of voluntary organisations or community support groups which helps new mothers with infant feeding?

Are you aware of the National Breastfeeding helpline?

Since leaving the hospital, birth centre or unit, were you given help or information for any feeding problems encountered at home?

In the first 6 weeks, did you receive breastfeeding support from a voluntary organisation, peer supporter, national breastfeeding helpline or breastfeeding support group?

In the first 6 weeks, did you receive breastfeeding support from a health professional (midwife, midwife support worker, nurse, nursery nurse, health care assistant, health visitor, children’s health clinic or doctor)?

In the first 6 weeks, did you receive breastfeeding support from a media source (books, leaflets, magazines, television, radio or the internet)?

*Answers were based on parental recall at approximately 6 weeks postpartum.

deprivation. Pregnancy and delivery characteristics included parity (subdividing multiparous women by previous breastfeeding experience of more or less than 6 weeks), type of delivery, admission to the NNU, length of stay in hospital, gestation at delivery, antenatal feeding intention and peer feeding behaviour (whether they had known other mothers during pregnancy and which feeding methods they had used).

Statistical analysis
Logistic regression was used to calculate ORs for the association between breastfeeding support and breastfeeding at 10 days and 6 weeks. Analysis of the factors associated with breastfeeding at 10 days was based on those who initiated breastfeeding. Similarly, the analysis of breastfeeding at 6 weeks was based on those who were breastfeeding at 10 days. The analysis was conducted separately for late preterm (34+0–36+6 weeks) and term (>37+0 weeks) infants and was performed in stages due to large numbers of variables: first the sociodemographic variables (model A), then the antenatal and delivery characteristics (model B), and finally the breastfeeding support variables (model C). At each stage, variables that were not statistically significant (p>0.05) were removed from the model. The remaining statistically significant variables within models A and B were combined with model C with further dropping of variables that were not statistically significant as necessary. Antenatal feeding intention and the peer feeding variables were included in the model as a priori confounders, regardless of their p value as they are recognised as being highly predictive of subsequent feeding behaviour.21 31–33 The final multivariable model for breastfeeding at 10 days included any remaining statistically significant variables from each of models A, B and C in addition to these two variables.

These final regression models for the late preterm and term infants at 10 days were then used as the respective models for breastfeeding at 6 weeks. Outcomes are presented as adjusted ORs (aOR), with 95% CIs. STATA V.13 was used to conduct the analysis with ‘survey commands’ to take account of the weighted sample. All percentages and ORs are presented as weighted values, whereas frequencies are unweighted values.

RESULTS
There were 15 104 singletons born at more than 34 weeks gestation, of which 14 525 (95.9%) were full term and 579 (4.1%) were late preterm. Overall, mothers of late preterm infants had a younger age distribution, were more likely to be from a non-white ethnic group and were more deprived than mothers of full-term infants (table 1). In addition, late preterm infants were less likely to have been born by normal vaginal delivery (NVD), were more likely to be admitted to the NNU (43.4% vs 4.4% of term infants, p<0.001) and had a longer length of stay in hospital when compared to term infants (table 1).

Overall, 11 729 mothers initiated breastfeeding, including 11 292 (81.1%) term infants and 437 (79.4%) late preterm infants (p=0.425). The rates of breastfeeding declined rapidly in both groups: 9230 (68.4%) term infants and 365 (67.9%) late preterm infants were still being breastfed at 10 days; and 7547 (56.1%) term infants and 365 (67.9%) late preterm infant were still being breastfed at 6 weeks. Of those who initiated breastfeeding, 9230 (84.3%) term infants and 365 (85.6%) late preterm were still breastfeeding at 10 days (p=0.586). Of those breastfeeding at 10 days, late preterm infants were significantly less likely to be breastfeeding at 6 weeks than term infants (281 (75.4%) versus 7547 (82.0%), unadjusted OR 0.67, 95% CI 0.49 to 0.92, p=0.012).

Among term and late preterm infants, breastfeeding at 10 days was higher among mothers in managerial professions and in those living in the least deprived areas (table 2). In term infants there were clear patterns of increasing rates of breastfeeding with increasing maternal age and with increasing levels of maternal education. White mothers had the lowest rates of breastfeeding at 10 days and 6 weeks among all infants, whereas mothers with previous breastfeeding experience consistently had the highest rates (table 3).
Breastfeeding support in term infants

In univariable analysis, all of the breastfeeding support questions in box 1 were significantly associated with breastfeeding term infants at 10 days and all except questions 10 and 11 were significantly associated with breastfeeding at 6 weeks. In multivariable analysis, mothers of term infants who reported being given advice on recognising if their infant was getting enough milk

| Table 1 Comparison between late preterm and term population† |
|-------------------------------------------------------------|
| **Variable** | **Late preterm infants (34–36+6)** | **Term infants (37+)** | **p Value** |
| Total | 579 | 4.1 | 14 525 | 95.9 |
| Maternal age | | | | |
| <20 | 40 | 8.7 | 546 | 5.2 | 0.027* |
| 20–24 | 97 | 21.5 | 2095 | 18.3 |
| 25–29 | 155 | 26.9 | 4051 | 28.1 |
| 30–34 | 158 | 24.2 | 4691 | 29.0 |
| 35+ | 126 | 18.6 | 3092 | 19.5 |
| Ethnicity | | | | |
| White | 488 | 81.5 | 12 882 | 86.2 | 0.026* |
| Asian/Asian British | 40 | 11.3 | 615 | 6.8 |
| Black/Black British | 13 | 4.0 | 362 | 4.1 |
| Other | 13 | 3.2 | 291 | 2.9 |
| Marital status | | | | |
| Single | 91 | 16.4 | 2046 | 15.1 | 0.526 |
| Married/living together | 482 | 83.6 | 12 334 | 84.9 |
| Age mother left full time education | | | | |
| <16 | 124 | 24.1 | 2447 | 19.0 | 0.056 |
| 17–18 | 158 | 29.2 | 4088 | 29.6 |
| >18 | 291 | 46.7 | 7869 | 51.5 |
| NSSEC | | | | |
| Managerial | 199 | 30.0 | 5643 | 35.2 | <0.001*** |
| Intermediate | 103 | 18.3 | 2942 | 19.9 |
| Routine + manual | 159 | 25.2 | 3759 | 27.2 |
| Never worked/not classified | 118 | 26.6 | 2181 | 17.7 |
| IMD quintile | | | | |
| Most deprived | 172 | 36.4 | 3297 | 27.1 | <0.001*** |
| 2 | 113 | 22.4 | 2930 | 22.4 |
| 3 | 101 | 13.6 | 2914 | 18.7 |
| 4 | 100 | 14.9 | 2748 | 16.4 |
| Least deprived | 92 | 12.5 | 2262 | 15.4 |
| Parity | | | | |
| Primiparous | 321 | 58.6 | 7050 | 51.3 | 0.002** |
| Multiparous who breastfed <6 weeks | 142 | 22.1 | 3480 | 21.3 |
| Multiparous who breastfed >6 weeks | 16 | 19.3 | 3995 | 27.4 |
| Type of delivery | | | | |
| NVD | 322 | 61.2 | 8808 | 63.5 | <0.001*** |
| Instrumental | 51 | 7.9 | 2066 | 13.8 |
| Caesarean | 204 | 31.0 | 3620 | 22.6 |
| Neonatal unit admission | | | | |
| Yes | 258 | 43.4 | 658 | 4.4 | <0.001*** |
| No | 321 | 56.6 | 13 867 | 95.5 |
| Length of stay in hospital | | | | |
| <12 h | 16 | 3.3 | 1849 | 14.6 | <0.001*** |
| 12–24 h | 52 | 8.9 | 3690 | 26.7 |
| 1–2 days | 83 | 14.7 | 3829 | 24.8 |
| 3–7 days | 309 | 51.3 | 3918 | 24.6 |
| >7 days | 89 | 15.6 | 143 | 1.0 |
| Not born in hospital | 3 | 0.9 | 390 | 3.0 |

