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Expectations and experiences of hospital postnatal care in the UK: a systematic review of quantitative and qualitative studies

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Abstract

Objective: To report on women's and families' expectations and experiences of hospital postnatal care. Also to reflect on women's satisfaction with hospital postnatal care and to relate their expectations to their actual care experiences.

Design: Systematic review.

Setting: UK.

Participants: Postnatal women.

Primary and secondary outcomes: Women's and families' expectations, experiences and satisfaction with hospital postnatal care.

Method: Embase, MEDLINE, PsycINFO, Applied Social Science Index and Abstracts (ASSIA), Cumulative Index to Nursing and Allied Health (CINAHL) plus, Science Citation Index, Social Sciences Citation Index were searched to identify relevant studies published since 1970. We incorporated findings from qualitative, quantitative and mixed methods studies. Eligible studies were independently screened and quality assessed using a modified version of the NIH quality assessment tool for quantitative studies, and the Critical Appraisal Skills Programme for qualitative studies. Data were extracted on participants' characteristics, study period, setting, study objective and study specified outcomes in addition to the summary of results.

Results: Data were included from 52 studies, 27 quantitative, 19 qualitative, and 6 were mixed methods studies. The methodological quality of the included studies was mixed and only three were completely free from bias. Women were generally satisfied with their hospital postnatal care but were critical of staff interaction, the ward environment and infant feeding support. Ethnic minority women were more critical of hospital postnatal care than white women. Although duration of postnatal stay has declined over time, women were generally happy with this aspect of their care. There was limited evidence regarding women's expectations of postnatal care, families' experience, and social disadvantage.

Conclusion: Women were generally positive about their experiences of hospital postnatal care but improvements could still be made. More support for first time mothers is needed. Individualised and appropriate models of postnatal care should be evaluated and implemented.

Prospero registration number: CRD42017057913.

Strengths and limitations

- Searching across 10 different databases
- Quality assessment and data extraction by authors independently of each other
- Although the aim was to focus on women and babies without complications, most studies did not differentiate by risk
- We initially planned to focus on hospital postnatal care but some studies did not differentiate between hospital and community postnatal care. These were included for completeness.

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INTRODUCTION

Key aspects of postnatal care include attention to the physical health of the mother, breastfeeding support, psychological well-being of parents, education as to what the woman should expect after birth and regarding infant care. Over time there have been a number of changes in postnatal care in the UK, the most evident being a reduction in length of hospital stay (1). A hospital lying-in period of between eight to 14 days was standard in the 1950s (2), whereas length of postnatal hospital stay for a woman with an uncomplicated vaginal birth in the United Kingdom is now often 1-2 days (3, 4).

A Cochrane review by Brown et al (2002) on length of postnatal hospital stay for healthy mothers who gave birth to healthy term babies suggests that early discharge home does not have an adverse effect on maternal health or breastfeeding outcomes when accompanied by a policy of offering women at least one nurse-midwife home visit (5). Most trials included assessments of women's satisfaction with postnatal care in hospital, and overall, while not statistically significant, women tended to favour a short postnatal stay. A trial by Waldenström et al (1987) also reported that, following early discharge, fathers were more involved in early care of the infant (6). The Cochrane review has not been updated since 2002 and the current state of the evidence regarding the impact of length of postnatal hospital stay is unclear, particularly regarding current UK postnatal care policy and practice.

More choice around place of birth means that women may have more variation in location for the immediate postnatal period, for example, a stand-alone birth centre in comparison to a hospital maternity unit. Content of care has also changed. Maternal health observations, feeding support and parental education all remain priorities but there are limits to what can be achieved during a short stay. In addition, national guidance recommends that women are asked about their emotional wellbeing at every contact, that they have an initial assessment of needs, and individualised plan of care, all of which require time (7). Better Births: Improving outcomes of maternity services in England (8) acknowledges that postnatal care needs to be resourced appropriately and that women should have access to their midwife (and where appropriate obstetrician) as required after having had their baby. The Maternity Transformation Project (9) which gives a structure to the implementation of Better Births, emphasises the importance of kind and personalised care although postnatal care is not a specific work stream within this.

The need to invest in postnatal care arises from the knowledge that it is the most commonly criticised aspect of care by women as evidenced in the National Maternity Survey reports and publications arising from secondary analysis of survey data (3, 10, 11). However, we do not know if this is related to unmet expectations, poor experience of birth or afterwards, or the emotional and physical well-being of the women reporting their experiences.

As hospital postnatal stay has been decreasing in duration and also changing its focus, identifying changes in maternal expectations, experiences and satisfaction may provide important insights as to what aspects of care need to be improved for future services.

Review objectives

The main aim of this review was to comprehensively report on women's and families' expectations and experiences of the immediate postnatal care received in hospitals (including both alongside and free-standing birth centres). The objectives were:

- to report on women's satisfaction with hospital/birth centre postnatal care
- to explore how this relates to expectations and experience of care

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- to identify gaps in hospital postnatal service provision in the UK

METHODS

This review was conducted according to the PRISMA 2009 check list (12) and registered with Prospero (registration number CRD42017057913).

Selection of studies and inclusion criteria

Studies were eligible for inclusion if they involved women with low risk pregnancies as defined by the NICE 2017 guidelines (13) and gave birth in hospitals or birth centres in the UK. If studies contained data relating to both low and high risk pregnancies, only information relevant to the low risk group were sought for inclusion. Studies conducted on women with high risk pregnancies as defined by the NICE 2017 guidelines on Antenatal Care (13) were excluded. Studies involving women with various or unknown pregnancy risks were also excluded if it was not possible to separate data relating to low risk women. Studies with findings relating to a woman's partner were also sought for inclusion. Studies of women of all ages, parity, ethnic background and mode of delivery were eligible for inclusion. Data were also sought regarding contextual information relevant to women's expectations, satisfaction and experiences of their immediate postnatal care in hospital or birth centre.

We incorporated findings from different research methods: qualitative, quantitative and mixed method design studies. Reviews, editorials, commentaries and reports were only used to identify additional studies that were not retrieved by the searches. This review focuses on hospital postnatal care thus studies on aspects of community postnatal care were not included.

Any outcomes relevant to women's and families' expectations, experiences and satisfaction with postnatal care received in hospital or birth centres were extracted and are reported in this review.

Search strategy and study selection

The methodological component of the SPIDER (14) search strategy was used. Sets of search terms were developed to cover the following concepts: expectations, experiences and satisfaction with postnatal care in hospital and birth centres in the UK. The MEDLINE search strategy is available in Appendix 1.

The following databases were electronically searched: Embase, MEDLINE, PsycINFO, Applied Social Science Index and Abstracts (ASSIA), Cumulative Index to Nursing and Allied Health (CINAHL) plus, Science Citation Index, Social Sciences Citation Index. We also searched the grey literature in the databanks of British Library EThOS, Open Grey and ProQuest Dissertations & Theses Global. All retrieved references were stored in Endnote (X8) and screened independently by the review authors.

We restricted our search to English language only and limited by date from 1970. This date was chosen as many changes to postnatal care policies took place subsequently. Review searches were conducted in February 2017. Authors were contacted as necessary to locate full text papers.

Assessment of the included studies

For quantitative designs we applied a modified version of the NIH quality assessment tool for the observational cohort and cross-sectional studies (15). This tool was used to assess included studies for generalisability and risk of bias based on recruitment, exclusion criteria applied, description of the study population (demographic, location and time period), sample size, response rate and comparability to the wider population. The tool also assessed the adequacy of statistical techniques and adjustment for potential confounders and the reliability and validity of standardised measures.

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We rated the quality of evidence on each domain as 'yes' for low risk of bias, 'no' for high risk of bias and 'unclear' when no information was provided to support the judgement.

For evaluating the risk of bias of qualitative studies we used the Critical Appraisal Skills Programme (16). This tool has a checklist of ten questions which cover the study objectives and rationale, study methods, study design, recruitment strategies, method of data collection, information on ethical approval, and rigor of the method of analysing data and reporting of findings. Each domain is designated 'yes', 'no' or 'unclear' as above.

For mixed methods studies, the quantitative and qualitative components were assessed and reported separately, and are thus included in both quantitative and qualitative tables.

All reviewers independently assessed the quality of the included studies and any discrepancies in quality rating were resolved by discussion.

Data extraction and data analysis

We designed two different data extraction forms, one for the quantitative studies and the second for qualitative studies. We extracted information relevant to the participants' characteristics, study period, setting, study objective and study specified outcomes in addition to the summary of results. Data from mixed method studies were entered in both the qualitative and quantitative forms as appropriate. No authors were contacted to seek additional information. In this review we report findings from qualitative and quantitative studies separately. All findings are reported narratively, no meta-analysis or meta-synthesis were possible.

We planned to perform the following subgroup analysis using both quantitative and qualitative data:

- by parity
- by mode of delivery
- by the duration of postnatal stay: < 24 hours, 24 < 48 hours, 48 < 72 hours, >72 hours
- postnatal care received in hospitals in comparison to birth centres
- comparisons over time: 1970 to 1989, 1990 to 2009, 2010 to the present

RESULTS

Results of the search

The search strategy retrieved 2675 references of which 606 were duplicates and were removed. An additional 12 references were identified through hand searching of the reference list of full texts studies. Overall, 2081 titles and abstracts were independently screened by at least two reviewers resulting in 149 full texts being retrieved. These were assessed for eligibility and 52 studies are included in this review. Of these, 27 studies are purely quantitative, 19 purely qualitative, and six used mixed methods (Figure 1).

Description of included studies

Summaries of the included studies are presented in Tables 1 and 2 for quantitative and qualitative studies respectively.

Quantitative studies

There were 33 quantitative studies included in the review (1, 3, 10, 11, 17-45), of which six were mixed methods (21, 23, 27, 32, 36, 39).

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Of these studies, two were randomised controlled trials (31, 39), one was a non-randomised controlled study (35), a further study was a before-after intervention study (18), and another three (32, 36, 40) were cohort studies. The remaining 26 studies were cross-sectional surveys, 19 of which were national surveys with sample sizes ranging from 1137 (33) to 26,325 (29). Survey questions asked women their views on interpersonal and communication aspects of care, infant feeding advice and support received, physical and emotional well-being, length of stay and their view of their length of stay, and overall satisfaction.

Of the included studies, 13 were conducted before 2000 (25-28, 32, 33, 35, 36, 39-42, 44), 20 were conducted since then. The majority of the studies were conducted in England, but one was conducted in Northern Ireland (17), and seven in Scotland (23, 24, 28, 33, 38, 39, 41).

Risk of bias of included studies

The methodological quality of the included studies was overall moderate to low (Table 3). The study objectives were clearly pre-specified in most of the included studies, but the research question was unclear in 11 studies (3, 10, 20-24, 27, 29, 34, 39). All the studies except one (34) involved pre-defined populations. Of the 32 studies using surveys, 25 had response rates of at least 50% and of those eight studies had response rates over 70% (25, 26, 28, 31, 32, 35, 42, 44), although in one study the denominator was women who had already agreed to participate (28). However, response rates were not reported and not possible to calculate in two studies (34, 45). Sample selection was not clearly reported across the included studies and in the majority of the studies the population was mixed risk status rather than low risk. The generalisability of the study results was also limited by differential response rates with significantly fewer responses from young, single women, those born outside the UK and those resident in deprived areas. Most of the studies reported methods to check the validity and reliability of the surveys. Overall, most of the included studies involved a reasonable sample size of participants and used reliable and valid outcomes measures. However, few studies adjusted for potential confounding factors (3, 18, 30, 31, 37, 45), or used statistical weighting to adjust for differential response rates (19-24, 29).

Quantitative results

Findings are reported by outcomes described across the included papers.

Women's expectations of hospital postnatal care

Women's expectations of care were reported in one study only (18). This was a Continuous Quality Improvement study with a before-after design. Prior to the intervention 33.7% of women reported that care in hospital after birth was better than their expectations, after the intervention this increased to 40.2%.

Interaction with healthcare professionals

Almost all the studies in this section of the review included some discussion of staff attitudes, communication and/or practical help received (1, 3, 10, 11, 17-31, 34, 37-40, 42, 43, 45). However, different studies asked different questions in various different ways making comparison problematic.

Adequate practical help was reportedly received by 84% of women in one study (25), and in another study, 56% of primiparous women received all necessary physical support (45). Between 79% (3) and 94% (10) of women were *always* spoken to so that they could understand, but only 47% of women reported that they had enough time to talk to midwives (42). Between 54-83% (3, 17, 27) were *always* treated with respect, 91-92% were *mostly* treated with respect (10, 11). Two surveys reported that 68% and 77% of women felt listened to (3, 17). Four surveys also reported women's

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perceptions of always being treated as an individual on the postnatal ward at between 53% and 79% (3, 10, 11, 17).

Kindness, understanding and sensitivity were reported more widely (3, 10, 11, 17, 20-24, 27, 29, 31) at between 51-93% (always treated with kindness), but in a further survey only 41% of primiparous women received all necessary emotional support (45). Care and sensitivity was also reported as a score, 2.2 out of 5 (31), and on a scale of -2 to +2 social support scored between 0.7 and 1.2 (39). Always having confidence and trust in staff on the postnatal ward was reported in two studies at 59% and 69% (10, 27).

Information

Another vital aspect of postnatal care is for women to receive clear and adequate information. This was reported in 10 studies (20, 21, 23, 24, 26, 29, 31, 39, 42, 45). Adequate information and explanation were always received by 53-58% of women in two surveys (20, 29) compared to 93-94% who received fairly or very helpful advice in another study (26). The two studies which used the scoring systems referred to above reported explanations at 2.3 out of 5 (31) and information transfer at between 0.7 and 1.2 on a -2 to +2 scale (39). Information about specific elements of care such as the woman's recovery, postnatal exercises, emotional changes, and advice about baby care was reported more patchily. Between 61% (21) and 88%of women (30) were given information about their recovery, 84% about postnatal exercises (28), 53-56% about emotional changes, (21, 26), and between one third and three-quarters of women reported receiving information about elements of baby care (28, 42, 43, 45).

Postnatal hospital stay

More than half of the studies reported on the duration of hospital stay and/or women's views about their length of stay (1, 3, 10, 11, 17, 18, 20-25, 27, 28, 30, 32, 33, 43-45). The mean length of stay was stated in seven studies (10, 11, 17, 18, 28, 32, 44) and ranged from 1.8 in multiparous women in 1990 (28) to 5.9 days in women following a caesarean delivery in 1994 (44). The proportion of women with longer lengths of stay declined over the years and this is described below under *Sub-group analyses*.

About three quarters of women felt that their duration of stay was about right (1, 10, 17, 18, 20, 21, 23-25, 27, 28, 30, 33, 44). The proportion of women who considered their length of stay too short remained remarkably constant over time at 12-13% (1). Two studies reported that 62% and 77% of women respectively had some choice in their duration of stay (27, 33). Another study reported that there was an association between women considering their length of stay too short and scoring high on the Edinburgh Postnatal Depression Scale (44). However, no correlation was found between length of stay and overall satisfaction with postnatal care (19).

Infant feeding

Data relating to infant feeding were reported in more than half the studies (3, 10, 11, 17-25, 27-29, 35, 37, 38, 42, 43). The proportion of women who reported initiating breastfeeding ranged from 49% in Scotland in 2013 (24) to 87% in England in 2015 (3). Infant feeding support was also reported in 15 studies (3, 10, 11, 17, 19-25, 27-29, 38). Consistent advice in relation to infant feeding was always received by between 31% (27) and 77% of women (29), although most estimates were between 40-60%. Women were also asked in most of the national surveys if they received practical help with infant feeding. Between 31% (11, 27) and 46% of women (17) reported that they always received practical help. Similarly, always receiving support and encouragement ranged from 38% (27) to 78% (29). Three studies reported that infant feeding decisions were always respected in 81-82% of cases

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(20, 23, 24) but always having privacy to breastfeed was reported by only 49% of women in one study (27).

Apart from problems of definition and timing, many of these studies did not differentiate between feeding support in hospital and at home. However, a study which focussed specifically on breastfeeding support in hospital (35) reported that receiving enough support was associated with an Odds ratio of 2.13 (95% confidence interval 1.28, 3.53) for successful breastfeeding.

Ward environment

Five studies reported women's views of the ward environment (11, 28, 29, 38, 43). Two studies reported women's views of visiting: 81-89% of women were happy with the visiting arrangement, but 9-19% thought visiting was too short, 2% thought too much visiting was allowed and 38% thought it insufficiently flexible (28, 43). One study reported partner's experience of postnatal care and the impact of partners' presence on women's experience (23). In that study 58% of partners were accommodated on the postnatal ward, however their experience was not reported.

Ward hygiene, particularly in the toilets and bathrooms was a concern for many women, being reported as very clean by only 46% and 36% of women respectively (29), and in another study 19% of women were critical of ward cleanliness (11). Women were also critical of food (29), privacy, space, temperature, and noise levels (11).

Overall satisfaction with hospital postnatal care

Eight studies reported women's overall satisfaction with hospital postnatal care (3, 10, 11, 18, 26, 27, 36, 41), and three others reported overall quality of postnatal care (23, 24, 34). About three-quarters of women reported being satisfied or very satisfied with care (3, 10, 11, 18), between 46% and 81% reported being *very* satisfied with care (26, 27, 36, 41), however the figure of 81% (41) was from a survey distributed by midwives at 10 days postpartum so may be biased. Good or excellent quality postnatal care was reported by 83-86% of women in two Scottish surveys (23, 24), and as poor by 11-13% of women in another study (34).