*p<0.05; **p<0.005; ***p<0.001.
†Per cent rounded to 1 decimal point (weighted). Frequencies (n) are unweighted values.
IMD, Index of Multiple Deprivation; NVD, normal vaginal delivery.
were more likely to be breastfeeding at 10 days (aOR 1.24, 95% CI 1.05 to 1.46) (table 4) compared to mothers reporting that they were not given this advice. They were also more likely to be breastfeeding at 10 days if they reported being given the contact details of community support groups (aOR 2.24, 95% CI 1.86 to 2.68), if they were aware of the national breastfeeding helpline (aOR 1.29, 95% CI 1.08 to 1.53), or if they used support from community support groups (aOR 1.30, 95% CI 1.01 to 1.68) when compared to mothers who did not report each of these breastfeeding support activities. Mothers who reported no feeding problems in hospital were more likely to be breastfeeding at 10 days (aOR 1.57, 95% CI 1.29 to 1.91) than women who reported feeding problems and had received help in hospital; among the women who experienced feeding problems in hospital, maternal report of receiving help was not associated with breastfeeding at 10 days. In contrast, breastfeeding at 10 days was less likely in mothers who reported either no feeding problems at home (aOR 0.62, 95% CI 0.50 to 0.77) or feeding problems with no support (aOR 0.58, 95% CI 0.42 to 0.80) compared with mothers who reported receiving help for feeding problems at home. Mothers who used support from healthcare professionals were less likely to be breastfeeding at 10 days (aOR 0.63, 95% CI 0.50 to 0.79 and 6 weeks (OR 0.71, 95% CI 0.57 to 0.88) compared to those who did not use support. Out of those who had encountered feeding problems, term infants were less likely to be breastfed at 6 weeks if their mother felt they had not received help at home (aOR 0.45, 95% CI 0.35 to 0.64) compared to those who felt they had received help at home for feeding problems. Mothers who reported that they were given the contact details of community support groups were more likely to be breastfeeding at 6 weeks (aOR 1.83, 95% CI 1.51 to 2.22) compared to those who reported that they were not given the contact details.

### Breastfeeding support in late preterm infants

In univariable analysis, only questions 6, 7, 8, 9 and 12 from box 1 were significantly associated with breastfeeding late preterm infants at 10 days and only questions 2, 3 and 12 were significantly associated with breastfeeding at 6 weeks. In multivariable analysis, as with term infants, late preterm infants were less likely to be breastfeeding at 10 days if their mother felt they did not receive support from healthcare professionals or if they were aware of the national breastfeeding helpline. Mothers who reported being given the contact details of community support groups were more likely to be breastfeeding at 6 weeks (aOR 1.83, 95% CI 1.51 to 2.22) compared to those who reported that they were not given the contact details.
enough help with feeding in hospital (aOR 0.23, 95% CI 0.09 to 0.60, p=0.003) compared to mothers who did feel they had enough help (table 5) and more likely to be breastfeeding at 10 days if their mother reported that she was given contact details for community support groups (aOR 3.14, 95% CI 1.40 to 7.04, p=0.006) compared to mothers who reported that they were not given these details. The late preterm infants who reported no feeding problems at home were significantly less likely to be breastfeeding at 10 days compared to those who had experienced problems with feeding at home and had received help for them (aOR 0.08, 95% CI 0.02 to 0.33).

In contrast to term infants, no types of breastfeeding support were associated with breastfeeding late preterm infants at 6 weeks.

**DISCUSSION**

Our study found a statistically significantly lower prevalence of breastfeeding at 6 weeks among late preterm infants compared to term infants. When mothers reported that they had received enough help in hospital and were given contact details for support groups in the community, this was associated with a higher likelihood

| Variable | Breastfeeding at 10 days (%) | Breastfeeding at 6 weeks (%) |
|----------|------------------------------|------------------------------|
| Gestation | 34–36+6 | 37+ | 34–36+6 | 37+ |
| N (sample size) | 365 (437) | 9230 (11 292) | 281 (365) | 7547 (9230) |
| Parity | | | | |
| Primiparous | 86.9 | 83.0 | 73.6 | 79.7 |
| Multiparous who breastfed <6 weeks | 62.9 | 65.4 | 63.6 | 69.5 |
| Multiparous who breastfed >6 weeks | 96.9 | 94.9 | 84.8 | 89.1 |
| Aware of the health benefits of breastfeeding | | | | |
| No | 77.7 | 79.6 | 72.1 | 80.4 |
| Yes | 88.0 | 85.1 | 75.5 | 82.1 |
| Antenatal feeding intention | | | | |
| Breastfeeding | 90.9 | 88.2 | 82.4 | 84.7 |
| Infant formula | 68.3 | 39.2 | 31.6 | 54.4 |
| Combination feed | 75.6 | 81.6 | 58.2 | 74.5 |
| Not decided | 69.8 | 69.8 | 61.0 | 72.8 |
| Knew other mothers with young infants during pregnancy and their feeding methods | | | | |
| Mothers who formula fed | 79.6 | 74.9 | 59.6 | 75.5 |
| Mothers mixed fed | 85.7 | 85.3 | 80.4 | 81.1 |
| Mothers who breastfed | 99.2 | 94.3 | 92.0 | 91.2 |
| Did not know other mothers | 81.1 | 84.9 | 79.4 | 82.7 |
| Type of birth | | | | |
| NVD | 85.0 | 85.0 | 76.1 | 82.4 |
| Instrumental | 97.1 | 83.5 | 71.7 | 82.7 |
| Caesarean | 83.4 | 83.1 | 75.4 | 80.3 |
| Neonatal unit admission | | | | |
| No | 86.2 | 84.4 | 81.7 | 82.2 |
| Yes | 84.7 | 83.2 | 67.8 | 78.6 |
| Length of stay in hospital | | | | |
| <12 h | 81.1 | 83.7 | 96.8 | 81.1 |
| 12–24 h | 75.2 | 85.9 | 91.8 | 82.7 |
| 1–2 days | 87.0 | 84.4 | 76.7 | 83.2 |
| 3–7 days | 87.2 | 81.7 | 75.7 | 79.5 |
| >7 days | 85.5 | 85.8 | 67.9 | 80.2 |
| Not born in hospital | 93.9 | 93.9 | 35.1 | 90.9 |
| Gestation (weeks) | | | | |
| 34 | 85.6 | – | 71.8 | – |
| 35 | 85.9 | – | 71.5 | – |
| 36 | 85.4 | – | 78.1 | – |
| 37 | – | 81.3 | – | 81.0 |
| 38 | – | 83.3 | – | 83.3 |
| 39 | – | 84.1 | – | 81.5 |
| 40 | – | 86.1 | – | 82.4 |
| 41 | – | 83.5 | – | 81.1 |
| 42+ | – | 84.4 | – | 83.1 |

*Per cent rounded to 1 decimal point (weighted). Frequencies (n) are unweighted values. NVD, normal vaginal delivery.
of breastfeeding in late preterm and term infants at 10 days and also term infants at 6 weeks. Successfully breastfeeding term infants at 10 days was also associated with being given advice to recognise if the infant was receiving enough milk, awareness of the national breastfeeding helpline and using community support groups.

Strengths of this study include the use of a national, population-based survey. The analysis employed survey weights which allowed for non-response and oversampling of mothers from the lowest quintile of the IMD ensuring adequate representation of this group. Using IFS data enabled simultaneous evaluation of a wide range of breastfeeding support among late preterm and term infants. As such, this study is one of the first to compare effectiveness of support between these two groups thereby addressing a gap in current literature. However, it is of note that the original survey findings are now 5 years old. A further strength is measuring outcomes at both 10 days and 6 weeks to identify support factors impacting on clinically important postnatal time points. The most rapid decline in breastfeeding rates occurs in the first 10 days after birth, indicating that breastfeeding support could have the most to offer mothers during that time. The risk of recall bias was limited as the questionnaire was intended for when the infant was 6 weeks old. However, given the sensitive and emotive nature of breastfeeding duration, responses may have been influenced by a socially desirable response bias with mothers perhaps overestimating the length of time they achieved breastfeeding, or underplaying the support received. The IFS questionnaire is long (150 questions) potentially presenting a challenge for a parent with a newborn infant. This may have introduced a bias in those who may have been more likely to

| Table 4 | Adjusted ORs† for breastfeeding support in term infants |
|---------|---------------------------------------------------------|
| Variable | Breastfeeding at 10 days | Breastfeeding at 6 weeks |
|         | N† (%)§ | aOR* | 95% CI | p Value | N‡ (%)¶ | aOR* | 95% C.I | p Value |
| Q4†‡‡: Received advice on how to recognise if the infant is receiving enough milk | 5665 (81.3) | 1 | 4367 (80.4) | 1 | 4809 (83.7) | 1.04 | 0.89 to 1.22 | 0.608 |
| No | 5665 (81.3) | 1.24 | 1.05 to 1.46 | 0.013* | 4367 (80.4) | 1 | 4809 (83.7) | 1.04 | 0.89 to 1.22 | 0.608 |
| Yes | 5536 (88.0) | 1 | 4809 (83.7) | 1.04 | 0.89 to 1.22 | 0.608 |
| Q5: Received help or support in hospital for feeding problems | 5536 (88.0) | 1.24 | 1.05 to 1.46 | 0.013* | 4809 (83.7) | 1.04 | 0.89 to 1.22 | 0.608 |
| Help received | 3052 (80.9) | 1 | 2380 (77.1) | 1 | 5973 (83.9) | 1.27 | 1.05 to 1.53 | 0.015* |
| No help received | 2545 (72.6) | 1.07 | 0.75 to 1.53 | 0.717 | 357 (71.3) | 0.99 | 0.67 to 1.45 | 0.943 |
| No problems | 7089 (86.4) | 1.57 | 1.29 to 1.91 | 0.001*** | 5973 (83.9) | 1.27 | 1.05 to 1.53 | 0.015* |
| Not born in hospital | 502 (89.4) | 0.51 | 0.24 to 1.09 | 0.082 | 447 (88.8) | 1.18 | 0.56 to 2.47 | 0.660 |
| Q6: Received enough help and support in hospital | 502 (89.4) | 0.51 | 0.24 to 1.09 | 0.082 | 447 (88.8) | 1.18 | 0.56 to 2.47 | 0.660 |
| Yes | 7981 (86.3) | 1 | 6636 (83.4) | 1 | 2064 (76.0) | 0.75 | 0.62 to 0.90 | 0.003** |
| No | 2795 (78.2) | 0.61 | 0.50 to 0.74 | <0.001*** | 447 (88.8) | 1.00 | 0.62 to 0.90 | 0.003** |
| Not born in hospital | 502 (89.4) | 1.00 | 2064 (76.0) | 0.75 | 0.62 to 0.90 | 0.003** |
| Q7: Received contact details of community support groups for breastfeeding | 2818 (71.6) | 1 | 1812 (74.5) | 1 | 7366 (83.9) | 1.83 | 1.51 to 2.22 | <0.001*** |
| No | 8408 (88.3) | 2.24 | 1.86 to 2.68 | <0.001*** | 7366 (83.9) | 1.83 | 1.51 to 2.22 | <0.001*** |
| Yes | 3550 (77.3) | 1.29 | 1.08 to 1.53 | 0.004** | 6581 (75.2) | 1.01 | 0.85 to 1.21 | 0.884 |
| Q8: Aware of the National Breastfeeding Helpline | 3433 (89.6) | 1 | 3023 (81.2) | 1 | 4809 (83.7) | 1.04 | 0.89 to 1.22 | 0.608 |
| No | 673 (75.3) | 0.58 | 0.42 to 0.80 | <0.001*** | 492 (64.6) | 0.45 | 0.35 to 0.64 | <0.001*** |
| Yes | 7175 (82.8) | 0.62 | 0.50 to 0.77 | <0.001*** | 5707 (84.0) | 1.26 | 1.04 to 1.52 | 0.018* |
| Q10: Used support from community support groups | 9588 (83.3) | 1 | 7721 (81.9) | 1 | 1509 (82.7) | 1.22 | 0.97 to 1.53 | 0.086 |
| No | 2795 (78.2) | 0.61 | 0.50 to 0.74 | <0.001*** | 2064 (76.0) | 0.75 | 0.62 to 0.90 | 0.003** |
| Yes | 8408 (88.3) | 2.24 | 1.86 to 2.68 | <0.001*** | 7366 (83.9) | 1.83 | 1.51 to 2.22 | <0.001*** |
| Q11: Used support from healthcare professionals | 2817 (87.2) | 1 | 2403 (86.6) | 1 | 5827 (80.2) | 0.71 | 0.57 to 0.88 | 0.002** |
| No | 3052 (80.9) | 1 | 2380 (77.1) | 1 | 447 (88.8) | 1.00 | 0.62 to 0.90 | 0.003** |
| Yes | 8483 (83.3) | 0.63 | 0.50 to 0.79 | <0.001*** | 5707 (84.0) | 1.26 | 1.04 to 1.52 | 0.018* |

*p<0.05; **p<0.005; ***p<0.001.
†Adjusted ORs with 95% CIs and p values. Adjusted for: Ethnicity, marital status, age mother left full time education, socioeconomic status, IMD, parity with previous breastfeeding experience, antenatal feeding intention, knowing other mothers while pregnant and how they fed their infants, given advice on how to recognise if infant receiving enough milk, receiving help in hospital for feeding problems, receiving enough help in hospital, given contact details of voluntary organisation or community support group, being aware of the national breastfeeding helpline, receiving support or information for feeding problems at home, using voluntary support, using support from healthcare professionals. IMD, Index of Multiple Deprivation.
‡Total Sample size of women with term infants with each individual response to each question.
§Weighted percentage of women responding to each question who were breastfeeding at 10 days.
¶Weighted percentage of women responding to each question who were breastfeeding at 6 weeks.
††Question numbers refer to breastfeeding support questions in box 1.
‡‡Feeding problems at home could include feeding problems related to either formula feeding or breastfeeding.
respond. In addition, this study investigated the association between the parental perception of support given, rather than the actual support given and was limited by the wording of the original survey questions. For example while we have shown that receiving enough help with breastfeeding in hospital is associated with breastfeeding term and late preterm infants at 10 days, it was not possible to further delineate what support had been received by those who felt they had received ‘enough’. However, it may be the perception that breastfeeding support is available combined with the provision of information in case of feeding problems, is important in enabling successful breastfeeding. Finally, although the overall sample size was large (n=15104), a further potential limitation is the relatively small number of late preterm infants in the study (n=579).

Although a large number of potential confounding factors were included in the analysis, it is not possible to exclude residual confounding by unmeasured factors, for example medical problems of mother or infant. Another limitation is the likely heterogeneous nature of the breastfeeding groups, ranging from primarily breastfed infants to infants receiving minimal breastmilk. However, it was not possible to subdivide by amount of breastmilk being received. Nonetheless, given the current low rates of breastfeeding in the UK, establishing interventions which may improve any breastfeeding remains important.

Previous studies have also identified late preterm infants as having lower rates of breastfeeding than term infants which is likely due to a combination of factors, including delayed lactogenesis and physiological immaturity resulting in a reduced sucking ability. While late preterm infants often do not fit criteria for NNU admission, postnatal wards may not offer the additional support required to ensure successful breastfeeding. The Infant Feeding Survey report found the main reasons women stopped breastfeeding in the first weeks after birth were due to the baby not sucking, the mother having painful breasts or feeling she had insufficient milk. For women who stopped in the first 2 weeks, the factors they felt could have helped them breastfeed for longer included more support and guidance from hospital staff, midwives and families (25% of respondents), if the baby had latched on the breast easier (19%) and if there had been less pain (14%). This study found receiving enough help in hospital was associated with breastfeeding late preterm infants at 10 days and term infants at 10 days and 6 weeks. This type of support may have been delivered via a number of different mechanisms. Both Oakley et al and Henderson and Redshaw had previously noted associations between initial midwifery support and breastfeeding at 6 weeks and 4 months respectively, support which is likely to have taken place in the hospital. Renfrew et al found all forms of ‘breastfeeding support’ to have a positive impact on breastfeeding in term infants. Those results are borne out by the wide variety of support associated with breastfeeding at 10 days in the term infants in our study. The vast majority of previous studies only included healthy term infants although Henderson and Redshaw observed lower rates of breastfeeding initiation in preterm than term infants (77.2% vs 80.5%). However, they did not differentiate between the two groups when analysing the impact of breastfeeding support.

In this study, term infants whose mothers used support from health professionals were less likely to be
breastfeeding at 10 days and 6 weeks. This finding is in contrast to existing evidence such as the Cochrane review, which found that breastfeeding support was associated with increasing breastfeeding duration. However, our result is likely to be confounded by the fact that those experiencing feeding problems are more likely to cease breastfeeding, but also more likely to be accessing professional support—41% of those using health professional support had also stated they had experienced feeding problems in hospital, compared to only 5% who had not used this support. Late preterm and term infants were less likely to be breastfeeding at 10 days if they had not experienced feeding problems at home. However, this may be the result of mothers who stopped breastfeeding early, potentially prior to discharge from hospital as mothers were classified as having initiated breastfeeding, even if the infant only had one breastfeed after birth. Among the late preterm infants, 37% of those with no feeding problems had already stopped breastfeeding by 5 days, compared to only 7% of those who had help for feeding problems. By 6 weeks of age, term infants were more likely to be breastfeeding if they had not encountered feeding problems at home as this analysis only included infants who were still breastfeeding by 10 days.