Ethnicity

Two studies explicitly focussed on the perceptions of women from minority ethnic groups (30, 32). These both reported variations in length of postnatal stay and women's views of this. Women from all non-White ethnic groups had longer lengths of stay than White women but they expected to stay longer and, except for women of mixed ethnicity, were less likely to consider their length of stay about right (30, 32).

Qualitative studies

The literature search and screening resulted in 19 purely qualitative studies and six mixed methods studies that included qualitative data relating to hospital postnatal care (21, 23, 27, 32, 36, 39, 46-64). Of these, the majority, 17 were based on interviews (32, 36, 46-52, 55, 57-60, 62-64), seven on focus groups (36, 50, 51, 53, 57, 58, 60), and seven on free text comments in questionnaires (21, 23, 27, 36, 39, 56, 61); six used a mixture of different methods. The majority, 18 were conducted in England (or England and Wales) (21, 27, 32, 36, 46-48, 50, 52, 55, 56, 58-64), five were based in Scotland (23, 39, 49, 53, 57) and two across the whole of the UK (51, 54). Some questionnaire based studies which included free-text quotes for illustrative purposes only have not been included here as they were not analysed using qualitative methods.

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Most of the studies focussed on women's views of maternity care in general rather than their views of hospital postnatal care specifically. Six studies did focus specifically on hospital postnatal care (32, 47, 48, 52, 54, 63), six others focussed on infant feeding (50, 53, 57-59, 64), and six focused on exploring the experience of ethnic minority women (32, 49, 51, 56, 58, 62).

Risk of bias in qualitative studies

Only three of the qualitative studies (46, 52, 64) appeared to be entirely free from bias (Table 4). Although a qualitative method was appropriate throughout, the aims generally specified, and the study design was generally appropriate, the recruitment strategy and methods for data collection were sometimes unclear (32, 36, 48, 49, 51, 53-55, 58-62, 65). The relationship between the researcher(s) and participants was only considered in nine studies (46, 49, 51-53, 55, 59, 63, 64) and it was often unclear how rigorous an analysis was carried out. The population was not described in eight studies (21, 32, 36, 48-50, 54, 61) limiting transferability. In addition, in one study (48), interviews were conducted by a research midwife in hospital within a few days of birth which may have resulted in biased responses. In six studies the analysis was based on free-text comments in postal surveys (21, 23, 27, 39, 56, 61) in which comments tend to be brief and superficial. However, there was generally a clear statement of the findings and most of the studies could be considered valuable.

Themes from qualitative studies

Women's expectations

Seven studies referred to women's expectations of hospital postnatal care (48, 53, 56-58, 62, 64). None of these studies was prospective so expectations were asked about or inferred retrospectively. These studies indicated that women often had low expectations of hospital postnatal care which were sometimes met, sometimes exceeded (48, 53). Ethnic minority women generally expected more support from staff, particularly with breastfeeding, and were disappointed (58, 62). Some women reported a lack of balance and honesty regarding antenatal preparation for breastfeeding leading to unrealistic expectations (57, 64).

Staff attitudes and behaviour

This theme, in various forms, emerged in almost all of the qualitative research in this area. Although staff were generally viewed positively, as friendly, helpful and polite (48, 61), other women reported feeling neglected, feeling unable to ask for help as the midwives were perceived as too busy (21, 23, 27, 36, 47, 52, 53, 63). Some midwives were reportedly rude or abrupt in their manner (21, 23, 48), and ethnic minority women in particular encountered negative staff attitudes and stereotyping (49, 56, 62). Some women who had a particular problem or who had a previous baby felt neglected (47).

One study focussed on interactions between breastfeeding women and midwives on the postnatal ward and used participant observation and focussed interviews (52). They found that, due in part to time pressures on midwives, they were constrained from developing an 'authentic presence' which led to labelling and stereotyping. Another study reported 'task orientated care' focussing on routine clinical observation (63). Emotional relationships with women were often precluded by the organisation of care.

Women were aware that midwives were under pressure and often short-staffed and generally forgiving when this led to delays, even feeling guilty themselves for bothering them (23, 47, 52, 54). Delayed discharge was commented on in several studies (21, 23, 46), women feeling low priority and neglected at this time.

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Informational support

Eleven studies reported on aspects of informational support including inconsistent advice especially in relation to breastfeeding (21, 36, 39, 47, 48, 51-53, 57, 60, 61). Women appreciated receiving information about what was happening and about practical aspects of baby care, especially primiparous women, but when this was absent it caused anxiety (47, 48). Some women reported a lack of discussion and explanation following complications (21), and stressed the importance of being offered information rather than having to probe for it (60). The need for specific, detailed information so that women could be involved in decision-making, and to help them make choices was mentioned in three studies (56, 60, 61). These studies also reported the difficulty some women experienced in having their voices heard and their choices respected.

The difficulty in conveying information about breastfeeding in wards where midwives are working under pressure was noted. Some midwives felt compelled to achieve information transfer as efficiently as possible sometimes without assessing comprehension (52).

Infant feeding

Although length of hospital stay is now so short as to preclude breastfeeding becoming established in hospital, it was nevertheless an important theme in many studies (21, 36, 46-48, 50, 52-54, 57-59, 64). There was significant overlap with several of the previous themes, such as staff attitudes and conflicting information. Some women felt harassed and pressurised to breastfeed, and made to feel guilty if they could not, or chose to formula feed (46, 57). While some mothers said that midwives were helpful during the initial feed, they said that there was insufficient help during subsequent feeds (50). Breastfeeding was also sometimes taught in a reductionist way, as a technically managed activity, some midwives physically attached the baby to the breast in a 'hands-on' manner, undermining the woman's confidence in her ability to manage independently (52, 53).

Conversely, women who were formula feeding sometimes felt neglected, and perceived that information about formula feeding was restricted, leading them to feel alienated (57). However, in some hospital postnatal wards formula feeding was normalised, convenience being prioritised over established health benefits (64).

Ward environment

This theme relates to a variety of factors in the postnatal ward including visitors, noise levels, bright lights, temperature, lack of privacy and cleanliness, poor facilities, and poor food. Reported comments were almost entirely negative (21, 23, 32, 47-49, 54, 59-62, 64).

Some women commented on the general lack of orientation regarding the ward environment and routines, not knowing where the showers were, insufficient number of showers (47), and the lack of cleanliness of the facilities that were available (21, 61).

The issue of visitors was criticised both ways: some women were critical of unrestricted visiting as being too noisy and preventing women from resting. It also created problems with privacy, particularly for women who were breastfeeding (47, 48, 54, 59). Conversely, other women would have preferred more open visiting, especially for their partner, to provide practical and emotional support when the midwives were too busy to provide this (see below).

Hospital food was criticised by many women, in terms of both quantity and quality (21, 23, 32). In particular, women who requested vegetarian or *halal* food fared poorly, had a lack of choice and had to ask their families to bring food with them when visiting (48, 49, 62).

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Many of the issues associated with the ward environment were perceived as being for the benefit of staff rather than the women. This, and the perceived lack of support, led to some women wanting to be discharged as early as possible (48, 54). However, other women commented positively on being able to choose how long they stayed in hospital, not feeling under pressure to leave before they were ready (23).

Partners

Only three studies (21, 23, 54) explicitly referred to partners not being able to stay on the postnatal ward as a theme, although others mentioned it in the context of support and visiting. If there were facilities for a woman's partner to stay, and if she had her own room, this resulted in a more positive experience (54). Similarly, if the partner did not have unrestricted visiting, particularly if the woman had experienced a complicated or operative delivery, this was associated with a less positive experience (21, 54). Some women reported feeling anxious when their partner had to leave, feeling relatively unsupported on the ward (23, 54).

Ethnicity

Six studies focussed on the experiences of ethnic minority women on postnatal wards (32, 49, 51, 56, 58, 62). All except one (56) which used free-text from a survey, were based on interviews with ethnic minority women. Bilingual interviews or interpreters were used as necessary except for one study (62) which focussed on UK-born ethnic minority women.

A dominant theme across all the studies related to negative staff attitudes and stereotyping (49). Women reported being treated without kindness, not being listened to or treated as an individual. However, in one study which compared the experiences of Pakistani women with those of White indigenous women, it was the White women who made most complaints (32). Related to this were difficulties with communication due to language or unfamiliarity with the NHS systems and rules (32, 49, 51). Women were particularly critical of rules forbidding them having their partner stay, leaving them feeling isolated from friends and family. Women also reported a lack of practical support, for example, wanting (and failing) to be shown how to bath their baby (32, 51). However, women were reluctant to criticise midwives, recognising that they were busy and not feeling that they the right to complain (49). Running counter to this sub-theme, one study reported some more highly educated women feeling empowered and confident (51).

A second common sub-theme related to cultural traditions, rest and duration of hospital stay (51). In many cultures it is considered appropriate for women to stay in bed and rest for a significant amount of time following childbirth (66). However, currently in the NHS women generally stay only one or two days following a normal delivery (4) which women of Asian ethnicity often feel is too short (32). Women complained about not getting rest in hospital due to the noise, lights and other babies (32). Many women think of hospital as a safe place should anything go wrong with either mother or baby, so women felt anxious if they were discharged early, particularly if they did not have family nearby (56). However, some women also reported feeling that the length of stay was too long, that they were bored, particularly if they lacked the social interaction with their partner, friends and family. A further cultural norm in many ethnic minority families is for the baby to be taken away at night to allow the mother to sleep. Whilst this was viewed positively when it occurred (49) it is not recommended by the Baby Friendly Initiative which recommends rooming in (67), and is now unusual.

A third clear sub-theme emerging from this tranche of research was associated with food and privacy. As noted previously, women who requested vegetarian or *halal* food were particularly

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poorly served (49). Similarly, while many White women also criticised the wards for a lack of privacy, for ethnic minority women it was a major concern.

Subgroup analyses

Subgroup by parity

Nine quantitative studies (3, 10, 11, 17, 21, 22, 28, 41, 45) and one qualitative study (53) included some data on women's experiences of postnatal care by parity The majority of these studies looked at length of stay by parity and reported that primiparous women had longer stays than multiparous women. The shortest mean lengths of stay were 2.1 days in primiparous women compared to 1.9 days in multiparous women (Northern Ireland in 2014) (17), the longest were 5.8 in primiparous compared to 4.0 in multiparous women (Scotland in 1990-91) (28). Women's views of length of stay were also compared in five quantitative studies (3, 10, 17, 21, 22). These all reported that multiparous were more likely to be happy with their length of stay. The biggest disparity was 69% compared to 75% of primiparous and multiparous women respectively who considered their length of stay about right (21). Infant feeding support was examined by parity in four quantitative studies (3, 10, 17, 21) and all found that multiparous women reported more consistent advice, support and encouragement, but primiparous women reported more practical help. Multiparous women also reported receiving more information and explanations generally, and specifically about their own recovery (21), that staff were kind and treated them as individuals (11, 22), were happier with the ward environment and overall, were more satisfied with their postnatal stay (41). One qualitative study included eight primiparous women and explored their experience of breastfeeding but there was no comparison with multiparous women (53).

Subgroup by mode of delivery

Two quantitative studies reported mean length of stay by mode of delivery (11, 44). Unsurprisingly length of stay was longer following instrumental and operative delivery. A qualitative study examined women's breastfeeding experience following caesarean section (59). The results indicate that women underestimated the emotional and physical effects of a caesarean delivery, and were reliant on staff to help them breastfeed.

Subgroup by length of stay

One quantitative study included data on satisfaction by length of stay (44). Mean length of stay for women who considered their length of stay too long, about right, and too short were 3.1 days, 2.6 days, and 1.6 days respectively. Six qualitative studies included length of postnatal stay as a theme or sub-theme (21, 23, 32, 47, 51, 54) but data were not disaggregated by length of stay.

Subgroup by hospital vs birth centre

There were no studies reporting expectations or experience of postnatal care in birth centres.

Subgroup by time period

The time periods to be compared were 1970 to 1989, 1990 to 2009, and 2010 to the present. There was only one study conducted prior to 1990 (25) so that has been combined with the 1990 to 2009 period in which there were 23 quantitative studies. Between 2010 and 2017 there were 10 quantitative studies. The decline in mean length of stay is apparent, for example 5.8 days in 1990 (28) to 2.1 days in 2014 (17), also the increase in caesarean sections from 13% in 1990 to 33% in 2015 in Scotland (23, 28) and 13% in 1981 to 26% in 2014 in England (3, 25). One study explicitly examined change over time in women's experience of maternity care using data from four surveys dating from 1995 to 2014 (1). The proportion of women who considered their length of stay too

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short remained constant at 12-13% but always having confidence and trust in postnatal staff fell between 1995and 2006 from 75% to 69%. However, support for infant feeding improved considerably over this period, particularly always receiving consistent advice which improved from 31% in 1995 to 43% in 2014 (1). Staff interaction also generally improved. Women reporting that they were always treated as an individual increased from 53% in 2006 (11) to 79% in 2014 (17), and respect from 54% in 1995 (27) to 92% in 2006 (11) before tailing off again to 76% in 2014 (3).

Thirteen of the qualitative studies were published prior to 2010 and 12 since 2010. However the themes described did not differ substantively over the time period.

DISCUSSION

Summary of findings

The main aim of this review was to report on women's and families' expectations and experiences of postnatal care in UK hospitals and birth centres. The objectives were to report on women's satisfaction with hospital/birth centre postnatal care, to explore how this relates to expectations and experience of care, and to identify gaps in hospital postnatal service provision in the UK. We included 52 studies of weak to moderate methodological quality.

Overall, women were satisfied with many aspects of hospital postnatal care. Staff interaction was generally viewed favourably in both quantitative and qualitative studies. However, many studies reported that midwives did not have enough time to talk to, or otherwise support, women. This led to 'task oriented care' (63) and a lack of 'authentic presence' (52). Nevertheless, women's perceptions of care, being spoken to so they could understand, feeling listened to, and treated as an individual improved over time.

The duration of hospital stay after delivery was one of the most commonly discussed outcomes across the included studies. The length of hospital stay did not seem to be an essential factor in women's satisfaction with postnatal care. There was little evidence of a correlation between the length of hospital stay and overall rating of postnatal care. More importance was placed on women having some choice in their duration of stay, and the discharge itself not being unduly delayed.

Infant feeding was also discussed in many of the included studies. Women reported receiving conflicting advice, were sometimes pressurised to breastfeed and there was also a lack of support and information for women who were formula feeding. Breastfeeding was sometimes taught in a reductionist way, and there was a lack of privacy for breastfeeding. However, the quantitative studies suggested an improving picture with regard to consistent advice, practical help, and active support which all increased over time.

The ward environment was criticised by women in both quantitative and qualitative studies. Although the majority of women were happy with visiting arrangements, over one third would have appreciated more flexibility. Women were particularly critical when their partner was not allowed to stay. Cleanliness, food, space, temperature and noise levels were also criticised by women.

A number of unmet needs were identified in this review. Primiparous women in particular appear to be more critical of their care. They tended to have longer lengths of stay but were less happy with this than multiparous women. They were less happy with information and explanations generally but particularly regarding feeding advice and support. They were more critical of staff interaction and of the ward environment. This suggests that although there was little direct evidence regarding

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women's expectations, primiparous women, lacking previous experience of postnatal care, had higher expectations than multiparous women, and were more likely to be disappointed.

Ethnic minority women also tended to be more critical of their hospital postnatal care than white women. Qualitative studies suggest more negative staff attitudes and stereotyping, that cultural traditions around rest, food and privacy were often not respected.

There was only one quantitative study which explicitly explored women's expectations of hospital postnatal care, although seven qualitative studies included some reference to this. Research on the disparity between women's expectations and experience of care was a noticeable gap in the literature. In addition, we found no studies relating to socially disadvantaged groups (other than ethnic minority), or families' experience more broadly.

Review limitation

We used a rigorous methodology in conducting this review. We included 52 studies but few were completely free from bias. Most of the quantitative studies were surveys of maternity care generally and not primarily designed for assessing postnatal care. Although we set out to review the literature relating to postnatal care for women at low risk of complications, in practice this was not possible. Most of the studies reported results undifferentiated by risk and without excluding those women at high risk. Similarly, this review has focussed on postnatal care in hospital but for some outcomes, particularly those relating to infant feeding, it was not possible to separate hospital from community care. No meta-analyses or meta-synthesis were possible due to the heterogeneity across the studies with regards to the study design and outcomes reported.

Implications for research

Although several large surveys included women who delivered in birth centres, no studies were found which specifically explored women's experience of postnatal care in these settings. This would be a topic worth exploring, particularly as there has been an increase in the number of birth centres over time. There was also very little direct evidence of the relationship between expectations and satisfaction with hospital postnatal care. There was some evidence that women were more critical of their care following an operative delivery or following complications in childbirth, when they expected that physical help and support would be more forthcoming. Further research is required to explore the experiences of women with more complex needs. Similarly, women were critical when their partner was not allowed to stay on the postnatal ward, particularly when the ward was short-staffed. Research into new and different models of care involving partners would be beneficial.

Policy implications

Studies of women's views of maternity care have consistently found that hospital postnatal care is poorly rated compared to other areas of maternity care. In line with the recommendations from Better Births (8) and the Maternity Transformation Programme (9), strategies are needed to optimize women's experiences, including improving staff interaction, involving women in decisions regarding their length of stay, and continuing to improve feeding support. Changes should particularly consider the needs of primiparous women, those with complex needs, those from ethnic minorities and other vulnerable groups. Much of the research suggests that staff shortages have placed midwives under too great a pressure to provide a good service. This clearly has resource implications but must be considered for realistic strategic future planning. Overall, women were positive about their experiences of hospital postnatal care but more could be done to provide a personalised model of care.

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CONCLUSIONS

The majority of women were generally happy with their hospital postnatal care. There were few studies that focussed specifically on the disparity between expectations and experience of hospital postnatal care. The results of this review suggest that there are areas of hospital postnatal care that could be improved to ensure that the first days after birth establish good maternal and infant health.

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COMPETING INTERESTS

None of the authors has any competing interest.

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AUTHORS' CONTRIBUTIONS

FA conceived the idea and planned the project, FA, JH and RM developed the protocol and RM developed the search strategy. RM, JH and FA screened the search results and full papers, assessed the quality of included papers, extracted the data and synthesised the results. RM, JH and FA drafted the manuscript and all authors agreed the final manuscript.

DATA SHARING STATEMENT

All the data included in this systematic review are in the public domain.

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Table 1. Characteristics of included quantitative studies

Study	Study objective(s)	Study period & setting	Study design	Participants' characteristics	Postnatal expectations & experiences
Alderdice et al 2015(17)	What is current practice in N. Ireland, key areas of concern, do experiences of vulnerable groups differ from others, how do women's experience compare to those in England?	Oct-Dec 2014 N. Ireland	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in study period. Option of online completion. *Eligibility*: Ages 16+ yrs, live baby 2 reminders sent at 2 & 4 wks *Response rate:* 45%, n=2722	*Mean age* 31 yrs Primips 43.2% White 97.9% *Mode of delivery*: SVD 54.6% Instr 15.3% CS 30.2%	*LoS:* Mean LoS 2.1 days, primips 2.1, multips 1.9 days 74% felt LoS about right (primips 71%, multips 74%), 14% too short, 8% too long Women living alone more likely to say in longer No significant difference in LoS in women from deprived areas *Relationship with the staff:* Always spoken so that they could understand 85% Always treated with respect 83% Always treated with kindness 82% Always treated as an individual 79% Always felt listened to 77% *Overall satisfaction* – 89% satisfied/very satisfied
Bick et al 2012(18)	To assess whether a quality improvement intervention was associated with improved bf, maternal health, and enhanced women's views of care	Jan 2008 to Jun 2009 for pre-intervention; Apr- Sep for post-intervention 1 hospital in England	Before-after design using Continuous Quality Improvement survey approach. Interventions included longer hospital stay, skin to skin contact and bf encouragement, preparation of PN discharge on the PN ward and a revision of PN information booklet. Questionnaire distributed by research MW on PN ward. *Eligibility*: 16 yrs or more, live baby, sufficient English *Response rates*: pre-intervention 64%, n= 741 post-intervention 63%, n=	*Mean age* 30.5 yrs *Parity*: 1.66 White European 81% *Mode of delivery*: SVD 52.6% Instr 19.0% CS 28.2%	*LoS:* pre-intervention mean 2.2 days, post-intervention 2.4 days *Expectations of hospital PN care:* Care in hospital better than expected: pre-intervention 33.7%, post-intervention 40.2% *Overall satisfaction with postnatal care:* pre-intervention 77.4%, post-intervention 82.1% *Emotional support needs:* No statistically significant differences between groups in women's views of need for emotional support in hospital; of those women who reported that they did need emotional support in hospital, there was no difference in being able to speak to a midwife. *Initiation of bf:* pre-intervention 86.1%, post-intervention 87.4%

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Bowers & Cheyne 2016(19)	What is the impact on cost and quality of care of reducing PN stay	2013, 2014 Scottish & English national maternity surveys (2013)	Secondary analysis of surveys, Nursing and Midwifery Workforce and Workload Planning (NMWWP) in Scotland in 2014 including 13 major hospitals with varying mean PN LoS (range 1.4 to 2.4 days), data from Scottish Government Information Service Division, routine NHS data. Simulation and financial modelling conducted.	Not reported	*LoS:* Small correlation between LoS and mothers saying that LoS was too short. No correlation between mean LoS and overall satisfaction with PN care. *Infant feeding:* 40% didn't get information needed 60% did get active support and encouragement with feeding, *Relationship with the staff:* 30% not treated with kindness and respect *Parents education before discharge:* 70% of general communication and feeding advice and assistance happened at the time of hospital admission and discharge, only 30% took place during the recovery phase.
Care Quality Commission (CQC) 2010(20)	No objectives specified	Apr-Aug 2010 births England, 144 trusts	Cross-sectional survey posted 3 months post birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 52%, n=25,229	*Age*: <25 yrs 14% 25-34 yrs 56% 35+ yrs 29% Primips 44% White 86% *Mode of delivery*: SVD 62% Instr 14% CS 25%	*LoS:* <24 hrs 36% 1-2 days 35% 3+ days 29% *Views on duration of hospital stay:* 72% "appropriate" *Kindness and understanding:* 93% "always" *Information and explanations:* 53% always given information/explanations 89% received information needed when leaving hospital *Feeding advice: : [may include community]* 79% "always or generally" received consistent advice, 14% did not receive support
Care Quality Commission (CQC) 2013(21) (Mixed methods)	No objectives specified	Feb 2013 births 137 Trusts, England	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in study period. *Eligibility*: Excluded if woman or baby died,	*Mode of delivery*: SVD 60% Instr 14% CS 26% No other characteristics reported	*Relationships with staff:* *Always treated with kindness and understanding:* 66% *Always received information/explanations needed after birth*: All women 59%, Primips 50%, Multips 67% *Definitely given enough information about own recovery*: All women 61%, Primips 54%, Multips 68% *Definitely received information about emotional changes*:

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			woman aged <16 yrs, concealed pregnancy, baby taken into care, private maternity care, woman resident outside UK. 2 *reminders* sent to non-responders *Response rate*: 46%, n=>23,000 (exact number not reported)		56% *LoS:* </=12 hrs 17% 1-2 days 37% 3-4 days 18% 5+ days 9% *Views on LoS:* About right: all women 72%, Primips 69%, Multips 75% *Infant feeding*: *[may relate to hosp+community]* Decision on feeding method always respected 81%, *Always consistent advice* 54%, Primips 47%, Multips 61% *Always active support/encouragement:* all women 61%, Primips 56%, Multips 66%
Care Quality Commission (CQC) 2015(22)	No objectives specified	Feb 2015 births England, 133 trusts	Cross-sectional survey posted 3 months post birth *Eligibility:* Age 16 yrs or more, live baby 2 *reminders* *Response rate*: 40%, n=20,631	*Age*: <25 yrs 9% 25-34 yrs 59% 35+ yrs 32% Primips 51% White 77% *Mode of delivery*: SVD 59%, Instr 51%, CS 25%	*LoS:* 1-2d 36% *View of LoS:* about right 72%, too long primips 19%, multips 15% *Always treated with kindness and understanding*: All women 71% Primips 66% Multips 75% *Always able to get help in reasonable time: 81%* *Always took account of personal circumstances*: 96 % *Always given consistent feeding advice:* 55% *[may include community]*
Cheyne et al 2013(24)	No objectives specified	Feb-Mar 2013 births Scotland	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in 2 wks in study period. Option of online completion. *Eligibility*: Excluded if woman or baby died, woman aged <16 yrs. 2 *reminders* sent (not stated when) *Response rate*: 48%, n=	*Age*: <25 yrs 15% 25-34 yrs 57% 35+ yrs 28% Primips 42% White 92% *Mode of delivery*: SVD 56%, Instr 14%, CS 30%	*Views on LoS:* 77% "about right", 14% "too long", 10% "too short" *Always given explanations needed:* 61% *Always treated with kindness and understanding*: 67% *Overall quality of care:* 83% excellent or good *Bf initiation:* 49% *Feeding: consistent advice*: always 57% *Feeding: active support and encouragement*: always 63%, *Feeding decisions respected by staff*: always 82% *[Feeding may relate to community as well as hosp]*

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			2366		
Cheyne et al 2015(23) (Mixed methods)	No objectives specified	Feb-Mar 2015 Scotland	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in study period. Online option for completion. *Eligibility*: Excluded if woman or baby died, woman aged <16 yrs. 2 *reminders* sent *Response rate*: 41%, n=2036	*Age*: <25 yrs 10% 25-34 yrs 60% 35+ yrs 30% Primips 42% 93% White *Mode of delivery*: SVD 53% Instr 14% CS 33%	*Views of LoS:* About right 78%, too short 11%, too long 11% *Bf initiation:* 52% *Always received information and explanations needed* 60% *Always treated with kindness and understanding* 70% *Partners accommodated on PN ward* 58%. *Infant feeding decision always respected* 82% *Always consistent advice*57% *Always active support and encouragement* 63% Overall quality of care: excellent 54% , good 32% *[Feeding may relate to community as well as hosp]*
Cranfield 1983(25)	To assess women's views of support received	1981 One centre in the North Herts Maternity Unit, England	Cross-sectional postal survey sent 3 months post birth to 250 consecutive hospital admissions. *Response rate*: 76.4%, n= 191. No eligibility criteria specified. No mention of reminders.	*Mean age* 26.8 yrs Primips 44% *Mode of delivery*: SVD 76% Instr 11% CS13%.	LoS: 1day 3%, 2 days 28%, 3-4 days 9%, 5-6 days 9%, 7 days 30%, >7 days 22% *Received adequate help:* 84% *Satisfaction with LoS:* just right 75%, too long 18% *Bf initiation:* 73%
Dowswell et al 1997(44)	To describe variation in the care process and to explore associations between care process, satisfaction, and psychological wellbeing	Apr 1994 births Six districts in Yorkshire, England	Cross-sectional postal survey sent 4-8 weeks post birth to random selection of women who delivered in the study period. *Eligibility*: live term births discharged home with mother Reminder sent 2 wks after initial mailing. *Response rate*: 72%, n= 720	No participant characteristics reported. *Mode of delivery*: SVD 62.8% Instr 33.3% CS 3.8%	*LoS (mean)*: SVD 2.6 days (range 2.0-3.0 days) Instr 3.6 days CS 5.9 days *Women's satisfaction with the LoS:* 85% of women were satisfied with LoS. -those who thought it was too long: mean LoS 3.1 days -those who thought it about right: mean 2.6 days -those who thought it too short: mean 1.6 days *Depression scores and LoS:* Women with SVD and thought LoS too long had lowest EPDS score (mean 5.69), SVD but thought LoS too short had highest EPDS score (mean 9.60).
Farquhar et al 2000(26)	To describe the views of women	Dec 1994 to Jun 1995	Cross-sectional survey posted 1 wk post birth to all	Age (yrs) Team Comp A Comp B	% Team Comp Comp

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	using a team MW scheme providing continuity of care giver vs traditional care	South-East England	women resident in health authority who delivered at 1 of 3 hospitals during study period. Women in Study group received team MW. Comparison hospitals A & B provided traditional care. *Eligibility*: Excluded women with concealed pregnancy, those with baby placed for adoption. Postal reminders sent after 2 wks, then phone reminder. *Response rates*: Team MW: 88%, n= 1077 Comparison A: 88%, n=272 Comparison B: 90% n=133	<25 22 16 10 25-34 65 71 70 35+ 13 12 20 Primips 38 35 27 White 95 98 98 Mode of delivery not reported	MW A B Received fairly/very helpful advice 94 93 94 Very satisfied with hospital PN care 65 70 69
Garcia et al 1998(27) (Mixed methods)	No objectives specified	Jun-Jul 1995 England & Wales	Cross-sectional survey posted 4 months post birth to random sample of women who delivered in study period. *Eligibility*: Ages 16+ yrs, live baby *Response rate*: 67%, n=2406	*Age*: <25 yrs 19.9% 25-34 yrs 65.6% 35+ yrs 14.5% Primips 42% White 92% *Mode of delivery*: SVD 71.9% Instr 11.7% CS 17.3%	*LoS:* Had a say/choice in when they went home 62% Felt the duration was appropriate 73%*Treated with respect, kindness and understanding*: Always treated with respect 54% Always treated with kindness & understanding 51% *Well-supported, confidence and trust in staff*: Always had confidence in staff 59% *Overall satisfaction:* 46% very satisfied *Discussion of delivery whilst on PN ward:* Not wanted 23% Not been able to 23% Yes, at least in part, to 53% *Bf:* 72% put the baby to the breast at least once *Bf support:* Always consistent advice 31% Always practical help 34% Always active support and encouragement 38%

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					Always enough privacy to feed 49%
Glazener 1999(28)	To describe structures, processes & outcomes of PN care, characteristics, expectations & experiences of women, experience & roles of providers, factors associated with adverse outcome, and areas of unmet need	May 1990 and May 1991 2 hospitals in Scotland	Postal questionnaires sent to random sample of women immediately after discharge home. *Eligibility*: All women discharged from PN ward *Reminders* sent at 2 & 6 wks *Response rate*: 89%, n=1412 *[Denominator was all women who initially agreed to take part]*	*Mean age*: 28.2 yrs Primips 46.7%; Ethnicity not reported *Mode of delivery*: SVD 72.6% Instr 13.6 CS 13.8%	*Mean LoS*: Primips 5.8 days, Multips 4.0 days *LoS considered*: about right 90%, too short 2%, too long 8% Considered room unsuitable (would have preferred smaller/single room) 13% *Visiting arrangements*: Happy with visiting hrs 89% Not enough 9% Too much 2% *Staff adjective checklist*: 1+ positive adjective 97% 1+ negative adjective 36% *Bf initiation*: 58% *Received enough advice about*: Dressing baby 62% PN exercises 84% Own health 68% Bf problems at discharge: 16.8% Received conflicting advice 31%
Healthcare Commission (CQC) 2007(29)	No objectives specified	Feb 2007 births England	Cross-sectional survey posted 3 months post birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 59%, n=26,325	*Age*: <25 yrs 17% 25-34 yrs 56% 35+ yrs 28% Primips 49% White 87% Mode of delivery not reported	*Information needed:* 42% were not given information or explanations needed 37% were not treated with kindness and understanding. *Infant feeding: [may include community]* 23% did not receive consistent advice 22% did not receive practical help 22% did not receive active support or encouragement *Care after birth:* 96% reported their baby had an examination or baby check before leaving hospital. *Ward environment:* Room/ward very clean 40% Toilets/bathroom very clean 36% *Food*: Always offered choice 70% Not enough 28% Poor overall 19%

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Henderson & Redshaw 2017(1)	To explore change over time in women's perceptions of maternity care	1995 to 2014 Jun-Jul 1995, 1 wk Mar 2006, 2 wks Oct-Nov 2009, 2 wks Jan 2014 England	Secondary analysis of 4 cross-sectional postal maternity surveys 1995, 2006, 2010 and 2014. Random samples elected, questionnaires sent at 3 mth post birth. *Eligibility*: Aged 16 yrs or more, live baby. *Reminders* sent at 2, 4 (and 8 wks for 2014); 1995 no reminders sent. *Response rates:* 1995: 67%, n=2406 2006: 63%, n=2966 2010: 55%, n= 5333 2014: 48%, n= 4571	*Age (yrs)* / *<25* / *25-34* / *35+* 1995 19.9 65.6 14.5 2006 19.3 56.6 24.1 2010 17.1 58.4 24.5 2014 21.2 58.3 20.5 *Primips* / *White* 1995 42.3 91.9 2006 41.0 87.4 2010 50.1 85.7 2014 49.9 83.9 *SVD* / *Instr* / *CS* 1995 71.9 11.7 17.3 2006 64.9 12.4 22.4 2010 62.6 12.7 24.8 2014 58.7 14.8 26.4	LoS / Women's view of LoS / Confidence & trust in staff ***3 days or more (%)*** / ***Too short (%)*** / ***Always (%)*** 1995 46.7 12.6 75.2 2006 34.8 13.1 68.9 2010 30.6 12.0 68.6 2014 28.7 12.2 68.7
Henderson et al 2013(30)	To examine use of services and perceptions of care of women from 7 specific ethnic minority groups	Apr-Aug 2010 births England, 144 trusts	Secondary analysis of CQC 2010 data *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 52%, n=25,229	Only ethnicity reported: White 80.9% Mixed 1.2% Indian 2.3% Pakistani 2.3% Bangladeshi 0.6% Caribbean 0.6% African 2.6% Chinese or other 2.7%	LoS >2 days (%) / LoS too long/too short (%) / Information about recovery (%) White 28.5 27.4 82.0 Mixed 32.8 25.3 80.5 Indian 36.6 32.7 83.4 Pakistani 33.8 34.9 79.9 Bangladeshi 32.5 29.0 81.3 Caribbean 32.1 32.0 80.5 African 38.5 28.6 87.5 Other 33.1 28.7 85.4
Hicks et al 2003(31)	To compare a Changing Childbirth initiative, including continuity of care,	2001 England	RCT comparing intervention with traditional care. Validated questionnaires sent 4-6 wks post birth, care elements scored out of 5. *Eligibility* and *reminders* not	*Mean age*: Intervention grp 28.9 yrs Control grp 28.2 yrs Mean no. previous births: Intervention grp 2.4. Control group: 2.1	No significant difference between the two groups on PN ward *re:* Care and sensitivity (scores 2.2 vs 2.2) Explanation/consultation (scores 2.3 vs 2.3) Contact with obstetrician (scores 2.5 vs 2.6) Contact with GP (scores 2.5 vs 2.4)