This study identified that late preterm and term infants were more likely to be breastfeeding at 10 days if their mother had received the contact details for a community support group, compared to women who did not receive these details. However, it was not possible to determine whether these women actually attended a support group or not and at what age of the infant. A cluster randomised trial of a policy to provide breastfeeding groups in primary care found increased provision of breastfeeding groups did not improve breastfeeding rates at 6–8 weeks for the intervention group compared to the control group. The median infant age for attending such a group in this trial was 5 weeks, which would be counter to the fact that receiving this information was associated with breastfeeding at 10 days in our study. It is of note, however, that the trial was introducing breastfeeding support groups into relatively deprived areas of Scotland which may have impacted the results as it is well recognised that increasing deprivation is associated with lower rates of breastfeeding.

Previous studies have demonstrated strong associations between sociodemographic factors and breastfeeding which our study replicated among term infants. , with a large sample of 7012 late preterm infants found breastfeeding initiation was associated with maternal education, marital status and ethnicity. In our study no sociodemographic characteristics were statistically significant in late preterm infants which was in contrast to the findings for term infants. Although our sample size was relatively small, and may not have had sufficient power to identify particular effects, this finding may also suggest that sociodemographic factors may be less relevant in determining continuation of breastfeeding in late preterm infants compared to term infants.

Breastfeeding rates in the UK have a long way to go before reaching the WHO recommendations and it is clear that providing breastfeeding support will be part of this. This study has identified that while a similar proportion of term and late preterm infants initiated breastfeeding, the late preterm infants were significantly less likely to be breastfeeding by 6 weeks. Relatively simple breastfeeding support methods, such as the provision of contact details for community breastfeeding support groups has been demonstrated by this study as being associated with successful breastfeeding for term and late preterm infants. Mothers who felt they had received enough help and support with breastfeeding while in hospital were also more likely to be breastfeeding late preterm and term infants at 10 days. Support for breastfeeding should be at the forefront of maternity practice in hospital, and community services need to ensure that basic information on how to obtain help and support is visibly given to all mothers while instituting a culture of easily accessible breastfeeding support for mothers if and when they need it.

In conclusion, our study found breastfeeding support to be positively associated with breastfeeding at 10 days in late preterm and term infants and at 6 weeks in term infants, in particular receiving the contact details for community support groups and receiving enough help with breastfeeding in hospital. Increasing rates of breastfeeding should be a public health priority globally, but especially in the UK where exclusive breastfeeding rates are particularly low. Late preterm infants are likely to require additional support, given their even lower rates of breastfeeding. Further research is required on breastfeeding continuation in late preterm infants in order to understand the complex interplay of factors determining breastfeeding success for this population.

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Contributors All authors conceived the study and contributed to the design of the study. SR conducted the analysis with guidance from MAQ. All authors were involved in the interpretation of the data. SR wrote the initial draft of the manuscript, and all authors contributed to revising consecutive drafts. All authors approved the final version of the manuscript. All authors had full access to all of the data in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis.

Funding This paper reports on an independent study which is fully funded by the Policy Research Programme in the Department of Health (Grant No. 108/001/PRU). SR is salaried by Oxford University Hospitals NHS Trust and this research was conducted as part of a thesis in partial fulfilment for the MSc in Global Health Science.

Disclaimer The views expressed are not necessarily those of the Department. The funder had no role in: the design and conduct of the study; the analysis and interpretation of the data; and the drafting of the paper and decision to submit the paper for publication.

Competing interests None declared.

Provenance and peer review Not commissioned; externally peer reviewed.
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Web Appendix: Figure 1

1st stage survey sent N=30,760

Did not respond to 1st stage survey N=15,036

Responded to 1st stage survey N=15,724

Multiple births N=198

Gestation unknown or <34 weeks N=336

Did not initiate breastfeeding N=3,375

Singleton infants ≥34 weeks N=15,104

Singleton infants who initiated breastfeeding N=11,729

Gestation 34–37 weeks N=437

Missing breastfeeding status at 10 days N=2

Eligible for analysis of breastfeeding status at 10 days N=437

Missing data on at least one variable N=22

Included in 10 day analysis N=415

Stopped breastfeeding before 10 days N=72

Eligible for analysis of breastfeeding status at 6 weeks N=365

Missing data on at least one variable N=17

Included in 6 week analysis N=348

Gestation ≥37 weeks N=11,292

Eligible for analysis of breastfeeding status at 10 days N=11,290

Missing data on at least one variable N=952

Included in 10 day analysis N=10,338

Stopped breastfeeding before 10 days N=2,060

Eligible for analysis of breastfeeding status at 6 weeks N=9,230

Missing data on at least one variable N=795

Included in 6 week analysis N=8,435
What is the questionnaire about?
This questionnaire asks about you and your new baby. If you have twins or triplets, please answer the questionnaire in relation to the baby who was born first.

If your baby is no longer with you, please cross the box below and return the questionnaire to us so we do not trouble you further.

My baby is no longer with me ☐

Our guarantee of confidentiality
All information collected will be treated in the strictest confidence. Results will be reported in the form of statistics and your responses will not be linked back to you.

How to fill in the questionnaire

1. Please fill in the questionnaire in **black biro**.

2. Most questions on the following pages can be answered simply by putting a cross in the box next to the answer that applies to you.

Example:

- Yes ☒
- No ☐

Sometimes you are asked to write in a number or the answer in your own words. Please enter numbers as figures rather than words.

3. Occasionally you may have more than one answer to a question. Please cross all the boxes next to the answers that apply to you if the instruction ‘**Please cross one or more boxes**’ is printed on top of the boxes.
4. Sometimes you are asked to give an age or a length of time in weeks and days, or days and hours. Please follow the instructions very carefully.

Example:

How old is your baby?

If your baby is 6 weeks and 2 days old enter the number of whole weeks plus any additional days

Please enter numbers in both boxes:

\[
\begin{align*}
6 & \quad \text{and} \quad 2 \\
\text{weeks} & \quad \text{days}
\end{align*}
\]

5. Usually after answering each question you go on to the next one unless a box you have crossed has an arrow next to it with an instruction to go to another question.

Example:

Yes ✗ Go to Q8

No

By following the instructions carefully you will miss out questions which do not apply, so the questionnaire will be shorter than it looks.

6. If you cannot remember, do not know, or are unable to answer a particular question please write that in.

7. If you would like to give any further information on any of your answers you can write this in at the end of the survey.

8. When you have finished, please post the questionnaire to us as soon as possible in the reply-paid envelope provided, even if you were not able to answer all of it.

We are very grateful for your help.
Section 1: About your baby

First of all we would like to ask some general questions before finding out how you feed your baby at present.

Q1. What is your baby's first name?
*Please write in below – one letter per box*

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Q2. How old is your baby?
*Please write numbers in both boxes
Write in how many whole weeks plus any additional days:

[ ] weeks and [ ] days

Q3. Is this your first baby?

Yes [ ] ⇒ Go to Q5
No [ ] ⇒ Go to Q4

Q4. How many children do you have in total?
*Please exclude stepchildren or foster children.*

Write in number: [ ] [ ]

Q5. Is your baby one of twins, triplets or other multiple birth?

No [ ]
Yes, twin [ ]
Yes, triplets or other multiple birth [ ]

If you have twins or triplets:
- Please complete this questionnaire with respect to the baby who was born first.
- We are also interested in your other baby or babies and will ask you a few questions about them at a later date.
Section 2: About the milk that you give your baby

Please note that when we ask about ‘breastfeeding’ we also mean ‘giving your baby expressed breast milk’.

Q6. Thinking about the milk that your baby has received over the last 7 days, has he/she had…

Please cross one box only

- Only breast milk
- Only infant formula
- Breast milk and infant formula

Go to Q7

Q7. Has your baby EVER been given infant formula, even if this was only once?

- Yes (even if only once)
- No

Go to Q13

Q8. Has your baby EVER been given breast milk (via syringe, bottle or cup etc) or have you put your baby to the breast, even if this was only once?