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	with traditional care		reported *Response rate*: Intervention group n=81 (81%) Control group n=92 (92%)	Mode of delivery and ethnicity not reported	Contact with midwives (scores 2.0 vs 2.0) Not rushed-under pressure (scores 2.1 vs 2.2) Own views taken into account (scores 2.2 vs 2.2) Consistency of information (scores 2.2 vs 2.3) Willingness of midwives to attend to needs (scores 2.2 vs 2.2)
Hirst & Hewison 2002(32) (Mixed methods)	To compare the quality of hospital PN care for Pakistani and indigenous White women	Jul 1995 - Aug 1996 20 GP practices in 2 districts in Northern NHS region, England	Prospective comparative survey between districts and between ethnic groups using purposive sampling. No data on reminders or eligibility. *Response rate*: 83% , n=187	No details of participant characteristics reported. White women who were having their first pregnancy were older than Pakistani women. Age range (15–20, 21–30 and 31–41) was similar for each districts.	*Expected LoS (hrs)* — *Pakistani* — *White* *District A* — 60.0 — 36.5 *District B* — 61.4 — 36.0 *LoS:* Mean duration 50.7 hours (SD30:6) for all women.
Hundley et al 2000(33)	To determine the extent to which recommendations from policy documents had been adopted	10 –day period in Sept 1998 Scotland	Cross-sectional postal survey distributed by MWs 10 days post birth with Freepost return to study team. *Eligibility*: All women delivering in Scotland during study period except if insufficient English, MW considered inappropriate, or no longer resident in Scotland. Reminders sent by post at 2 wks. *Response rate:* 69%, n= 1137 women	*Mean age 29.3 yrs* *Primips 45*.4% White 98.2% Mode of delivery not reported	*LoS:* 3-5 days 48% 1-2 days 29% *Views on LoS:* 87.2% felt it was right 3.9% felt it was too long 8.8% felt it was too short *Choice on when to go home:* 77% had a choice
Ifionu et al 2010(34) (abstract only)	To assess the quality of maternity care provided in a busy teaching	Feb-Jul 2009 Norfolk and Norwich University	Questionnaire distributed to women (no further details). *Eligibility*: Live births, baby in good condition. *Response rate*: n=302,	Participant characteristics not reported	*Overall postnatal hospital care:* 11-13% rated "poor" *Contraception postnatal advice:* 65% did not receive any advice

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	maternity unit	Hospitals	denominator not reported		
Ingram et al 2002(35)	To determine whether specific 'hands-off' bf technique taught in hospital increases successful bf; to investigate factors associated with bf at 2 & 6 wks	Oct 1996-Nov 1998. Bristol, England	Non-randomised prospective cohort phased intervention study *Eligibility* and *reminders* not reported *Response rate*: 84%, n= 1171	*Mean age* 29.5 yrs Primips 58.4% Mode of delivery and ethnicity not reported	*Receiving enough support increased bf:* (OR 2.13 CI 1.28, 3.53). Conflicting advice, enough advice and help, poor advice re problems not significantly associated with bf at 2 wks.
McCourt et al 1998(36) (Mixed methods)	1. Was 1:1 continuity of care giver preferred by women; 2. Was it associated with any benefit to women?	1994-96 London, England	Prospective study of all women receiving care in Trust over 1 yr period. Intervention and control groups from different areas. Questionnaires sent during pregnancy, and at 2 & 13 wks postnatally. *Eligibility*: Women resident in area over period of study, delivered live, term baby. Analysis restricted to 1 hospital. *Single reminder*. *Response rates at 2 wks:* 1:1 grp 59% n=646 controls 60% n=603	Age not reported Primips 35% White 42% Mode of delivery not reported	*Postnatal care experience comparing 1:1 care with routine care:* Very satisfied with care 1:1 50%, routine care 54%
NCT 2010(45)	To explore women's experience of care and support during the first month after birth	Sep 2008 to Sep 2009 UK	Online survey on NCT website. Open to anyone accessing website. 95% NCT members. *Response rate* unknown (no denominator): n= 1321	Primips 83% *Age* (years) Primips only: <25 (1%) 25-34 (65%) 35+ (34%) Primips: White 95%, *Mode of delivery* *Primips*	*LoS* *Primips* *Multips* < 24 hours 15% 40% 1-2 days 44% 32% 3-4 days 27% 19% 5+ days 14% 9% *Emotional support 24 hours after birth-Primips*: 41% received "all", 41% "some" 25%, "little" 17%, "none"

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				SVD 48%, Instr 26% CS 26%. *Multips* SVD 81% Instr/CS 3%	17%. *Physical support 24 hours after birth:* "all" 56%,"some" 24%," little" 12%,"none"9%. *Information received:* 45% received "all" 25% "little or none" *Babies' health information and advice-Primips:* "all" 52%, "some"31%, "little"11%, "none" 6%. *[Data above refer to first 24 hrs. For 15% of primips and 40% of multips some of this period was post-discharge]*
Raleigh et al 2010(37)	To examine social and ethnic inequalities in women's experience of maternity care	Feb 2007 births England	Cross-sectional survey posted 3 months post birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 59%, n=26,325	*Age*: <25 yrs 17% 25-34 yrs 56% 35+ yrs 28% Primips 49% White 87% Mode of delivery not reported	Compared to White women, women from ethnic minority stayed in hospital longer post normal delivery, were more likely to initiate bf and their babies checked pre-discharge. Women from ethnic minorities were more positive about receiving adequate information, being treated with respect and less positive about cleanliness and choice of food. *[Numbers varied by ethnic group]*
Redshaw & Heikkila 2010(10)	What is current clinical practice, what are key areas of concern, have women's experience of care changed over the years, are there regional differences in care?	Oct-Nov 2009 births England	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in 2 wks in Oct-Nov 2009. Option of online completion. *Eligibility:* Age 16 yrs or more, live baby *Reminders* sent at 2, 4 and 8 wks *Response rate*: 54%, n= 5333	*Age*: <25 years 17.1% 25-34 years 58.4% 35+ years 24.5% Primips 50.1% White 85.7% *Mode of delivery*: SVD 62.6% Instr 12.7% CS 24.8%	*Mean LoS:* Primips 2.4 days Multips 1.6 days *Satisfaction with LoS:* About right 70% Too short 12 % Too long 15% *Relationships with staff*: Always treated as an individual 57% Treated with respect most of the time 91% Treated with kindness most of the time 91% Always had confidence in staff 69% Always spoken to so could understand 94% Treated with kindness most of the time 94% *Infant feeding*: Initiation of bf 63% Always … % All Primips Multips

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					women Consistent advice 37.5 35.2 39.8 Practical help 35.6 35.2 35.7 Active support 39.5 38.9 40.0 *[may include community]*
Redshaw & Henderson 2015(3)	To describe current practice, areas of concern to women, especially experience of vulnerable women, and change over time	Jan 2014 births England	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in 2 wks in study period. Option of online completion. *Eligibility*: Ages 16+ yrs, live baby 3 reminders sent at 2, 4 & 8 wks *Response rate*: 47%, n=4571	*Age:* <25 yrs 21.2% 25-34 yrs 58.3% 35+ yrs 20.5% Primps 49.9% White 83.9% *Mode of delivery*: SVD 58.7% Instr 14.8% CS 26.4%	*Mean LoS:* Primps 2.2 days, Multips 1.8 days *Satisfaction with LoS:* About right 68%; too short 12%, too long 15% Primips 18% too long; Multips 13% *Relationship with the staff*: Always spoken to so could understand 79% Always treated with respect 76% and kindness 75% Always treated as an individual 71% Always felt listened to 68% *Overall satisfaction*: very/quite satisfied 77% dissatisfied: primips 14%, multips 10% *Infant feeding*: Bf initiation 87% Always… (%) All women Primips Multips Consistent advice 42.7 40.1 45.6 Practical help 42.2 41.6 43.0 Active support 47.2 42.6 47.8 *[may include community]*
Redshaw et al 2006(11)	From the perspective of women needing maternity care, what is current clinical practice, what are key areas of concern, have women's experience of care changed over the years?	Mar 2006 births England	Cross-sectional survey posted 3 months post birth to random sample of women who delivered in 1 wk in Mar 2006. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 63%, n=2966	*Age*: <25 yrs 19.3% 25-34 yrs 56.6% 35+ yrs 24.1% Primips 41.0% White 87.4% *Mode of delivery*: SVD 64.9% Instr 12.4% CS 22.4%	*Mean LoS:* Primips >SVD 2.8 days Multips >SVD 2.0 days >CS all women 4.1 days 63% stayed < 3 days *Relationship with the staff:* Always spoken to so could understand 91.5% Treated with respect most of the time 89.2% *Always treated as individuals*: All women 53.1%, primips 50.4%, multips 55.2% *Ward environment*: Improvements needed: primips 77%, multips 72%

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					Critical of privacy 28%, space 22%, temperature 27%, cleanliness 19%, noise 23% *Overall satisfaction*: (satisfied/very satisfied) 79.8% *Infant feeding*: Bf initiation 80% Always… (%) — All women Consistent advice — 32.7 Practical help — 30.9 Active support — 35.8 *[may include community]*
Scott et al 2003(38)	To examine autonomy, privacy and informed consent in care of PN women	Not clear Scotland (6 University and District hospitals)	Questionnaire packs left with ward staff. Care elements scored out of 5. *Eligibility* not reported *Response rate*: 60%, n=404	Women's characteristics not reported	*Information women received about LoS:* mean score 3.79 *Infant feeding information:* mean score 4.34 *Supporting bowel and bladder function:* mean score 3.48 *Information related to personal hygiene*: mean score 3.56 *Breast care information:* mean score 3.62 *Privacy:* mean score 4.33 *Staff knocked before entering the room*: mean score 4.32 *Receiving help with their meals:* mean score 4.17 *Able to bf in private*: mean score 4.63 *Confidentiality of women's treatment*: mean score 4.73 *Helped to use toilet*: mean score 4.86 *Helped with hygiene*: mean score 4.81 *Exposing woman's body to others*: mean score 4.85
Shields et al 1998(39) (Mixed methods)	To compare women's satisfaction with MW managed care vs shared care over 3 different time periods as part of RCT	1993-4 Glasgow, Scotland	RCT of MW managed vs shared care**.** Questionnaires sent during pregnancy and at 7 wks and 7 mths postnatally. *Eligibility*: Booked within 16 wks, normal, healthy pregnancy, live birth, resident in catchment area. No data on reminders. *Response rate at 7 wks***:** MW grp: 71.9%, n=445 Shared care: 63.1%, n=380	*Mean age* at booking:* MW group 25.8 yrs Shared care 25.5 yrs Primips: MW group 54.7% Shared care 53.5% *Mode of delivery* (%): MW grp — Shared care SVD 73.5 — 73.7 Instr 13.6 — 14.3 CS 12.9 — 11.9	Satisfaction with staff interaction (mean score on 5 point Likert scale, -2 to +2) MW grp — Shared care Relationships with staff 1.31 — 0.84 Information transfer 1.20 — 0.70 Choices & decisions 1.13 — 0.07 Social support 1.21 — 0.74
Spurgeon et al 2001(40)	To investigate satisfaction with 2	Jan 1997 to Jun 1998	Retrospective cohort between-group comparison,	*Mean age* A. 27.9 yrs	*LoS***:** No significant difference between the groups (actual LoS not stated)

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	pilot schemes based on Changing Childbirth compared to traditional care	Large trust in central England	two received midwifery-led card (A & B) and the controls (C) received standard obstetric-led care. All delivered in same hospital. Questionnaires sent 6 weeks post birth. *Eligibility*: Excluded women at high obstetric risk. *Reminders* sent out until a minimum of 100 questionnaires had been received from each group. *Response rates not specified:* Intervention groups n=215 Control group n= 118	B. 28.7 yrs C. 28.7 yrs *Average no. previous births* A. 1.7 B. 1.9 C. 2.0 Mode of delivery and ethnicity not reported	*Information and advice:* No significant difference between the groups for information, feeding methods, the baby's health, handling, washing and changing the baby
Van Teijlingen et al 2003(41)	To identify individual or specific concerns with maternity care provision	September 1998 Scotland (Scottish Birth Study)	Cross-sectional survey distributed by MWs 10 days post birth to all women who delivered in a 10 day period. *Eligibility*: All women delivering in Scotland during study period except if insufficient English, MW considered inappropriate, or no longer resident in Scotland. *Reminders* sent by post at 2 wks. *Response rate*: 69%, n= 1,137	*Age*: 15–24 yrs, 21.4% 25–34 yrs 64.2% 35+ 14.5% Primps: 45.4% White 98.2% Mode of delivery not reported	*Overall satisfaction with postnatal care [may incl community]*: Very satisfied 81%; Satisfied in some ways/dissatisfied 19%; *Primip women's satisfaction with postnatal care:* Very satisfied 78% Satisfied in some ways/dissatisfied 22% *Multip women's satisfaction with postnatal care:* Very satisfied 84% Satisfied in some ways/dissatisfied 16%
Wardle 1994(42)	To examine women's experience of maternity care	April-May 1991 births Staffordshire, England	Cross-sectional postal survey sent 7 to 8 weeks post birth to all women who had a hospital birth in study period.	No participant characteristics reported.	*Infant feeding:* 58% of babies given breast milk in hospital, >50% supplemented with formula *Women's health and baby's care:* 30% received conflicting advice from HCPs 45% wanted to talk more to HCPs about babies' care and their own health

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			No eligibility criteria specified. Reminders sent 2 & 4 wks after initial mailing. *Response rate*: 80%, n=639		21-27% did not have enough advice about feeding, handling, settling the babies and problems with their own health. *Relationship with HCPs:* 53% reported midwives were too busy to talk to them. 259 women wrote comments: 81% reported HCPs were helpful and friendly, 29% not receiving enough help or advice, 15% staff too busy, 18% staffs' attitude was poor and not helpful. *Information to women separated from their babies*: Most given enough information about baby's health and progress, 1/4 wanted more, 1/4 wanted to talk to HCP about worries
Wray 2006(43)	To gain the views of women about PN care	Study period not reported North West England (two neighbouring urban locations).	Cross-sectional survey distributed by community midwives 10th or 14th day post birth, not clear how survey was returned. *Eligibility:* Women & babies discharged home together, birthweight >2kg, care by MWs, both mother & baby well, not placed for adoption . No data about reminders *Response rate:* 42%, n=452	*Age*: <25 yrs 18.5% 25-34 60.9% 35+ 19.7% Primips 44.5% *Mode of delivery*: SVD 66% Instr & CS 33% Ethnicity not reported	*Visiting arrangements:* 81% felt visits durations were about right, 19% too short. *Flexibility of visiting*: 62% right, 38% not flexible. *Postnatal ward:* 86% had enough opportunity to rest *LoS:* <24 hrs 32% <2 days 59% 3 or 4 days 26% 5 to 10 days 12% *Infant Feeding*: 70% intended to breast feed and of those 75% did bf *Feeding support: [may include community]* During the day 86% of women felt they were given enough help vs 80% at night. *Baby's care: [may include community]* 66% shown how to bath the baby, 34% of women shown how to change nappies and 34% Shawn top and tail clean, 69% care of cord, 70% had help with baby sleeping position.