- Yes (even if only once)
- No

Go to Q9

Q9. How old was your baby when he/she was LAST given breast milk or you put them to your breast?

Please write the age in the appropriate box

- Either in days:
- In whole weeks plus any additional days:

weeks and days
Q10. What were your reasons for stopping breastfeeding?
*Please write in the reasons*

Q11. Which of the following best describes how long you breastfed for?
*Please cross one box only*

- [ ] I would have liked to breastfeed for longer  : Go to Q12
- [ ] I breastfed for as long as I intended
- [ ] I breastfed for longer than I intended  : Go to Q13

Q12. What would have helped you breastfeed for longer?
*Please write in the reasons*
If you have only ever breastfed your baby, please go to Q15

Q13. How old was your baby when he/she FIRST received infant formula?
*Please write the age in the appropriate box*

Either in days:

OR

In whole weeks plus any additional days:

weeks and days

Q14. Since your baby was born, how often has he/she been fed infant formula?
*If your pattern of using infant formula has varied please select the answer you feel comes closest to describing your situation.*

*Please cross one box only*

- All or almost all feeds
- About half of all feeds
- One or two feeds a day
- A few feeds a week, but not every day
- A few feeds since they were born, but not every week
- Only once or twice since they were born

Q15. Have you ever seen an advertisement on television, radio or in a magazine or newspaper for baby milks?

- Yes  ⇒  Go to Q16
- No  ⇒  Go to instruction before Q17

Q16. What did you see advertised?

*Please cross one or more boxes*

- First Stage milks
- Follow on milks (sometimes known as stage 2/3)
- Other *(Please cross and write in)*
- Don't know
If you currently use infant formula AT ALL, please answer the following questions.
If not, please go to Q23

The following questions are about how you make up infant formula feeds for your baby. Please try and think about how you usually make up the feeds. If this varies think about the way you do it most often.

Q17. When making infant formula feeds do you USUALLY…

Please cross one box only

Only make one feed at a time as you need it □  ⇒ Go to Q23
Make several feeds at a time and store them □  ⇒ Go to Q18
Only ever use ready to feed formula □

Q18. When making infant formula feeds for your baby do you USUALLY…

Please cross one box only

Use water that has just boiled □
Use water that has boiled and been left to cool for 30 minutes □
Use water that has boiled and been left to cool between 30 and 45 minutes □
Use water that has boiled and been left to cool for more than 45 minutes □

Q19. When making infant formula feeds do you USUALLY…

Please cross one box only

Put the powder in the bottle first and then add the water □
OR
Put the water in the bottle first and then add the powder □

Q20. If you need to feed your baby when you are out do you USUALLY…

Please cross one box only

Make up an infant formula feed before leaving home □  ⇒ Go to Q21
Make up an infant formula feed whilst you are out □  ⇒ Go to Q22
Take a ready to feed formula with you □
Take expressed breast milk with you □
Breastfeed □
Never feed your baby away from home □
Q21. When you are out, do you **USUALLY** keep the feeds you have made chilled?

- Yes [ ]  
- No [ ]  

Go to Q23

Q22. When you are out do you **USUALLY**...

- Make feeds with cold or cooled water [ ]
- **OR**
- Make feeds with hot water (e.g. ask for hot water or use hot water from a flask) [ ]

Q23. Have you ever used a bottle to feed your baby?

- Yes [ ]  ⇒  Go to Q24
- No [ ]  ⇒  Go to Q25

Q24. What methods do/did you **USUALLY** use to sterilise the bottle?

*Please cross one box only*

- Hot soapy water [ ]
- Boiling water [ ]
- Soaking in sterilising solution e.g. Milton [ ]
- Steam steriliser [ ]
- Dishwasher [ ]
- Microwave [ ]
- **Other** *(Please cross and write in)* [ ]

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Section 3: About Healthy Start

The Healthy Start scheme provides pregnant women and children under 4 years old with vouchers which can be spent on milk, infant formula, fresh fruit or vegetables. Coupons are also available for free vitamins for pregnant women, mothers and babies.

You are eligible for the scheme if you or your family receive ONE of the following:
- Income support
- Income-based Job Seeker’s Allowance
- Income-related Employment and Support Allowance
- Child Tax Credit, without working Tax Credit (except Working Tax run-on) and an annual family income of £16,190 or less

Q25. Based on the list above, are you eligible for the Healthy Start scheme?

Yes ☐  ⇒  Go to Q26
No ☐  ⇒  Go to Q27
Don’t know ☐  ⇒  Go to Q32

Q26. Are you on the Healthy Start scheme?

Yes ☐  ⇒  Go to Q28
No ☐  ⇒  Go to Q27

Q27. Were you aware of the Healthy Start scheme before reading the description at the beginning of this section?

Yes ☐  ⇒  Go to Q28
No ☐  ⇒  Go to Q32
Q28. How did you find out about the Healthy Start scheme?

Please cross one or more boxes

- Local benefit office / Jobcentre Plus
- SureStart or Children’s Centre / Children’s Health Clinic
- Partner, friend or relative
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Start4Life
- Books / leaflets / magazines
- Television / radio
- The internet / web based resources
- Doctor / GP
- Health visitor
- Midwife (including at antenatal sessions)
- Nurse
- Somewhere else *(Please cross and write in)*

Q29. Since the birth, have you used any ‘Healthy Start vouchers’ to buy milk, infant formula or fresh fruit and/or vegetables?

- Yes  ☐  ⇒  Go to Q30
- No  ☐  ⇒  Go to Q31

Q30. What did you spend your Healthy Start vouchers on?

Please cross one or more boxes

- Infant formula
- Cow’s milk
- Fresh fruit
- Fresh vegetables
- Something else *(Please cross and write in below)*

Go to Q32
Q31. Why haven’t you spent your Healthy Start vouchers?
*Please write in the reasons*

Section 4: About other drinks and food that you may give to your baby

Q32. Over the last 7 DAYS has your baby had anything else to drink apart from milk, such as water, fruit juice, squash, or herbal drink?

Yes ☐ ⇒ Go to Q34
No ☐ ⇒ Go to Q33

Q33. Has your baby EVER had anything else to drink apart from milk, such as water, fruit juice, squash or herbal drink?

Yes (even if only occasionally) ☐ ⇒ Go to Q34
No ☐ ⇒ Go to Q36

Q34. How old was your baby when he or she was FIRST given something apart from milk to drink, such as water, fruit juice or herbal drink?
*Please write the age in the appropriate box*

Either in days ☐ ☐

OR

In whole weeks plus any additional days ☐ ☐ weeks and ☐ ☐ days
Q35. Apart from milk, do you give your baby drinks mainly...?

*Please cross one or more boxes*

- Because he/she is thirsty
- To give him/her extra vitamins
- To help his/her colic/wind
- To help his/her constipation
- To settle him/her
- Some other reason *(Please cross and write in)*

Q36. Has your baby ever had any foods such as cereal, rusks, baby rice, fruit, vegetables or any other kind of solid food?

- Yes ☐ ⇒ Go to Q37
- No ☐ ⇒ Go to Q40

Q37. How old was your baby when he/she first had any food apart from milk?

*Please write a number in the box*

*Please write in the age to the nearest whole week*

☐ ☐ weeks old

Q38. At present, are you regularly giving your baby cereal, rusks, baby rice or any other solid food?

- Yes ☐
- No ☐

N.B. There is no Q39.
Section 5: About vitamins for your baby and yourself

Q40. Do you give your baby any vitamin drops?

Yes ☐  ⇒  Go to Q41
No  ☐  ⇒  Go to Q42

Q41. How do you usually get the vitamin drops for your baby?

Please cross one box only

Get free Healthy Start vitamins  ☐
Buy Healthy Start vitamins  ☐
Buy other vitamins from a supermarket, pharmacy or health food shop  ☐
Get vitamins on prescription  ☐
Other (Please cross and write in)  ☐

Q42. Are you taking any vitamin or iron supplements yourself?

Yes ☐  ⇒  Go to Q43
No  ☐  ⇒  Go to Q44

Q43. What type of supplements are you taking?

Please cross one or more boxes

Iron only  ☐
Multi-vitamins only  ☐
Multi-vitamins and iron combined  ☐
Vitamin D supplement  ☐
Single vitamin supplement- other  ☐
Healthy Start vitamins  ☐
Something else (Please cross and write in)  ☐

............................................................................
Section 6: About when you were pregnant

Q44. Did you take folic acid before or during your pregnancy?

Please cross one or more boxes

- Yes, before I was pregnant
- Yes, during first three months of pregnancy
- Yes, later on in pregnancy
- No, did not take folic acid

Q45. Do you know why increasing your intake of folic acid is recommended, either when planning or during pregnancy?

- Yes
- No

Go to Q46
Go to Q47

Q46. Why do you think pregnant women are recommended to increase their intake of folic acid?

Please write in the reasons

Q47. When you were pregnant, did you take any vitamin or iron supplements either in tablet, drop or liquid form (apart from folic acid)?

- Yes
- No

Go to Q48
Go to Q49
Q48. What type of supplements did you take?

*Please cross one or more boxes*

- Iron only
- Multi-vitamins only
- Multi-vitamins and iron combined
- Vitamin D supplement
- Single vitamin supplement- other
- Healthy Start Vitamins
- Something else (*Please cross and write in*)

Q49. Thinking back to before you had your baby, how did you plan to feed him/her?

*Please cross one box only*

- Infant formula
- Breastfeed
- Breastfeed and use infant formula
- Had not decided

**Go to Q50**

Q50. Why did you think you would feed your baby by that method?

*Please give all your reasons and explain*

Q51. While you were pregnant did you have any antenatal check ups?

- Yes
- No

**Go to Q52**

**Go to Q54**
Q52. At the checkups did anyone discuss feeding your baby with you?
Yes □ ⇒ Go to Q53
No □ ⇒ Go to Q54

Q53. At the checkups, who discussed feeding your baby with you?

Please cross one or more boxes

- Doctor □
- Health visitor □
- Midwife □
- Nurse □
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums) / Volunteer □
- Someone else (Please cross and write in) □

Q54. While you were pregnant with this baby, did you go to any sessions to prepare you for having the baby?

Yes □ ⇒ Go to Q55
No □ ⇒ Go to Q57

Q55. Where were the sessions held?

Please cross one or more boxes

- In hospital / birth centre / midwifery led unit □
- Clinic / doctor’s surgery / health centre □
- Children’s Centre □
- Voluntary or charitable organisation □
- Somewhere else (Please cross and write in) □

Q56. During this pregnancy did you attend any sessions that included talks or discussions about feeding babies?

Yes □ ⇒ Go to Q57
No □ ⇒ Go to Q57
Q57. During this pregnancy were you taught how to position your baby for breastfeeding and how to attach your baby to your breast?

Yes ☐

No ☐

Q58. During this pregnancy did you get any information about your diet during pregnancy?

Yes ☐

No ☐

Q59. During this pregnancy did you get any information about smoking during pregnancy?

Yes ☐  ⇒  Go to Q60

No ☐  ⇒  Go to Q62

Q60. What information did you get?  

Please cross one or more boxes

Information on...
...the effects of smoking on your baby ☐
...how to stop smoking ☐
...how to cut down smoking ☐
...how your partner could stop smoking ☐
...the risks of continuing to smoke in pregnancy ☐
...the dangers of sharing a bed with your baby and smoking ☐

Some other advice or information (Please cross and write in) ☐

..................................................................................................................................................................
Q61. Where did you get this information?  

Please cross one or more boxes

- Specialist smoking advisor
- NHS Pregnancy Smoking Helpline
- SureStart or Children’s Centre / Children’s Health Clinic
- Partner, friend or relative
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Start4Life
- Books / leaflets / magazines
- Television / radio
- The internet / web based resources
- Doctor / GP
- Health visitor
- Midwife (including at antenatal sessions)
- Nurse
- Somewhere else (Please cross and write in)

Q62. When you were pregnant did you get any information about drinking alcohol during pregnancy?

Yes ☐ ⇒ Go to Q63
No ☐ ⇒ Go to Q65

Q63. What information did you get?  

Please cross one or more boxes

Information on...
...the effects of drinking alcohol on your baby ☐
...stopping drinking alcohol in pregnancy ☐
...limiting the amount of alcohol you drank ☐
...continuing to drink alcohol with no information about limit ☐
...the dangers of sharing a bed with your baby and drinking alcohol ☐
Some other advice or information (Please cross and write in) ☐
Q64. Where did you get this information?

Please cross one or more boxes

SureStart or Children’s Centre / Children’s Health Clinic
Partner, friend or relative
Voluntary or charitable organisation
Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
Breastfeeding support group
Start4Life
Books / leaflets / magazines
Television / radio
The internet / web based resources
Doctor / GP
Health visitor
Midwife (including at antenatal sessions)
Nurse
Somewhere else *(Please cross and write in)*

Q65. While you were pregnant with this baby, did you get any information about the HEALTH benefits of breastfeeding?

Yes  □  ⇒  Go to Q66
No   □  ⇒  Go to Q67
Q66. Where did you get this information?

Please cross one or more boxes

- SureStart or Children’s Centre / Children’s Health Clinic
- Partner, friend or relative
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Start4Life
- Books / leaflets / magazines
- Television / radio
- The internet / web based resources
- Doctor / GP
- Health visitor
- Midwife (including at antenatal sessions)
- Nurse
- Somewhere else *(Please cross and write in)*

Q67. Did you know any mothers with young babies before you had your baby?

- Yes ☐ ⇒ Go to Q68
- No ☐ ⇒ Go to Q69

Q68. Would you say that most of these mothers with young babies breastfed or gave infant formula?

Please cross one box only

- Most of them gave infant formula only
- Most of them breastfed only
- Most of them breastfed and gave infant formula
- There was a real mixture of the above methods
- Don't know
Q69. Do you know whether you were breastfed or fed with infant formula when you were a baby?

Please cross one box only

- Breastfed entirely
- Fed entirely with infant formula
- Both breastfed and fed with infant formula
- Don't know

Section 7: About the birth of your baby

Q70. How many weeks pregnant were you when your baby was born?

[ ] [ ] weeks

Q71. Where was your baby born?

- In hospital – in a midwife-led unit
- In hospital – in a consultant-led unit
- In a midwife-led unit or birth centre separate from hospital
- At home
- Somewhere else (Please cross and write in)

Go to Q72

Go to Q74

Q72. Which hospital, birth centre or unit was your baby born in?

Name of the hospital and/or unit

[ ] [ ]

Town where this is located

[ ] [ ]

Q73. How long after the baby was born did you stay in the hospital, birth centre or unit?

Please enter number in one box only

Either:

How many hours did you spend in the hospital, birth centre or unit?

[ ] [ ] hours

OR

How many days did you spend in the hospital, birth centre or unit?

[ ] [ ] days
Q74. Thinking about the birth of your baby, what kind of delivery did you have?

- Normal (vaginal) birth
- A caesarean (through a cut in the abdomen)
- Delivery using forceps
- Delivery using vacuum cap on the baby’s head (ventouse)

Q75. During your labour, did you use any of the following to relieve the pain?

Please cross one or more boxes

- Natural methods (e.g. breathing, massage)
- Water or a birthing pool
- TENS machine (with pads on your back)
- Gas and air (breathing through a mask)
- Injection of pethidine or a similar painkiller
- Epidural (injection in your back)
- Something else (Please cross and write in)

Q76. How much did your baby weigh when he/she was born?

- Either in pounds and ounces:
  - [ ] lb
  - [ ] oz

- Or in kilograms:
  - [ ] kg

Q77. Did you have skin-to-skin contact with your baby within the first 24 hours after he/she was born? (By skin-to-skin contact we mean you were holding the baby so that his/her bare skin was next to your bare skin.)

- Yes [ ] ⇒ Go to Q78
- No [ ] ⇒ Go to Q80
Q78. Were you able to have this skin-to-skin contact with your baby for as long as you wanted?

Yes  □
No  □

Q79. About how long after your baby was born did you first have skin-to-skin contact?

Please cross one box only

- Immediately / within a few minutes  □
- Within an hour  □
- More than 1 hour, up to 12 hours  □
- More than 12 hours later  □

Q80. After the birth did you have any health problems that affected your ability to feed your baby the way you wanted to?

Yes  □
No  □

Q81. Was your baby put into special care at all, or put under a lamp for jaundice?

Please cross one or more boxes

- Yes, put into special care  □  Go to Q82
- Yes, put under a lamp  □  Go to Q82
- No, neither  □  Go to Q84

Q82. For how long was your baby in special care or put under a lamp?