Abbreviations

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Bf/bf: Breastfeeding

CS: Caesarean section

EPDS: Edinburgh Postnatal Depression Scale

Grp: group

HCP: Health care professional

Instr: Instrumental delivery

LoS: Length of stay

Multip: Multiparous

MW: Midwife

PN: Postnatal

Primip: Primiparous

RCT: Randomised controlled trial

SVD: Spontaneous vaginal delivery

* Reported in original trial report (68)

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Table 2. Characteristics of included qualitative studies

Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Baker et al 2005(46), England	To explore women's experience of childbirth and the postpartum in the context of Changing Childbirth	Semi-structured interviews with 24 women (of 99 recruited for previous study of PN depression), 4-5 yrs postpartum in women's homes. Interviews recorded and transcribed.	Open and axial coding conducted independently by 3 researchers who then met to discuss interpretation.	Age range 27-45 Primips 9 Caucasian All *Mode of delivery* SVD 16 Instr 3 CS 5 Length of stay 1-3 days	Perception of control Staff attitudes and behaviour Resources Feeding
Beake et al 2005(47), England	To explore women's views and experiences on postnatal care in hospital and at home	In-depth semi-structured interviews 8-12 mths postpartum in women's homes conducted by researcher. Interviews recorded and transcribed.	Thematic approach similar to that adopted in grounded theory. 2 researchers independently read and coded transcripts.	22 women, no demographics reported. 'Diverse' sample. Over 1/3 of sample could not be contacted.	Support - unable to ask for help as women thought MWs too busy Feeling neglected Help with feeding baby Informational support Poor facilities Lack of privacy Women wanted to go sooner
Beake et al 2010(48), England	To explore women's experience and expectations of hospital PN care	Semi-structured interviews by research MW on PN ward within a few days of birth.	2 researchers independently read transcripts to identify themes, analytic framework developed. Interviews continued until data saturation reached.	20 women Age range (yrs) 23-39 White Europeans 18 Afro-Caribbean 1 Chinese 1 Primips 13 *Mode of delivery* SVD 2 Instr 3 Emergency CS 12 Elective CS 3	Ward environment Attitudes of staff Support for bf Unmet information needs Women's low expectations of care
Bowes & Domokos 1996(49),	To explore Pakistani women's own health concerns, including	Semi-structured interviews, through an interpreter if required,	Interviews transcriptions indexed and sorted	19 Pakistani women and 1 Libyan, characteristics not reported	Negative staff attitudes Women reluctant to criticise service Women appreciated having their babies taken

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Scotland	those related to maternity service provision	in women's home or community venue, time point not stated.			away during night Hospital food was criticised
Care Quality Commission (CQC) 2013(21), England (Mixed methods)	No objectives specified	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2013 to random sample of women. Free text from 10,007 women but only 8000 analysed.	Thematic analysis	Whole sample: *Mode of delivery*: SVD 60% Instr 14% CS 26% No other characteristics reported. No characteristics reported specific to women who wrote free text comments.	Spoken to rudely and without consideration Lack of discussion and explanation following complications Being left unattended too long Being neglected Discharge too soon or held up Partners not able to stay Ward too noisy Lack of privacy Severely understaffed MWs bossy and pushy No support with bf
Cheyne et al 2015(23)c, Scotland (Mixed methods)	No objectives specified	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2015 to random sample of women. Free text from 1244 women.	Thematic analysis using detailed coding and constant comparison.	Whole sample: Age <25 yrs 10% 25-34 yrs 60% 35+ 30% Primips 42% White 93% *Mode of delivery* SVD 53% Instr 14% CS 33%	Staff were excellent but too busy to have time to help with practical support Some staff rude and unsupportive Food was poor Noisy environment No proper after care or advice for specific conditions Receiving conflicting advice Need to build up women's confidence Women wanted partner involvement Lengthy wait for discharge
Condon et al 2012(50), England	To explore teenagers' experience of bf promotion and support by health professionals	Semi-structured interviews and focus groups involving 23 teenage mothers up to 2 yrs postpartum, carried out in 2009. Snowball sampling. Interviews recorded and transcribed.	Inductive thematic analysis using nVivo.	23 teen mothers aged <19 yrs, predominantly White (details not reported for PN sample). Mode of delivery and parity not reported	Experiences of bf promotion and support at birth Experiences of continuing bf support MWs helpful in showing how to position baby but insufficient help with subsequent feeds

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
		Location for interviews not reported.			
Cross-Sudworth 2011(51), UK	To explore perspectives of first and second generation women of Pakistani origin and their experiences of maternity care	Purposive sample. Semi-structured interviews (N=8) and focus groups (N=7 in 2 groups), 3-18 mths postpartum in community setting, with interpreter as required	Q methodology using -14 stage process to content analysis. Q set independently assessed by all team members.	UK born 10 UK educated 12 Age range 15-21 yrs Parity 1-4	Empowerment and high confidence Isolation and need for of professional support Poor maternity care Caring maternity services and cultural traditions Information and support Importance of MW care Wanted help bathing baby Wanted to stay longer
Dykes 2005(52), England	To explore the nature of interactions between MWs and bf women in PN ward, 2000-2002.	Participant observation of 97 encounters and 106 focussed interviews with 61 women on PN ward in first few days of birth. Excluded women unable to communicate in English or if baby was in NICU.	Ethnographic thematic analysis. Concurrent data collection and analysis. Basic, organising and global themes developed. Continued until theoretical saturation.	Age range (yrs) 17-42 Primips 40 White 56 Asian 5 *Mode of delivery* SVD 37 Instr 11 CS 13	MWs extremely busy, women aware of pressure on MWs Bf support mechanical act and time-bound process Limited continuity of carer MWs constrained from developing 'authentic presence', not based on trusting relationship, led to labelling and stereotyping Bf as a technically managed activity, teaching of specific techniques in reductionist way, invading body boundaries Conflicting information received
Edwards 2013(53), Scotland	To explore the expectations, knowledge and experiences regarding bf initiation in PN women.	5 focus groups including 8 PN women within 6 mths postpartum held at PN clinics. Focus groups recorded and	Inductive and deductive thematic analysis	8 PN women All primips All White Age 26-30 yrs 3 31- 35 4	Women who had CS upset of not having skin to skin contact with the baby MW taking over, attaching the baby to the breast Distressing feeding experiences Feeling of dependency bf, women expected the MW to attach baby to the breast

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
		transcribed.		36-40 1 No data on mode of delivery	Lack of skill on the part of the MWs when baby does not attach Reality better than what women expected Busy MWs, some short tempered, seemed uninterested Feeling left alone Receiving inconsistent help and support Peers providing help in hospital with feeding
Fawcett 2016(54), UK	To examine women's experiences of hospital-based PN care	Stories posted by women to the Patient Opinion website relating to hospital PN care, 2013-15.	Thematic analysis	168 stories No characteristics reported	Bf support – primips reported more negative experience Inclusion of partners Longer visiting hours Contrast between good day care, poor night care Ward environment Not receiving pain relief Fast discharge when women wished to be discharged early Women happy to stay in hospital longer when staff intention was good Positive comments when continuity of carer Hospital staff stressed and over worked Treating women as people not a number
Fraser 1999(55), England	To determine how competence in midwifery might be defined from the women's perspective and aid curriculum development	Opportunistic sample of 40 women. Semi-structured to unstructured interviews at 3 times including 6-48 hrs after birth (n=28), in hospital in 1996 with an interpreter if required.	Thematic analysis using constant comparison aided by Textbase Alpha.	Whole sample: Age <20 yrs 4 20-29 22 30+ 15 White British 28 Primips 14 *Mode of delivery* SVD 25 Instru 7 CS 7	*Not specific to PN hospital care* Characteristics and qualities of caregivers Individualized of care Clinical competence of the caregivers Developing a trusting relationship with a female MW was perceived as essential to promoting a positive childbirth experience
Garcia et al 1998(27), England &	No objectives specified	Free-text comments in postal questionnaires sent at 4 mths	Thematic analysis	Whole sample: Age <25 yrs 19.9% 25-34 yrs 65.6%	Wanting help on postnatal ward and not getting it Being patronised due to young age Poor clinical care and negligence

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Wales (Mixed methods)		postpartum in 1995 to random sample of women. Free text from 1042 women.		35+ yrs 14.5% Primips 42% White 92% *Mode of delivery* SVD 71.9% Instr 11.7% CS 17.3%	Feeling rushed & impersonal Staff being rushed, under-staffed wards
Hirst & Hewison 2002(32), England (Mixed methods)	To compare the quality of hospital PN care for Pakistani and indigenous White women	In-depth interviews with 139 women in their homes recorded using hand written notes, 6-8 wks postpartum. Bilingual interviewer if required.	Content analysis	No details of participant characteristics reported. White women who were having their first pregnancy were older than Pakistani women. Age range (15–20, 21–30 and 31–41) was similar for each districts.	Practical care and guidance Staff support, sensitivity and communication Rest Length of stay Catering Socialisation Psychological well-being Ward environment
Jomeen & Redshaw 2013(56), England	To explore Black and minority ethnic women's experiences of maternity care.	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2006 to random sample of women. Free text from 219 BME women.	Thematic analysis using nVivo.	Black 25.5% Asian 57.9 Mixed 11.4% Chinese 2.7% Other ethnic group .3% Age range 16-40+ Primips 39.3% *Mode of delivery* SVD 66.7% Instr 10% CS 22.8%	Feeling cared for Expectations of care and policies Rules and organisational pressures Staff attitudes and communication Hospital as a safe place Choices denied Sensitive and supportive care Ethnicity and culture stereotyping Improving the quality of care
Lagan 2014(57), Scotland	To report on women's reflections on their infant feeding expectations and experiences	Purposive sampling to ensure a range of infant feeding method. 40 semi-structured interviews and 7 focus groups (38 women), 4-8 mths postpartum in non-hospital setting in 2010.	Framework analysis using nVivo.	Age range (yrs) 19-41 Caucasian 75 Primiparous 49 *Mode of delivery* SVD 43 Instr 12 CS 23	Mixed and missing messages Conflicting advice Information gaps Unrealistic expectations Pressure to bf Emotional costs *Not clear if themes relate to hospital or community care*

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
McCourt et al 1998(36), England (Mixed methods)	1. Was 1:1 continuity of care giver preferred by women; 2. Was it associated with any benefit to women?	Free text from questionnaires (N not reported); interviews (N=24) either face-to-face or by phone; focus groups at drop-in centres (N and location not reported).	Interviews and focus groups recorded and transcribed. Key emergent themes developed through open coding. Analysis of open text corroborated by independent researcher.	Age not reported Primips 35% White 42% Mode of delivery not reported	Insensitive responses to requests for support Staff seeming unavailable, offhand, too busy Inconsistent advice about bf Staff undermining women's self-esteem regarding baby care Serious lack of morale and motivation among MWs NB – No quotes presented
McFadden 2009(59), England	To explore factors influencing women's bf experiences following CS	Semi structured interviews 2 -52 days postpartum, in ward or NICU, with 10 women who had delivered by CS; 5 had their babies with them on PN ward, 5 had babies in NICU.	Thematic analysis using MaxQda using constant comparison.	Age range 27 -38 yrs 6/10 Primips 8/10 White British All CS	Maternal baby separation Feeling isolated and left to cope alone Lack of privacy Underestimated the emotional and physical effect of CS Lacking confidence in their abilities to bf Highly dependent on ward staff to initiate bf Receiving emotional support from staff & families
McFadden et al 2012(58), England	To explore the extent to which cultural context makes a difference to experiences of bf support for Bangladeshi women and to consider the implications for the provision of culturally appropriate care	Purposive sampling. In depth interviews and focus groups in community setting with 23 Bangladeshi women in 2008 who had bf within previous 5 yrs. Bilingual interviewer if required.	Initial coding was inductive then codes reorganised into logical framework	Age range 21-40 yrs Parity 1-6 UK born=4 No other characteristics reported	Bf support in hospital Satisfaction with hospital care Staff not always sympathetic to women's need Ineffective support with bf Expectation of hand-on support with feeding Women's concerns about producing enough milk Use of formula milk
Proctor & Wright 1998(61), England	To gain insights into aspects of maternity care among	Postal survey: 313 questionnaires returned, 155 from PN women (6-8 wks), 117	Framework analysis using NUDIST	Primips 54%	Continuity of carer Environment of care Information Access

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
	pregnant and recently delivered mothers	commented in free text ('anything in the service that had particularly impressed or bothered them').			Care and treatment Relationship with carer Outcome Attributes of staff Choices Control
Proctor 1998(60), England	To identify and compare perceptions of women and MWs concerning women's beliefs about what constitutes quality in maternity services	7 focus groups and interviews, recorded and transcribed, 1994-97, 2 units in Yorkshire. Interviews numbers, PN time point and setting not reported.	Framework analysis using NUDIST	19 PN women, 5 of whom gave birth 2-5 yrs previously Age range 14-43 yrs Parity 0-3 *Mode of delivery* SVD 7 Emergency CS 3 Elective CS 2 Instr 2	Continuity of carer Environment of care Information Access Care and treatment Relationship with carer Outcome Attributes of staff Choices Control
Puthussery et al 2010(62), England	To explore the maternity care experiences and expectations in UK-born ethnic minority women	In-depth semi-structured interviews with 34 UK-born ethnic minority women at mother's home or convenient setting 3-12 mths postpartum. Interviews recorded and transcribed. Women with adverse physical or mental health were excluded.	Grounded theory approach using nVivo.	Age <30 yrs 14 30-39 18 40+ 2 Primips 22 *Ethnicity*: Indian 11 Pakistani 4 Bangladeshi 2 Black African 10 Black Caribbean 2 Irish 5	Sensitive care Mismatch between expectations and experiences Women with additional needs less support than expected Staff unfriendly and care impersonal Care environment PN wards perceived to be poorly equipped and furnished Issues around privacy, noise, lack of cleanliness and hygiene
Ridger 2007(63), England	To explore women's views of ward postnatal care	Purposive sample of 12 women. Non-participant observation and interviews at 2 to 4 weeks after birth at women's home or a health facility.	Ethnographic analysis	Primips 6 *Mode of delivery* SVD 5 Emergency CS 2 Elective CS 3 Instr 2	Busy wards and lack of staff Task-initiated care Wanting to have care needs acknowledged Receiving support

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Shields et al 1998(39), Scotland (Mixed methods)	To compare women's satisfaction with MW managed care vs shared care over 3 different time periods as part of RCT	Free-text comments in questionnaire about what they liked and disliked about their care, 825 women commented on hospital PN care.	Elements of satisfaction grouped and coded independently by 2 researchers.	*Mean age* at booking:* MW group 25.8 yrs Shared care 25.5 yrs Primips: MW group 54.7% Shared care 53.5% *Mode of delivery* (%): MW grp Shared care SVD 73.5 73.7 Instr 13.6 14.3 CS 12.9 11.9	Relationships with staff Information transfer Social support Environment General satisfaction
Taylor 2014(64), England	The experiences of postnatal ward cot type-side care crib and stand-alone cot in relation to breastfeeding	RCT sub-study. Semi-structured interviews in women's home, mostly by phone	Content analysis using nVivo	Side care crib N=29 Primips=17 SVD=15 CS=2 Multips=12 SVD=8 CS=4 Stand-alone cot N=35 Primips=16 SVD=10 CS=6 Multips=19 SVD=15 CS=4	Birth experiences Skin to skin contact Delayed bf initiation Mother Infant separation Unrealistic bf expectation Bf experiences on the PN ward Ward environment Introduction of formula milk on the PN ward

Abbreviations:

Bf/bf breastfeeding; Instr Instrumental delivery; CS caesarean section; hrs hours; mths months; MW midwife; PN postnatal; NICU neonatal intensive care unit; primips primiparous; RCT randomised controlled trial; SVD spontaneous vaginal delivery; yrs years

* Reported in original trial report (68)

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Table 3 – Risk of bias in quantitative studies (Y yes, N no, U unclear)

Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Alderdice et al 2015(17)	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	N
Bick et al 2012(18)	Y	Y	Y	Y	U	U	Y	Y	Y	Y	Y	N	U
Bowers & Cheyne 2016(19)	Y	U	U	U	U	U	U	U	U	U	U	U	U
Care Quality Commission 2013(21) (Mixed methods)	U	Y	N	U	N	Y	N	N	Y	Y	N	Y	Y
Care Quality Commission 2015(22)	U	Y	N	U	N	Y	N	N	Y	Y	N	Y	Y
Care Quality Commission 2010(20)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	Y	Y
Cheyne et al 2013(24)	U	Y	N	U	U	Y	Y	Y	Y	Y	U	Y	Y
Cheyne et al 2015(23) (Mixed methods)	U	Y	N	U	N	Y	Y	Y	Y	Y	N	Y	N
Cranfield 1983(25)	Y	Y	Y	N	U	N	Y	N	N	N	N	N	U
Dowswell et al 1997(44)	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y
Farquhar et al 2000(26)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
Garcia et al 1998(27) First class delivery (Mixed methods)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	N	Y

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Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Glazener 1999(28)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	U	N	Y
Healthcare Commission 2007(29)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	Y	Y
Henderson & Redshaw 2017(1)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
Henderson et al 2013(30)	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	Y	Y	Y
Hicks et al 2003(31)	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	N	N
Hirst & Hewison 2002(32) (Mixed methods)	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	N	N	U
Hundley et al 2000(33)	Y	Y	Y	N	Y	Y	N	N	Y	Y	N	N	N
Ifionu 2010(34)	U	N	U	U	N	U	N	N	Y	N	N	N	U
Ingram et al 2002(35)	Y	Y	Y	U	Y	U	Y	Y	Y	Y	U	N	Y
McCourt et al 1998(36) (Mixed methods)	Y	Y	Y	U	N	U	N	N	Y	Y	N	N	Y
NCT 2010(45)	Y	Y	Y	Y	Y	U	Y	N	Y	Y	Y	N	Y
Raleigh et al 2010(37)	Y	Y	Y	Y	Y	U	Y	Y	N	Y	Y	N	Y
Redshaw & Heikkila 2010(10)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	N	Y
Redshaw & Henderson 2015(3)	U	Y	N	U	Y	Y	Y	Y	Y	Y	Y	N	Y
Redshaw et al 2006(11)	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y
Scott et al 2003(38)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y

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Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Shields et al 1998(39) (Mixed methods)	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
Spurgeon et al 2001(40)	Y	Y	Y	Y	U	U	Y	N	Y	Y	N	N	U
Van Teijingen et al 2003(41)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
Wardle 1994(42)	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	Y
Wray 2006(43)	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	N

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Table 4 – Quality assessment of qualitative studies (Y yes, N no, U unclear)

Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?	High overall summary rating
Baker et al 2005(46)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Beake et al 2005(47)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Beake et al 2010(48)	Y	Y	Y	U	Y	N	Y	Y	Y	Y	Y
Bowes & Domokos 1996(49)	U	Y	Y	U	Y	Y	U	U	N	N	N
Cheyne et al 2015(23) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	U	Y	N
Condon et al 2012(50)	Y	Y	Y	Y	Y	N	Y	U	Y	N	N
Care Quality Commission (CQC) 2013(21) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	Y	Y	N