One day or less  □
Two or three days  □
Four days to one week  □
More than one week up to one month  □
More than one month  □

Q83. Did having your baby in special care or under a lamp affect your ability to feed your baby the way you wanted to?

Yes  □
No  □
Q84. During the first few days, did anyone help you put your baby to the breast?

Yes □  ⇒  Go to Q85
No □  ⇒  Go to Q87

Q85. Who was this?

Please cross one or more boxes

- Midwife
- Midwifery Support Worker
- Nurse
- Nursery Nurse
- Healthcare assistant
- Health visitor
- Doctor / GP
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Partner, friend or relative
- Someone else (Please cross and write in)

Q86. Did he/she stay with you while you were first breastfeeding?

Please cross one box only

- Left before baby had started feeding
- Left once baby had started feeding
- Left once baby was feeding but came back to check on you
- Stayed the whole time until the baby finished feeding

Q87 Did anyone explain to you how to recognise that your baby is getting enough milk?

Yes □  Go to Q88
No □  Go to Q90

Q88. Did you feel confident that you could recognise if your baby was getting enough breastmilk?

Yes □
No □
Q89. How useful did you find this information at the time?

- Extremely useful
- Very useful
- Not very useful
- Not useful at all

Q90. Would you have liked any help or information on how to put your baby to the breast?

- Yes
- No

Section 8: About the times that you feed your baby

If you ever breastfed your baby please answer Q91
If your baby was completely fed on infant formula from birth go on to Section 9

Q91. How soon after your baby was born did you first put him/her to the breast?

Please cross one box only

- Immediately / within a few minutes
- Within half an hour
- More than ½ hour, up to 1 hour later
- More than 1 hour, up to 4 hours later
- More than 4 hours, up to 8 hours later
- More than 8 hours, up to 12 hours later
- More than 12 hours, up to 24 hours later
- More than 24 hours later

If your baby was born in a hospital, birth centre or unit please answer Q92
If your baby was born at home please go on to Q101

Q92. While you were in the hospital, birth centre or unit, as well as being breastfed, did your baby have infant formula, water or glucose water?

- Yes
- No
- Don't know
Q93. Were you advised to give something else to your baby other than breast milk or did you want your baby to have something else?

- Advised to give something else  □
- I wanted my baby to have something else  □
- No, neither  □

Section 9: About when you were in the hospital, birth centre or unit

If your baby was born at home please go to Q101

Q94. Did your baby stay beside you all the time you were in the hospital, birth centre or unit?

- Yes  □
- No  □

Q95. Were there any problems feeding your baby while you were in the hospital, birth centre or unit?

- Yes  □  ⇒  Go to Q96
- No  □  ⇒  Go to Q99

Q96. What problems were there?
Please write in
Q97. Did anyone give you any help or support with this/these problems?

- Yes □  ⇒  Go to Q98
- No □  ⇒  Go to Q99

Q98. Who helped or supported you?

Please cross one or more boxes

- Midwife
- Midwifery Support Worker
- Nurse
- Nursery Nurse
- Healthcare assistant
- Health visitor
- Doctor / GP
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Partner, friend or relative
- Someone else (Please cross and write in)

Q99. While you were in the hospital, birth centre or unit did you get enough help and support with feeding your baby?

- Yes – received enough help
- No – would have liked more help

Q100. When you left the hospital, birth centre or unit, were you…

Please cross one box only

- Only giving breast milk
- Only giving infant formula
- Giving both breast milk and infant formula?
Section 10: About help for you at home

Q101. How old was your baby when you had the last visit or contact with the midwife or maternity support worker?

Please write in age in days - if you cannot remember exactly, please put in the approximate age.

☐ ☐ days old

Q102. Since leaving the hospital, birth centre or unit has anyone given you the contact details of a voluntary organisation or community group which helps new mothers with infant feeding? (If your baby was born at home, please base your answer from when your baby was born.)

Please cross one or more boxes

Yes, in conversation ☐ Go to Q103
Yes, in writing / in print ☐
No ☐ Go to Q104

Q103. Have you used these contact details to seek any help or information?

Yes ☐
No ☐

Q104. Are you aware of the National Breastfeeding Help line?

Yes and I have used it ☐
Yes but I have not used it ☐
No I was not aware of it ☐

Q105. Since your baby was born has a health visitor been to see you?

Yes ☐ Go to Q106
No ☐ Go to Q107

Q106. How old was your baby when the health visitor first came?

Please write in the total number of days - if you cannot remember exactly, please put in the approximate age.

☐ ☐ days old
Q107. Since you left the hospital, birth centre or unit have you had any problems with feeding your baby?
(If your baby was born at home, please answer about any feeding problems since the birth.)

Yes ☐  ⇒  Go to Q108
No ☐  ⇒  Go to Q111

Q108. What problems were there?

Please write in

Q109. Did you get any help or information about this/these problems?

Yes ☐  ⇒  Go to Q110
No ☐  ⇒  Go to Q111
Q110. Where did you get this help or information?

Please cross one or more boxes

- SureStart or Children’s Centre / Children’s Health Clinic
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- Partner, friend or relative
- Start4Life
- Books / leaflets / magazines
- Television / radio
- The internet / web based resources
- Breastfeeding clinic
- National Breastfeeding Helpline
- Doctor / GP
- Health visitor
- Midwife
- Nurse
- Somewhere else (Please cross and write in)

Q111. During your pregnancy or after the birth of your baby were you given a copy of any of the following?

Please cross one or more boxes

- The Pregnancy Book
- The Birth to Five book
- Off to the best start (Start4Life) leaflet (England only)
- Breastfeeding - off to a good start leaflet (Scotland and Northern Ireland)
- Breastfeeding – the best start for your new baby leaflet (Wales only)
- Bottle feeding leaflet (England only)
- Ready Steady Baby leaflet (Scotland only)
- Breastfeeding and work leaflet (England only)
- Breastfeeding and returning to work leaflet (Scotland, Wales and N. Ireland)
- “From Bump to Breastfeeding” DVD
- Received items but don’t remember names
- Did not receive any of these
Q112. In which position do you usually place your baby to sleep?

*Please cross one box only*

- On his/her back □
- On his/her front □
- On his/her side □
- Varies □

Q113. How often, if at all, do you let your baby sleep in your bed with you?

*Please cross one box only*

- All the time □
- Regularly □
- Sometimes □
- Rarely □
- Never □

Q114. Have you ever slept on a sofa with your baby?

- Yes □
- No □

Section 11: About smoking and drinking

Q115. Have you ever smoked cigarettes?

- Yes □  Go to Q116
- No □  Go to Q121

Q116. Have you smoked at all in the last two years, that is since September 2008?

- Yes □  Go to Q117
- No □  Go to Q121

Q117. Do you smoke cigarettes at all now?

- Yes □  Go to Q118
- No □  Go to Q119
Q118. Did you smoke cigarettes at all during pregnancy, after you found out you were pregnant?

Yes □ ⇒ Go to Q120

No □ ⇒ Go to Q121

Q119. When did you finally give up?

Please cross one box only

Before you knew you were pregnant □ ⇒ Go to Q121

As soon as you found out you were pregnant □

Later on during your pregnancy □

After the birth □

Go to Q120

Q120. Since you knew about your pregnancy, did you do any of the following?

Please cross one or more boxes

Stopped smoking temporarily (for less than 1 month) □

Stopped smoking temporarily (for more than 1 month) □

Used nicotine replacement therapy (e.g. nicotine gum, patch or other), which was prescribed by my GP or other healthcare professional □

Used nicotine replacement therapy (e.g. nicotine gum, patch or other) that I bought over the counter □

Cut down the number of cigarettes I smoked each day □

Increased the number of cigarettes I smoked □

None of the above □

Q121. During your pregnancy, did any of the people you lived with smoke cigarettes?

Please cross one or more boxes

Yes, my partner smoked □

Yes, someone else I lived with smoked □

No, nobody else who I lived with smoked □

Not applicable - I lived alone □
Q122. Do any of the people who live with you now smoke cigarettes?

Please cross one or more boxes

Yes, my partner smokes □
Yes, someone else I live with smokes □
No, nobody else who I live with smokes □
Not applicable - I live alone with my baby □

Q123. Do you ever drink alcohol at all now? (including low alcohol drinks)

Yes □ ⇒ Go to Q125
No □ ⇒ Go to Q124

Q124. Have you drunk alcohol at all during the past two years?

Yes □ ⇒ Go to Q125
No □ ⇒ Go to Q130

Q125. Thinking back to when you were pregnant, please cross the box that best describes how often you usually drank each of the alcoholic drinks listed below.

During pregnancy I usually drank:

Please cross one box on each line

| Alcohol Type                                      | Most days | 3-4 times a week | Once or twice a week | Once or twice a month | Very occasionally | Not at all |
|--------------------------------------------------|-----------|------------------|----------------------|-----------------------|-------------------|------------|
| Normal strength beer / lager / cider / shandy    | □         | □                | □                   | □                     | □                 | □          |
| Strong (6% or more) beer / lager / cider         | □         | □                | □                   | □                     | □                 | □          |
| Wine / champagne                                 | □         | □                | □                   | □                     | □                 | □          |
| Sherry / martini / vermouth / port               | □         | □                | □                   | □                     | □                 | □          |
| Spirits / liqueurs (e.g. gin, whisky, rum, brandy, vodka) | □         | □                | □                   | □                     | □                 | □          |
| Alcopops                                         | □         | □                | □                   | □                     | □                 | □          |
| Low alcohol drinks                               | □         | □                | □                   | □                     | □                 | □          |
| Other alcoholic drinks                           | □         | □                | □                   | □                     | □                 | □          |
**Q126.** For each type of drink you say that you had when you were pregnant, please write in the boxes the amount you usually drank each time that you had a drink. (If none write '0')

| Type of Drink                      | Measure          |
|------------------------------------|------------------|
| Normal strength beer / lager / cider / shandy | half pints, pints |
| Strong (6% or more) beer / lager / cider | half pints, pints |
| Wine / champagne                    | small glass (125ml), medium glass (175ml), large glass (250ml) |
| Sherry / martini / vermouth / port  | glasses |
| Spirits / liqueurs (e.g. gin, whisky, rum, brandy, vodka) | single measures (count double measures as 2) |
| Alcopops                            | bottles |
| Low alcohol drinks                  |                  |
| Other alcoholic drinks              |                  |

(please write in - including type of measure)

**Q127.** Thinking about ALL kinds of alcoholic drinks, how often did you have an alcoholic drink of any kind during pregnancy?

Please cross one box only

| Frequency       |   |
|-----------------|---|
| Most days       |   |
| 3-4 times a week|   |
| Once or twice a week |   |
| Once or twice a month |   |
| Less than once a month |   |
| Not at all      |   |

**Q128.** During your pregnancy would you say you drank more, less or about the same amount of alcohol than before you were pregnant?

Please cross one box only

| Amount          |   |   |
|-----------------|---|---|
| I drank much more during pregnancy than before |   | Go to Q129 |
| I drank more during pregnancy than before    |   | Go to section 12 |
| I drank about the same during pregnancy as before |   | Go to Q129 |
| I drank less during pregnancy than before    |   |   |
| I drank much less during pregnancy than before |   |   |
Q129. Why did you change your drinking habits during pregnancy?

*Please cross one or more boxes*

- Drinking alcohol made me feel sick / unwell
- I disliked the taste of alcohol when I was pregnant
- Alcohol cheered me up and made me feel better
- Alcohol might harm my baby
- I had personal / family problems
- Some other reasons *(Please cross and write in)*

Section 12: And finally...

*If this is your first baby, please go on to Q131*

Q130. If this is not your first baby, we would like to know how you fed your previous children.

*Please fill in the details below, but DO NOT INCLUDE YOUR LATEST BABY as you have already told us about him/her.*

| Previous children: | Q130a Was he/she breastfed at all? | Q130b If breastfed, how long did you continue breastfeeding? |
|--------------------|-----------------------------------|----------------------------------------------------------|
| Eldest child:      | Yes ☐ ☞ Go to Q130b              | ☐ days OR ☐ weeks OR ☐ months                           |
|                    | No ☐                             |                                                          |
| Second eldest child: | Yes ☐ ☞ Go to Q130b         | ☐ days OR ☐ weeks OR ☐ months                           |
|                    | No ☐                             |                                                          |
| Third eldest child: | Yes ☐ ☞ Go to Q130b           | ☐ days OR ☐ weeks OR ☐ months                           |
|                    | No ☐                             |                                                          |
| Fourth eldest child: | Yes ☐ ☞ Go to Q130b       | ☐ days OR ☐ weeks OR ☐ months                           |
|                    | No ☐                             |                                                          |
Q131. Thinking about all the help and information you received on how to feed your baby, who or what had the MOST influence on you?

Please cross one box only

- Own experience
- Friends / other mothers
- Partner
- Mother / grandmother
- Other relatives
- Health professional (e.g. doctor, midwife)
- SureStart or Children's Centre / Children's Health Clinic
- Voluntary or charitable organisation
- Peer supporter (a mum who has breastfed themselves and been trained to give support to other mums)
- Breastfeeding support group
- National Breastfeeding Helpline
- Start4Life
- Books / leaflets / magazines
- Television / radio
- The internet / web resources
- Someone / something else (Please cross and write in)

Q132. For how long do you think you will continue breastfeeding your baby?

Until my baby is:

Either

[ ] [ ] weeks old

Or

[ ] [ ] months and [ ] weeks old

Don’t know / have not decided (Please cross if appropriate)

Q133. Are you aware of any health benefits in breastfeeding, either for the mother or the baby?

Yes [ ] ⇔ Go to Q134

No [ ] ⇔ Go to Q136
Q134. What health benefits, if any, are you aware of for the MOTHER?

Please write in

Q135. What health benefits, if any, are you aware of for the BABY?

Please write in

To finish with, a few questions about yourself...

Q136. What age are you now?

Please cross one box only

- Under 20
- 20, up to 24
- 25, up to 29
- 30, up to 34
- 35, up to 39
- 40 or over
Q137. How old were you when you finished full-time education? This might be school or college, whichever you last attended full-time) (If you are still in full time education please cross the box for the age you are intending to leave it)

Please cross one box only

16 or under  □
17  □
18  □
19 or over  □

Q138. Are you doing any paid work at the moment?

Please cross one box only

Yes  □  ⇒  Go to Q141
On paid maternity leave  □
On unpaid maternity leave  □  ⇒  Go to Q139
No  □

Q139. Do you intend to start or return to work within the next year?

Please cross one box only

Yes, full-time  □
Yes, part-time  □
No  □
Don’t know  □

Please skip question 140 if you are on maternity leave

Q140. Have you EVER done any paid work?

Yes  □  ⇒ Please answer Q141-147 for the job you did most recently
No  □  ⇒ Go to Q148

Q141. What is the title of your job? Please write in (If you have/had more than one job please give details of your main job.)
Q142. What do you mainly do in your job?
*Please write in*

Q143. What does the firm or organisation you work for make or do at the site where you work?
*Please write in*

Q144. Are you...

- an employee ☐ ⇒ Go to Q145
- or self-employed? ☐ ⇒ Go to Q146

Q145. Do you have any managerial duties or do you supervise any other employees?

- Yes, manager ☐
- Yes, supervisor ☐
- No, neither ☐

Q146. Do you work mainly at home or do you go out to work?

- Mainly at home ☐ ⇒ Go to Q148
- Go out to work ☐ ⇒ Go to Q147

Q147. How many employees are there at the place where you work?

- 1-24 ☐
- 25 - 499 ☐
- 500 or more ☐
- On own / with partners but no employees ☐
Q148. Are you…

Married or in a civil partnership ☐
Living together ☐
Single ☐
Widowed, divorced or separated ☐

Q149. What is your ethnic group?  

White
British ☐
Irish ☐
Any other white background *(Please cross and write in)* ☐

Mixed
White and Black Caribbean ☐
White and Black African ☐
White and Asian ☐
Any other mixed background *(Please cross and write in)* ☐

Asian or Asian British
Indian ☐
Pakistani ☐
Bangladeshi ☐
Any other Asian background *(Please cross and write in)* ☐

Black or Black British
Caribbean ☐
African ☐
Any other black background *(Please cross and write in)* ☐

Chinese or Other ethnic group
Chinese ☐
Any other *(Please cross and write in)* ☐
Q150. Is there anything else you would like to say about feeding your baby?

Yes   □  ⇒  Please write in below

No    □

Please give the date when you filled in this questionnaire

□□ day   □□ month   □□ year

Was there anything you intended to go back and complete?
Please check.