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Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?	High overall summary rating
Cross-Sudworth 2011(51)	Y	Y	Y	U	Y	Y	Y	U	Y	U	Y
Dykes 2005(52)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Edward 2013(53)	Y	Y	Y	Y	U	Y	Y	Y	Y	Y	Y
Fawcett 2016(54)	N	Y	N	N	Y	N	N	U	Y	N	N
Fraser 1999(55)	Y	Y	Y	Y	U	Y	N	N	Y	Y	Y
Garcia et al 1998(27) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	Y	Y	N
Hirst & Hewison 2002(32) (Mixed methods)	Y	Y	Y	Y	U	N	Y	N	Y	Y	N
Jomeen & Redshaw 2013(56)	Y	Y	U	Y	N	N	Y	Y	Y	Y	Y
Lagan 2014(57)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
McCourt et al 1998(36) (Mixed methods)	Y	Y	Y	U	Y	N	Y	Y	Y	Y	Y
McFadden 2009(59)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y

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Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?	High overall summary rating
McFadden et al 2012(58)	Y	Y	Y	Y	U	N	Y	Y	Y	Y	Y
Proctor 1998(60)	Y	Y	Y	Y	N	N	N	N	Y	U	N
Proctor & Wright 1998(61)	Y	Y	Y	U	U	N	U	N	N	U	Y
Puthussery 2010(62)	Y	Y	Y	U	U	U	Y	Y	Y	U	N
Ridge 2007(63)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shields et al 1998(39) (Mixed methods)	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N
Taylor 2014(64)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Figure 1 - PRISMA 2009 Flow Diagram

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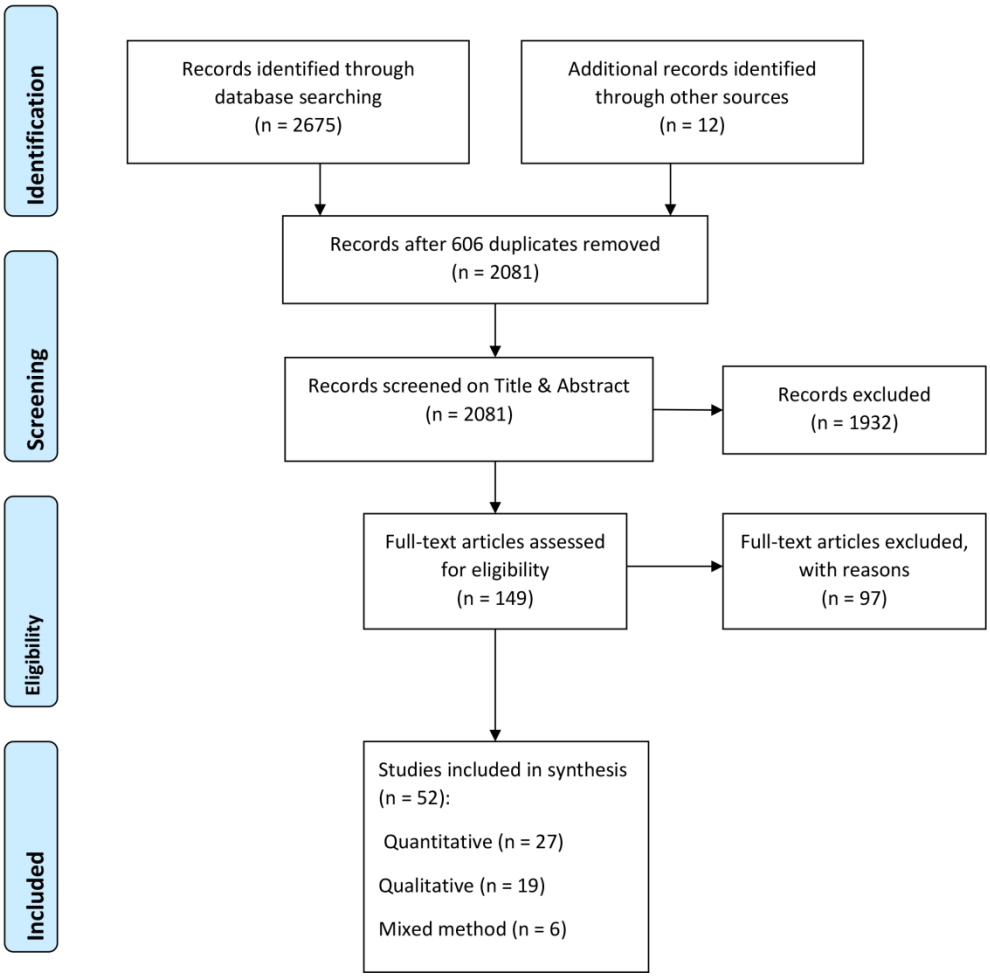
Figure 1 - PRISMA 2009 Flow Diagram



181x203mm (300 x 300 DPI)

Appendix 1: MEDLINE search results 14 February 2017

postnatal care/	4682
Postpartum Period/	21647
((Postnatal adj3 care*) or (postnatal adj3 service*) or (postnatal adj3 healthcare*) or (postnatal adj3 "health care*") or (post?natal adj3 care*) or (post?natal adj3 service*) or (post?natal adj3 healthcare*) or (post?natal adj3 "health care*") or (postpartum adj3 care*) or (postpartum adj3 service*) or (postpartum adj3 healthcare*) or (postpartum adj3 "health care*") or (post?partum adj3 care*) or (post?partum adj3 service*) or (post?partum adj3 healthcare*) or (post?partum adj3 "health care*") or (puepr* adj3 care*) or (puepr* adj3 service*) or (puepr* adj3 healthcare*) or (puepr* adj3 "health care*") or (maternal adj3 care*) or (maternal adj3 service*) or (maternal adj3 healthcare*) or (maternal adj3 "health care*")).mp.	24582
1 OR 2 OR 3	45222
(Satisf* or value* or expectation* or perception* or perceive* or experience or need* or attitude* or view*).mp.	4578926
Birthing Centers/	678
Delivery Rooms/	1368
Maternal Health Services/	12095
exp Hospitals/	241620
exp Hospitalization/	191937
Inpatients/	16494
Patients/	18731
exp Nursing/	238100
exp Nurses/	79310
hospital*.ti,ab.	1024300
(ward* adj2 patient*).ti,ab.	1691
(inpatient* or "in-patient*").ti,ab.	1470847
(midwifery or midwife or midwives).ti,ab.	19983
6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18	2733608
exp United Kingdom/	332484
(UK or "United Kingdom" or England or Wales or Scot* or "Northern Ireland" or Britain or British or NHS).ti,ab.	248959
20 or 21	470597
4 and 5 and 19 and 22	783
limit 23 to (english language and yr="1970 -Current")	777

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Protocol title: Expectations and experiences of postnatal care at hospitals and birth centres in the UK: a protocol for qualitative and quantitative systematic review

Reem Malouf, Jane Henderson, Fiona Alderdice

Background

Key aspects of postnatal care include attention to the physical health of the mother, breastfeeding support, psychological well-being of parents, education as to what she should expect after birth and regarding infant care. Over time there have been a number of changes in postnatal care, the most evident being a reduction in length of hospital stay (Henderson and Redshaw, 2016). A hospital lying-in period of between eight to 14 days was standard in the 1950s (Rush, Chalmers and Enkin, 1989), whereas length of postnatal hospital stay for a woman with an uncomplicated vaginal birth in the United Kingdom is now often 1-2 days (Redshaw and Henderson, 2015).

A Cochrane review by Brown et al (2002) on length of postnatal hospital stay for healthy, term mothers and babies suggests that early discharge home does not appear to have an adverse effect on maternal health or breastfeeding outcomes when accompanied by a policy of offering women at least one nurse-midwife home visit post discharge. Most trials included assessments of women's satisfaction with postnatal care in hospital, and overall, while not statistically significant, women tended to favour a short postnatal stay. A trial by Waldenström et al (1987) also reported that, following early discharge, fathers were more involved in early care of the infant. The Cochrane review has not been updated since 2002 and the current state of the evidence regarding the impact of length of postnatal hospital stay is unclear, particularly regarding current UK postnatal care policy and practice.

More choice around place of birth means that women may have more variation in what is defined as 'hospital' in the immediate postnatal period, for example, stand-alone birth centre in comparison to a hospital maternity unit. Content of care has also changed. Maternal health observations, feeding support and parental education all remain priorities but there are limits to what can be achieved during a short stay. In addition, national guidance recommends that women are asked about their emotional wellbeing at every contact, that they have an initial assessment of needs and individualised plan of care (NICE Postnatal care guidelines) which require time. Better Births: Improving outcomes of maternity services in England (The National Maternity Review, 2016) acknowledges that postnatal care needs to be resourced appropriately and that women should have access to their midwife (and where appropriate obstetrician) as they require after having had their baby.

The need to invest in postnatal care arises from the knowledge that it is the most commonly criticised aspect of care by women as evidenced in the National Maternity Survey reports and publications arising from secondary analysis of survey data (Redshaw et al 2006; Redshaw and Heikkila 2010; Redshaw and Henderson 2015; Henderson and Redshaw 2017). However, we do not know if this is related to unmet expectations, poor experience of birth or afterwards, emotional or physical well-being of the women reporting their experiences.

As 'hospital' postnatal care has been decreasing in duration and also changing its focus, identifying the changes in maternal expectations, experiences and satisfaction may provide important insights to what aspects of care need to be improved for future services.

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Review objectives:

- The main aim of this review is to comprehensively report on women and their families' expectations and experiences of the immediate postnatal care received in hospitals and birth centres including both alongside units and free-standing maternity units.
- To report on women's satisfaction with hospital/birth centre postnatal care and how it relates to expectations and experience.
- To identify gaps and changes in postnatal care provided to women who delivered in hospitals and birth centres in the UK.

Review method

This review will be prepared and conducted according to the PRISMA checklist (PRISMA 2009). We will incorporate findings from different research methods: qualitative, quantitative and mixed method design studies.

Selection of studies and review inclusion criteria:

We will consider studies for their eligibility for inclusion in this review if they fulfil the following criteria:

Study designs: studies of the following designs will be included:

- Qualitative studies: interviews (individuals or focus groups), participant and non-participant observation studies and documentary analyses.
- Quantitative studies: RCTs, cross-sectional studies, retrospective or prospective survey-based studies and observational cohort studies design will be included.
- Mixed method studies: Studies using both quantitative and qualitative methods, for example the open text responses within survey studies.
- No studies will be excluded based on their design.

Reviews, editorials, commentaries and reports will be identified during screening but used solely to identify additional studies that are not retrieved by the searches.

Type of participants:

- We will consider studies for inclusion in this review if they included women with low risk pregnancies as defined by the NICE 2017 guidelines (NICE 2017), who gave birth in hospitals or birth centres in the UK.
- We will include studies on postnatal care in hospital and birth centres involving partners or fathers.
- We will include studies with findings collected from both women and their partners even if women's data cannot be retrieved separated.

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- If studies have data on both low and high risk pregnancies, only information relevant to the low risk group will be extracted (if feasible).
- Studies of women of all ages, parity, ethnic background and mode of delivery will be included.

Objective of included studies:

- The specific objectives of the included studies will include presenting data on women's expectations, satisfaction and experiences of their immediate postnatal care in hospital or birth centre.

Study setting:

- We will only include studies that focused on early postnatal care in hospitals and birth centres in the UK.

Review exclusion criteria:

We will apply the following exclusion criteria:

- We will exclude studies conducted on women with high risk pregnancies as defined by the NICE 2016 guidelines on Antenatal Care (NICE 2017).
- Studies involving women with various or unknown pregnancy risks when separating data for low risk women is not feasible.
- Studies reporting on other aspects of hospital birth care such as birth plan, choices of pain relief unless also including data about postnatal care.
- Studies involving healthcare professionals in relation to aspects of postnatal care will be excluded unless also including data focussing on women's or families' experience.
- Studies on aspects of community postnatal care for women who chose home birth will be excluded.
- Studies conducted outside the UK and published before 1970 will be excluded.

Review outcomes:

Primary outcome:

- Women's and families' expectations, satisfaction and experiences of postnatal care received in hospital or birth centres.

Secondary outcome:

- None

Search strategy and study selection

We adopted the methodological component of the SPIDER (Cooke 2012) search strategy we developed sets of search terms to cover the following concepts: expectations, satisfactions and experiences of postnatal care in hospital and other birth centres in the UK.

We have developed and tested a sensitive search strategy which will be used to electronically search the following databases:

- Embase [OvidSP](1970-present)
- Medline [OvidSP](1970-present)
- PsycINFO [OvidSP](1970-present
- Applied Social Science Index and Abstracts (ASSIA)[Proquest] (1970-present)

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- Cumulative Index to Nursing and Allied Health (CINAHL) plus [EBSCOHost] (1970-present)
- Science Citation Index [Web of Science Core Collection](1970-present)
- Social Sciences Citation Index [Web of Science Core Collection](1970-present)
- Grey literature searches will be conducted in the databanks of British Library EThOS, Open Grey and ProQuest Dissertations & Theses Global.

All retrieved references (title and abstract) will be screened independently by two reviewers. Full text of references considered potentially relevant will also be examined by two reviewers. Any discrepancies will be resolved by discussion. A screening checklist will be used to record in detail the reasons for excluding any full text paper which has been selected as potentially relevant through abstract and title screening.

All the retrieved references will imported to Endnote (X8) to store references, and to maintain an audit trail of screening decisions. A PRISMA flow chart will be constructed to illustrate the number of records retrieved from each database, the number of full-text papers retrieved, and the final number of studies included in this review.

Searches will be conducted in English and limited to the period from 1970 to the present.

Methodology and assessment of the included studies:

For quantitative designs we will apply a modified version of the NIH quality assessment tool for the observational cohort and cross-sectional studies (NIH 2017) which includes a total score. The tool will be used to assess included studies for generalisability and risk of bias based on recruitment, exclusion criteria applied, description of the study population (demographic, location and time period), sample size, response rate and comparability to the wider population. The tool will assess the adequacy of statistical techniques and adjustment for potential confounders and the reliability and validity of standardised measures.

For evaluating the risk of bias of qualitative studies we will use the Critical Appraisal Skills Programme (CASP) (2006). This tool has a checklist of ten questions which cover the study objectives and rationale, study methods, study design, recruitment strategies, method of data collection, information on ethical approval, and rigor of the method of analysing data and reporting of findings. Each domain is designated “yes”, “no” or “unclear”.

Two reviewers will independently assess the quality of the included studies and any discrepancies in quality rating will be resolved by discussion.

Data extraction:

We will develop two different data extraction forms, one for the quantitative studies and the second for qualitative studies. Both forms will have information relevant to the participants’ characteristics (age, parity, and ethnicity), study period, setting, inclusion and exclusion criteria, outcomes and a summary of results.

For the quantitative studies form we will extract additional data such as study design, sample size, method of data collections and method of analysing data.

For the qualitative studies we will extract the following information: recruitment strategy and sampling strategy, method of analysing data and recognized themes.

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For mixed method studies, the qualitative and quantitative data will be extracted and aggregated separately using the appropriate forms.

When missing data are identified, the study authors will be approached if possible. These data will be added to the original data extraction forms.

Data analyses:

We will analyse data from qualitative and quantitative designs separately.

For quantitative studies: narrative synthesis will be implemented as we expect significant heterogeneity across studies due to design variations, populations and perhaps outcomes.

For the qualitative design studies: we will compare and contrast themes identified across included studies. We will use N-vivo 10 software to perform the thematic analysis.

Quantitative and qualitative data retrieved from mixed method studies will be synthesised separately and added to other data as appropriate.

In this review the findings from the qualitative synthesis will be used to contextualize the findings from the quantitative data.

Subgroup analysis:

We are planning to perform the following subgroup analysis were possible:

- Primiparous women versus multiparous women
- Delivery mode: spontaneous vaginal birth, assisted vaginal birth, elective caesarean section, emergency caesarean section
- Duration of postnatal stay: < 24 hours, 24 < 48 hours, 48 < 72 hours, >72 hours
- Postnatal care received in hospitals in comparison to birth centres.
- Comparisons over time: postnatal care from 1970 to 1989, 1990 to 2009, 2010 to the present.

Funding

This review will report on an independent study which is funded by the Policy Research Programme in the Department of Health. The views expressed are not necessarily those of the Department.

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Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

https://www.nhlbi.nih.gov/health-pro/guidelines/in-develop/cardiovascular-risk-reduction/tools/cohort

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	3-4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	4
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	4
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	4
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	5
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	5
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	4-5
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	N/A
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	5

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	4-5
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	5
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	5, Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Tables 1 & 2
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Tables 3 & 4
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Tables 3 & 4
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	8-9
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	12-13
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13-14
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	14
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	14

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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Expectations and experiences of hospital postnatal care in the UK: a systematic review of quantitative and qualitative studies

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Abstract

Objective: To report on women's and families' expectations and experiences of hospital postnatal care. Also to reflect on women's satisfaction with hospital postnatal care and to relate their expectations to their actual care experiences.

Design: Systematic review.

Setting: UK.

Participants: Postnatal women.

Primary and secondary outcomes: Women's and families' expectations, experiences and satisfaction with hospital postnatal care.

Method: Embase, MEDLINE, PsycINFO, Applied Social Science Index and Abstracts (ASSIA), Cumulative Index to Nursing and Allied Health (CINAHL) plus, Science Citation Index, Social Sciences Citation Index were searched to identify relevant studies published since 1970. We incorporated findings from qualitative, quantitative and mixed methods studies. Eligible studies were independently screened and quality assessed using a modified version of the NIH quality assessment tool for quantitative studies, and the Critical Appraisal Skills Programme for qualitative studies. Data were extracted on participants' characteristics, study period, setting, study objective and study specified outcomes in addition to the summary of results.

Results: Data were included from 53 studies of which 28 were quantitative, 19 were qualitative, and 6 were mixed methods studies. The methodological quality of the included studies was mixed and only three were completely free from bias. Women were generally satisfied with their hospital postnatal care but were critical of staff interaction, the ward environment and infant feeding support. Ethnic minority women were more critical of hospital postnatal care than white women. Although duration of postnatal stay has declined over time, women were generally happy with this aspect of their care. There was limited evidence regarding women's expectations of postnatal care, families' experience, and social disadvantage.

Conclusion: Women were generally positive about their experiences of hospital postnatal care but improvements could still be made. Individualised, flexible models of postnatal care should be evaluated and implemented.

Prospero registration number: CRD42017057913.

Strengths and limitations

- Searching across 10 different databases
- Quality assessment and data extraction by authors independently of each other
- Although the aim was to focus on women and babies without complications, most studies did not differentiate by risk
- We initially planned to focus on hospital postnatal care but some studies did not differentiate between hospital and community postnatal care. These were included for completeness.

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INTRODUCTION

Key aspects of postnatal care include attention to the physical health of the mother, breastfeeding support, psychological well-being of parents, education as to what the woman should expect after birth and regarding infant care. Over time there have been a number of changes in postnatal care in the UK, the most evident being a reduction in length of hospital stay (1). A hospital lying-in period of between eight to 14 days was standard in the 1950s (2), whereas length of postnatal hospital stay for a woman with an uncomplicated vaginal birth in the United Kingdom is now often 1-2 days (3, 4).

A Cochrane review by Brown et al (2002) on length of postnatal hospital stay for healthy mothers who gave birth to healthy term babies suggests that early discharge home does not have an adverse effect on maternal health or breastfeeding outcomes when accompanied by a policy of offering women at least one nurse-midwife home visit (5). Most trials included assessments of women's satisfaction with postnatal care in hospital, and overall, while not statistically significant, women tended to favour a short postnatal stay. A trial by Waldenström et al (1987) also reported that, following early discharge, fathers were more involved in early care of the infant (6). The Cochrane review has not been updated since 2002 and the current state of the evidence regarding the impact of length of postnatal hospital stay is unclear, particularly regarding current UK postnatal care policy and practice.

More choice around place of birth means that women may have more variation in location for the immediate postnatal period, for example, a stand-alone birth centre (midwife-led units where the emphasis is on birth without medical intervention in a homely environment) in comparison to a hospital maternity unit. Content of care has also changed. Maternal health observations, feeding support and parental education all remain priorities but there are limits to what can be achieved during a short stay. In addition, national guidance recommends that women are asked about their emotional wellbeing at every contact, that they have an initial assessment of needs, and individualised plan of care, all of which require time (7). Better Births: Improving outcomes of maternity services in England (8) acknowledges that postnatal care needs to be resourced appropriately and that women should have access to their midwife (and where appropriate obstetrician) as required after having had their baby. The Maternity Transformation Project (9) which gives a structure to the implementation of Better Births, emphasises the importance of kind and personalised care although postnatal care is not a specific work stream within this.

The need to invest in postnatal care arises from the knowledge that it is the most commonly criticised aspect of care by women as evidenced in the National Maternity Survey reports and publications arising from secondary analysis of survey data (3, 10, 11). However, we do not know if this is related to unmet expectations, poor experience of birth or afterwards, or the emotional and physical well-being of the women reporting their experiences.

As hospital postnatal stay has been decreasing in duration and also changing its focus, identifying changes in maternal expectations, experiences and satisfaction may provide important insights as to what aspects of care need to be improved for future services.

Review objectives

This review was conducted to inform a series of policy research projects on postnatal care in the UK. The main aim of this review was to comprehensively report on women's and families' expectations

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and experiences of the immediate postnatal care received in hospitals (including both alongside and free-standing birth centres). The objectives were:

- to report on women's satisfaction with hospital/birth centre postnatal care
- to explore how this relates to expectations and experience of care
- to identify gaps in hospital postnatal service provision in the UK

METHODS

This review was reported according to the PRISMA 2009 check list (12) and registered with Prospero (registration number CRD42017057913; see supplementary file Postnatal Care protocol v6).

Selection of studies and inclusion criteria

Studies were eligible for inclusion if they involved women with low risk pregnancies as defined by the NICE 2017 guidelines (13) and gave birth in hospitals or birth centres in the UK. If studies contained data relating to both low and high risk pregnancies, only information relevant to the low risk group was sought for inclusion. Studies conducted on women with high risk pregnancies as defined by the NICE 2017 guidelines on Antenatal Care (13) were excluded. We initially planned to exclude studies involving women with various or unknown pregnancy risks; if it was not possible to separate data relating to low risk women. Studies with findings relating to a woman's partner were also sought for inclusion. Studies of women of all ages, parity, ethnic background and mode of delivery were eligible for inclusion. Data were also sought regarding contextual information relevant to women's expectations, satisfaction and experiences of their immediate postnatal care in hospital or birth centre.

We incorporated findings from different research methods: qualitative, quantitative and mixed method design studies. The quantitative studies of the following designs were eligible for inclusion: RCTs, cross-sectional studies, retrospective or prospective survey-based studies and observational cohort studies. As the aim was to provide an aggregative summary of what is known about women's experiences of hospital care it was important to include all possible data in the synthesis. Qualitative studies included were interview studies, observational studies, focus groups studies and open ended text from surveys where thematic analysis had been conducted. Surveys where free-text quotes were provided purely for illustrative purposes were excluded.

Reviews, editorials, commentaries and reports were only used to identify additional studies that were not retrieved by the searches. This review focuses on hospital postnatal care thus studies on aspects of community postnatal care were not included unless it was impossible to differentiate between them in which case they were included.

Any outcomes relevant to women's and families' expectations, experiences and satisfaction with postnatal care received in hospital or birth centres were extracted and are reported in this review.

Search strategy and study selection

The methodological component of the SPIDER (14) search strategy was used. Sets of search terms were developed to cover the following concepts: expectations, experiences and satisfaction with postnatal care in hospital and birth centres in the UK. The MEDLINE search strategy is shown in Appendix 1.

The following databases were electronically searched: Embase, MEDLINE, PsycINFO, Applied Social Science Index and Abstracts (ASSIA), Cumulative Index to Nursing and Allied Health (CINAHL) plus,

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Science Citation Index, Social Sciences Citation Index. We also searched the grey literature in the databanks of British Library EThOS, Open Grey and ProQuest Dissertations & Theses Global. All retrieved references were stored in Endnote (X8) and screened independently by the review authors.

We restricted our search to English language only and limited by date from 1970. This date was chosen as many changes to postnatal care policies took place subsequently. Review searches were conducted in February 2017. An update search was carried out in February 2019. Authors were contacted as necessary to locate full text papers.

Assessment of the included studies

For quantitative designs we applied a modified version of the NIH quality assessment tool for the observational cohort and cross-sectional studies (15). This tool was used to assess included studies for generalisability and risk of bias based on recruitment, exclusion criteria applied, description of the study population (demographic, location and time period), sample size, response rate and comparability to the wider population. The tool also assessed the adequacy of statistical techniques and adjustment for potential confounders and the reliability and validity of standardised measures. We rated the quality of evidence on each domain as 'yes' for low risk of bias, 'no' for high risk of bias and 'unclear' when no information was provided to support the judgement The CASP risk of bias tool for RCTs (16) was implemented to rate the quality of any RCTs identified for inclusion in this review.

For evaluating the risk of bias of qualitative studies we used the Critical Appraisal Skills Programme (16). This tool has a checklist of ten questions which cover the study objectives and rationale, study methods, study design, recruitment strategies, method of data collection, information on ethical approval, and rigor of the method of analysing data and reporting of findings. Each domain is designated 'yes', 'no' or 'unclear' as above.

For mixed methods studies, the quantitative and qualitative components were assessed and reported separately, and are thus included in both quantitative and qualitative tables.

All reviewers independently assessed the quality of the included studies and any discrepancies in quality rating were resolved by discussion.

Data extraction and data analysis

We designed two different data extraction forms, one for the quantitative studies and the second for qualitative studies. We extracted information relevant to the participants' characteristics, study period, setting, study objective and study specified outcomes in addition to the summary of results. Data from mixed method studies were entered in both the qualitative and quantitative forms as appropriate. No authors were contacted to seek additional information. In this review we report findings from qualitative and quantitative studies separately. Meta-analyses were explored for quantitative data; however heterogeneity was greater than 90% so this was not appropriate. Forest plots have been provided for outcomes where the variables were similar. An aggregative synthesis approach was used to summarize the qualitative data. With this approach the concepts are assumed to be largely well specified (17) and the data pooled by providing a descriptive account of the pooled data.

We planned to perform the following subgroup analyses using both quantitative and qualitative data:

- by parity

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- by mode of delivery
- ethnicity
- by the duration of postnatal stay: < 24 hours, 24 < 48 hours, 48 < 72 hours, >72 hours
- postnatal care received in hospitals in comparison to birth centres
- comparisons over time: 1970 to 1989, 1990 to 2009, 2010 to the present

Patient and Public Involvement

The need for a broad review of postnatal care was identified through discussion with our stakeholder groups included discussion with our Parent, Patient, and Public Involvement (PPPI) Stakeholders Network. Dissemination of findings to stakeholders will be through plain language summaries developed with members of our PPPI stakeholder network.

RESULTS

Results of the search

The search strategy retrieved 3118 references of which 759 were duplicates and were removed. An additional 12 references were identified through hand searching of the reference list of full texts studies. Overall, 2371titles and abstracts were independently screened by at least two reviewers resulting in 151 full texts being retrieved. These were assessed for eligibility and 53studies are included in this review. Of these, 28 studies were purely quantitative, 19 purely qualitative, and six used mixed methods (Figure 1).

Description of included studies

Summaries of the included studies are presented in Tables 1 and 2 for quantitative and qualitative studies respectively.

Quantitative studies

There were 34 quantitative studies included in the review (1, 3, 10, 11, 18-46), of which six were mixed methods (22, 24, 28, 33, 37, 40).

Of these studies, two were randomised controlled trials (RCTs) (32, 40), one was a non-randomised controlled study (36), a further study was a before-after intervention study (19), and another three (33, 37, 41) were cohort studies. The remaining 27 studies were cross-sectional surveys, 20 of which were national surveys with sample sizes ranging from 1137 (34) to 26,325 (30). Survey questions asked women their views on interpersonal and communication aspects of care, infant feeding advice and support received, physical and emotional well-being, length of stay and their view of their length of stay, and overall satisfaction.

The aim of the two included RCTs (32, 40) was ultimately to compare standard maternity care with midwife led and managed care. Hicks et al, (32) was a pilot study aiming to explore the compatibility of a new maternity care framework with maternity care as envisaged by the Changing Childbirth project. Women were randomised to either an experimental continuity of care group or a traditional care group. Women's satisfaction with a variety of aspects of care was recorded. These included information received and interaction with health care professionals. In the second RCT (40), women were randomised to midwife managed care or to standard care. However, looking at interventions to improve hospital postnatal care was not the intention of our review. Only data on women's satisfaction ratings with the interaction with healthcare professionals, information transfer, choices and decisions, and social support were collected.

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Of the included studies, 13 were conducted before 2000 (26-29, 33, 34, 36, 37, 40-43, 45), and 21 were conducted since then. The majority of the studies were conducted in England, but one was conducted in Northern Ireland (18), and seven in Scotland (24, 25, 29, 34, 39, 40, 42).

Risk of bias of included studies

The methodological quality of the included studies was overall moderate to low (Table 3). The study objectives were clearly pre-specified in most of the included studies, but the research question was unclear in 11 studies (3, 10, 21-25, 28, 30, 35, 40). All the studies except one (35) involved pre-defined populations. Of the 33 studies using surveys, 25 had response rates of at least 50% and of those, eight studies had response rates over 70% (26, 27, 29, 32, 33, 36, 43, 45), although in one study the denominator was women who had already agreed to participate (29). However, response rates were not reported and not possible to calculate in two studies (35, 46). Sample selection was not clearly reported across the included studies and in the majority of the studies the population was mixed risk status rather than low risk. The generalisability of the study results was also limited by differential response rates with significantly fewer responses from young, single women, those born outside the UK and those resident in deprived areas. Most of the studies reported methods to check the validity and reliability of the surveys. Overall, most of the included studies involved a sample size great than 100 and used reliable and valid outcomes measures. However, few studies adjusted for potential confounding factors (3, 19, 31, 32, 38, 46), or used statistical weighting to adjust for differential response rates (20-25, 30).

We assessed the methodological quality of the two RCTs identified for inclusion using the CASP risk of bias tool for RCTs. Both RCTs (32, 40) clearly stated the focus of their research. Allocation to interventions was assigned randomly and the randomisation methods were reported in both trials. Information regarding whether women were aware or blinded to the intervention status is missing. Both trials reported no significant differences between groups at baseline. However, information relating to whether the groups were treated equally or differently during the study duration was unclear in both trials. Outcomes of interest were aspects of women's satisfaction with the care they received and as these were self-reported by the women themselves we are unable to discount the existence of bias in measuring outcomes. With regard to the intervention effect estimates, in Hicks, women reported a similar level of care satisfaction. In Shield et al,(40) the estimated satisfaction with care was significantly higher in the midwife managed care in comparison to the shared care group in relationships with staff, information transfer, choices and decisions and social support. Data on women's emotional and physical support were not collected in either trial.

Quantitative results

Findings are reported by outcomes described across the included papers. Combining data for the following outcomes resulted in a significant heterogeneity across the study (I^2 >90%) (Meta-analyses not shown). Therefore, findings were tabulated and displayed in forest plots where possible.

Women's expectations of hospital postnatal care

Women's expectations of care were reported in one study only (19). This was a Continuous Quality Improvement study with a before-after design. Prior to the intervention 33.7% of women reported that care in hospital after birth was better than their expectations, after the intervention this increased to 40.2%.

Interaction with healthcare professionals

Almost all the studies in this section of the review included some discussion of staff attitudes, communication and/or practical help received (1, 3, 10, 11, 18-32, 35, 38-41, 43, 44, 46, 47).

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However, different studies asked different questions in various different ways making comparison problematic.

Adequate practical help was reportedly received by 84% of women in one study (26) and 59% always received help in a reasonable time (47). In another study, 56% of primiparous women reported receiving all necessary physical support (46). Between 79% (3) and 94% (10) of women were *always* spoken to so that they could understand, but only 47% of women reported that they had enough time to talk to midwives (43). Between 54-83% (3, 18, 28) were *always* treated with respect, 91-92% were *mostly* treated with respect (10, 11). Two surveys reported that 68% and 77% of women felt listened to (3, 18). Four surveys also reported women's perceptions of always being treated as an individual on the postnatal ward at between 53% and 79% (3, 10, 11, 18).

Kindness, understanding and sensitivity were reported more widely (3, 10, 11, 18, 21-25, 28, 30, 32, 47) Between 51-93% of women reported always being treated with kindness, but in a further survey only 41% of primiparous women received all necessary emotional support (46). Care and sensitivity was also reported as a score, 2.2 out of 5 (32), and on a scale of -2 to +2 social support scored between 0.7 and 1.2 (40). Always having confidence and trust in staff on the postnatal ward was reported in two studies at 59% and 69% (10, 28).

Information

Another vital aspect of postnatal care is for women to receive clear and adequate information. This was reported in 11 studies (21, 22, 24, 25, 27, 30, 32, 40, 43, 46, 47). Adequate information and explanations were always received by 53,58% and 65% of women in three surveys (21, 30, 47) compared to 93-94% who received fairly or very helpful advice in another study (27). The two studies which used the scoring systems referred to above reported explanations at 2.3 out of 5 (32) and information transfer at between 0.7 and 1.2 on a -2 to +2 scale (40). Information about specific elements of care such as the woman's recovery, postnatal exercises, emotional changes, and advice about baby care was reported more patchily. Between 61% (22) and 88% of women (31) were given information about their recovery, 84% about postnatal exercises (29), 53-56% about emotional changes, (22, 27), and between one third and three-quarters of women reported receiving information about elements of baby care (29, 43, 44, 46).

Postnatal hospital stay

More than half of the studies reported on the duration of hospital stay and/or women's views about their length of stay (1, 3, 10, 11, 18, 19, 21-26, 28, 29, 31, 33, 34, 44-46). The mean length of stay was stated in seven studies (10, 11, 18, 19, 29, 33, 45) and ranged from 1.8 days in multiparous women in 1990 (29) to 5.9 days in women following a caesarean delivery in 1994 (45). The proportion of women with longer lengths of stay declined over the years and this is described below under *Sub-group analyses*.

About three quarters of women felt that their duration of stay was about right (1, 10, 18, 19, 21, 22, 24-26, 28, 29, 31, 34, 45). The proportions of women who felt satisfied with the length of hospital postnatal stay is visually presented in forest plots see Figure 2. The proportion of women who considered their length of stay too short remained remarkably constant over time at 12-13% (1). Two studies reported that 62% and 77% of women respectively had some choice in their duration of stay (28, 34). Another study reported that there was an association between women considering their length of stay too short and scoring high on the Edinburgh Postnatal Depression Scale (45). However, no correlation was found between length of stay and overall satisfaction with postnatal care (20).

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Infant feeding

Data relating to infant feeding were reported in more than half the studies (3, 10, 11, 18-26, 28-30, 36, 38, 39, 43, 44, 47). The proportion of women who reported initiating breastfeeding ranged from 49% in Scotland in 2013 (25) to 87% in England in 2015 (3). Infant feeding support was also reported in 15 studies (3, 10, 11, 18, 20-26, 28-30, 39). Consistent advice in relation to infant feeding was always received by between 31% (28) and 77% of women (30), although most estimates were between 40-60%. Women were also asked in most of the national surveys if they received practical help with infant feeding. Between 31% (11, 28) and 46% of women (18) reported that they always received practical help. Similarly, always receiving support and encouragement ranged from 38% (28) to 78% (30). Three studies reported that infant feeding decisions were always respected in 81-82% of cases (21, 24, 25) but always having privacy to breastfeed was reported by only 49% of women in one study (28).

Apart from problems of definition and timing, many of these studies did not differentiate between feeding support in hospital and at home. However, a study which focussed specifically on breastfeeding support in hospital (36) reported that receiving enough support was associated with an adjusted Odds ratio of 2.13 (95% confidence interval 1.28, 3.53) for successful breastfeeding.

Ward environment

Six studies reported women's views of the ward environment (11, 29, 30, 39, 44, 47) including aspects of visiting, partner being able to stay, and ward hygiene. Three studies reported women's views of visiting: 81-89% of women were happy with the visiting arrangement, but 9-19% thought visiting was too short, 2% thought too much visiting was allowed and 38% thought it insufficiently flexible (29, 44). In the most recent study (47), 22% felt restricted by visiting hours. However, 71% said their partners were able to stay with them. One study reported partner's experience of postnatal care and the impact of partners' presence on women's experience (24). In that study 58% of partners were accommodated on the postnatal ward, however their experience in this regard was not reported.

Ward hygiene, particularly in the toilets and bathrooms, was a concern for many women, being reported as very clean by only 46% in one study (29) (30)and 19% in another (11). However, this may have improved: in the most recent CQC survey 70% of women reported wards as being 'very clean'. Women were also critical of food (30), privacy, space, temperature, and noise levels (11).

Overall satisfaction with hospital postnatal care

Eight studies reported women's overall satisfaction with *hospital* postnatal care (3, 10, 11, 19, 27, 28, 37, 42), and three others reported *overall* quality of postnatal care (24, 25, 35). About three-quarters of women reported being satisfied or very satisfied with care (3, 10, 11, 19), between 46% and 81% reported being *very* satisfied with care (27, 28, 37, 42), however the figure of 81% (42) was from a survey distributed by midwives at 10 days postpartum so may be biased. Good or excellent quality postnatal care was reported by 83-86% of women in two Scottish surveys (24, 25), and as poor by 11-13% of women in another study (35). Forest plots of the proportion of women who were satisfied with overall postnatal hospital care are presented in Figure3.

Qualitative studies

The literature search and screening resulted in 19 purely qualitative studies and six mixed methods studies that included qualitative data relating to hospital postnatal care (22, 24, 28, 33, 37, 40, 48-

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66). Of these 25, 17 were based on interviews (33, 37, 48-54, 57, 59-62, 64-66), seven on focus groups (37, 52, 53, 55, 59, 60, 62), and seven on free-text comments in questionnaires (22, 24, 28, 37, 40, 58, 63); six used a mixture of different methods. The majority, 18 were conducted in England (or England and Wales) (22, 28, 33, 37, 48-50, 52, 54, 57, 58, 60-66), five were based in Scotland (24, 40, 51, 55, 59) and two across the whole of the UK (53, 56). Some questionnaire based studies which included free-text quotes for illustrative purposes only have not been included here as they were not analysed using qualitative methods.

Most of the studies focussed on women's views of maternity care in general rather than their views of hospital postnatal care specifically. Six studies did focus specifically on hospital postnatal care (33, 49, 50, 54, 56, 65), six others focussed on infant feeding (52, 55, 59-61, 66), and six focused on exploring the experience of ethnic minority women (33, 51, 53, 58, 60, 64).

Risk of bias in qualitative studies

Only three of the qualitative studies (48, 54, 66) appeared to be entirely free from bias (Table 4). Although a qualitative method was appropriate throughout, the aims generally specified, and the study design was generally appropriate, the recruitment strategy and methods for data collection were sometimes unclear (33, 37, 50, 51, 53, 55-57, 60-64, 67). The relationship between the researcher(s) and participants was only considered in nine studies (48, 51, 53-55, 57, 61, 65, 66) and it was often unclear how rigorous an analysis was carried out. The population was not described in eight studies (22, 33, 37, 50-52, 56, 63) limiting transferability. In addition, in one study (50), interviews were conducted by a research midwife in hospital within a few days of birth which may have resulted in biased responses. In six studies the analysis was based on free-text comments in postal surveys (22, 24, 28, 40, 58, 63) in which comments tend to be brief and superficial. However, there was generally a clear statement of the findings and most of the studies could be considered valuable.

Themes from qualitative studies

Women's expectations

Seven studies referred to women's expectations of hospital postnatal care (50, 55, 58-60, 64, 66). None of these studies was prospective so expectations were asked about or inferred retrospectively. These studies indicated that women often had low expectations of hospital postnatal care which were sometimes met, sometimes exceeded (50, 55). Ethnic minority women generally expected more support from staff, particularly with breastfeeding, and were disappointed (60, 64). Some women reported a lack of balance and honesty regarding antenatal preparation for breastfeeding leading to unrealistic expectations (59, 66).

Staff attitudes and behaviour

This theme, in various forms, emerged in almost all of the qualitative research in this area. Although staff were generally viewed positively, as friendly, helpful and polite (50, 63), other women reported feeling neglected, feeling unable to ask for help as the midwives were perceived as too busy (22, 24, 28, 37, 49, 54, 55, 65). Some midwives were reportedly rude or abrupt in their manner (22, 24, 50), and ethnic minority women in particular encountered negative staff attitudes and stereotyping (51, 58, 64). Some women who had a particular problem, or who had a previous baby felt neglected (49).

One study focussed on interactions between breastfeeding women and midwives on the postnatal ward and used participant observation and focussed interviews (54). They found that, due in part to time pressures on midwives, they were constrained from developing an 'authentic presence' which

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led to labelling and stereotyping. Another study reported 'task orientated care' focussing on routine clinical observation (65). Emotional relationships with women were often precluded by the organisation of care.

Women were aware that midwives were under pressure and often short-staffed and generally forgiving when this led to delays, even feeling guilty themselves for bothering them (24, 49, 54, 56). Delayed discharge was commented on in several studies (22, 24, 48), women feeling low priority and neglected at this time.

Support

(i)Emotional support

Twenty papers (22, 24, 33, 37, 40, 49, 50, 53-65) highlighted the need for emotional support in hospital. After birth women reported that being left alone, continuously needing to ask for help, feeling neglected and being told that the midwife would be back shortly eroded their confidence (22, 24, 49, 65). Women reported on the difficulty experienced in having their voices heard and their choices respected. In this theme, the importance of perceived control and related elements such as trust, continuity of care, supportive care, influence over decision making came to the fore (48, 53, 63). Emotional, not just practical or informational support, was also highlighted in relation to breastfeeding (50, 54, 59-61).

Women valued reassurance that they were doing well (37) and this gave them confidence in looking after themselves and their baby (10). Women wanted 'sensitive' care which met their individual needs. They also highlighted the need for practical support in looking after themselves and their baby, particularly those who felt vulnerable, for example after caesarean section (40, 62, 64).

(ii)Informational support

Eleven studies reported on aspects of informational support including inconsistent advice especially in relation to breastfeeding (22, 37, 40, 49, 50, 53-55, 59, 62, 63). Women appreciated receiving information about what was happening and about practical aspects of baby care, especially primiparous women, but when this was absent it caused anxiety (49, 50). Some women reported a lack of discussion and explanation following complications (22), and stressed the importance of being offered information rather than having to probe for it (62). The need for specific, detailed information so that women could be involved in decision-making, and to help them make choices was mentioned in three studies (58, 62, 63).

The difficulty in conveying information about breastfeeding in wards where midwives are working under pressure was noted. Some midwives felt compelled to achieve information transfer as efficiently as possible sometimes without assessing comprehension (54).

Infant feeding

Although length of hospital stay is now so short as to preclude breastfeeding becoming established in hospital, it was nevertheless an important theme in many studies (22, 37, 48-50, 52, 54-56, 59-61, 66). There was significant overlap with several of the previous themes, such as staff attitudes and conflicting information. Some women felt harassed and pressurised to breastfeed, and made to feel guilty if they could not, or chose to formula feed (48, 59). While some mothers said that midwives were helpful during the initial feed, they said that there was insufficient help during subsequent feeds (52). Breastfeeding was also sometimes taught in a reductionist way, as a technically managed

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activity, some midwives physically attached the baby to the breast in a 'hands-on' manner, undermining the woman's confidence in her ability to manage independently (54, 55).

Conversely, women who were formula feeding sometimes felt neglected, and perceived that information about formula feeding was restricted, leading them to feel alienated (59). However, in some hospital postnatal wards formula feeding was normalised, convenience being prioritised over established health benefits (66).

Ward environment

This theme relates to a variety of factors in the postnatal ward including visitors, noise levels, bright lights, temperature, lack of privacy and cleanliness, poor facilities, and poor food. Reported comments were almost entirely negative (22, 24, 33, 49-51, 56, 61-64, 66).

Some women commented on the general lack of orientation regarding the ward environment and routines, not knowing where the showers were, insufficient number of showers (49), and the lack of cleanliness of the facilities that were available (22, 63).

The issue of visitors was criticised both ways: some women were critical of unrestricted visiting as being too noisy and preventing women from resting. It also created problems with privacy, particularly for women who were breastfeeding (49, 50, 56, 61). Conversely, other women would have preferred more open visiting, especially for their partner, to provide practical and emotional support when the midwives were too busy to provide this (see below).

Hospital food was criticised by many women, in terms of both quantity and quality (22, 24, 33). In particular, women who requested vegetarian or *halal* food fared poorly, had a lack of choice and had to ask their families to bring food with them when visiting (50, 51, 64).

Many of the issues associated with the ward environment were perceived as being for the benefit of staff rather than the women.

Discharge

Six studies highlighted the importance of the transition to home care and there was again a recognition of the importance of identifying the needs of individual women and vulnerable groups who may not have good family support following discharge (22, 24, 33, 53, 56, 58). Women who left earlier than they wanted reported that they felt anxious about going home before they were ready. Delayed discharge caused dissatisfaction and frustration with an inefficient service (24, 50, 56).Other women commented positively on being able to choose how long they stayed in hospital, not feeling under pressure to leave before they were ready (24).

Partners

Only three studies (22, 24, 56) explicitly referred to partners not being able to stay on the postnatal ward as a theme, although others mentioned it in the context of support and visiting. If there were facilities for a woman's partner to stay, and if she had her own room, this resulted in a more positive experience (56). Similarly, if the partner did not have unrestricted visiting, particularly if the woman had experienced a complicated or operative delivery, this was associated with a less positive experience (22, 56). Some women reported feeling anxious when their partner had to leave, feeling relatively unsupported on the ward (24, 56).

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Subgroup analyses

Subgroup by parity

Nine quantitative studies (3, 10, 11, 18, 22, 23, 29, 42, 46) and one qualitative study (55) included some data on women's experiences of postnatal care by parity The majority of these studies looked at length of stay by parity and reported that primiparous women had longer stays than multiparous women. The shortest mean lengths of stay were 2.1 days in primiparous women compared to 1.9 days in multiparous women (Northern Ireland in 2014) (18), the longest were 5.8 in primiparous compared to 4.0 in multiparous women (Scotland in 1990-91) (29). Women's views of length of stay were also compared in five quantitative studies (3, 10, 18, 22, 23). These all reported that multiparous were more likely to be happy with their length of stay. The biggest disparity was 69% compared to 75% of primiparous and multiparous women respectively who considered their length of stay about right (22). Infant feeding support was examined by parity in four quantitative studies (3, 10, 18, 22) and all found that multiparous women reported more consistent advice, support and encouragement, but primiparous women reported more practical help. Multiparous women also reported receiving more information and explanations generally, and specifically about their own recovery (22), that staff were kind and treated them as individuals (11, 23), were happier with the ward environment and overall, were more satisfied with their postnatal stay (42). One qualitative study included eight primiparous women and explored their experience of breastfeeding but there was no comparison with multiparous women (55).

Subgroup by mode of delivery

Two quantitative studies reported mean length of stay by mode of delivery (11, 45). Unsurprisingly length of stay was longer following instrumental and operative delivery. A qualitative study examined women's breastfeeding experience following caesarean section (61). The results indicate that women underestimated the emotional and physical effects of a caesarean delivery, and were reliant on staff to help them breastfeed.

Subgroup by length of stay

One quantitative study included data on satisfaction by length of stay (45). Mean length of stay for women who considered their length of stay too long, about right, and too short were 3.1 days, 2.6 days, and 1.6 days respectively. Six qualitative studies included length of postnatal stay as a theme or sub-theme (22, 24, 33, 49, 53, 56) but data were not disaggregated by length of stay.

Subgroup by hospital vs birth centre

There were no studies reporting expectations or experience of postnatal care in birth centres.

Subgroup by time period

The time periods to be compared were 1970 to 1989, 1990 to 2009, and 2010 to the present. There was only one study conducted prior to 1990 (26) so that has been combined with the 1990 to 2009 period in which there were 23 quantitative studies. Between 2010 and 2017 there were 10 quantitative studies. The decline in mean length of stay is apparent, for example 5.8 days in 1990 (29) to 2.1 days in 2014 (18), also the increase in caesarean sections from 13% in 1990 to 33% in 2015 in Scotland (24, 29) and 13% in 1981 to 26% in 2014 in England (3, 26). One study explicitly examined change over time in women's experience of maternity care using data from four surveys dating from 1995 to 2014 (1). The proportion of women who considered their length of stay too short remained constant at 12-13% but always having confidence and trust in postnatal staff fell

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between 1995and 2006 from 75% to 69%. However, support for infant feeding improved considerably over this period, particularly always receiving consistent advice which improved from 31% in 1995 to 43% in 2014 (1). Staff interaction also generally improved. Women reporting that they were always treated as an individual increased from 53% in 2006 (11) to 79% in 2014 (18), and perceived respect increased from 54% in 1995 (28) to 92% in 2006 (11) before tailing off again to 76% in 2014 (3).

Thirteen of the qualitative studies were published prior to 2010 and 12 since 2010. However, the themes described did not differ substantively over the time period.

Ethnicity

Two studies explicitly focussed on the perceptions of women from minority ethnic groups (31, 33). These both reported variations in length of postnatal stay and women's views of this. Women from all non-White ethnic groups had longer lengths of stay than White women but they expected to stay even longer and, except for women of mixed ethnicity, were less likely to consider their length of stay about right (31, 33).

Six qualitative studies focussed on the experiences of ethnic minority women on postnatal wards (33, 51, 53, 58, 60, 64). All except one (58) which used free-text from a survey, were based on interviews with ethnic minority women. Bilingual interviews or interpreters were used as necessary except for one study (64) which focussed on UK-born ethnic minority women. Three main themes emerged in relation to ethnicity:

(I)A Negative staff attitudes and stereotyping was a dominant theme related to ethnicity (51). Women reported being treated without kindness, not being listened to or treated as an individual. However, in one study which compared the experiences of Pakistani women with those of White indigenous women, it was the White women who made most complaints (33). Related to this were difficulties with communication due to language or unfamiliarity with the NHS systems and rules (33, 51, 53). Women were particularly critical of rules forbidding them having their partner stay, leaving them feeling isolated from friends and family. Women also reported a lack of practical support, for example, wanting (and failing) to be shown how to bath their baby (33, 53). However, women were reluctant to criticise midwives, recognising that they were busy and not feeling that they the right to complain (51). Running counter to this sub-theme, one study reported some more highly educated women feeling empowered and confident (53).

(II) Cultural traditions, rest and duration of hospital stay (53). In many cultures it is considered appropriate for women to stay in bed and rest for a significant amount of time following childbirth (68). However, currently in the NHS women generally stay only one or two days following a normal delivery (4) which women of Asian ethnicity often feel is too short (33). Women complained about not getting rest in hospital due to the noise, lights and other babies (33). Many women think of hospital as a safe place should anything go wrong with either mother or baby, so women felt anxious if they were discharged early, particularly if they did not have family nearby (58). However, some women also reported feeling that the length of stay was too long, that they were bored, particularly if they lacked the social interaction with their partner, friends and family. A further cultural norm in many ethnic minority families is for the baby to be taken away at night to allow the mother to sleep. Whilst this was viewed positively when it occurred (51) it is not recommended by the Baby Friendly Initiative which recommends rooming in (69), and is now unusual.

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(III) Food and privacy. As noted previously, women who requested vegetarian or *halal* food were particularly poorly served (51). Similarly, while many White women also criticised the wards for a lack of privacy, for ethnic minority women it was a major concern.

DISCUSSION

Summary of findings

The main aim of this review was to report on women's satisfaction with hospital/birth centre postnatal care, to explore how this relates to expectations and experience of care, and to identify gaps in hospital postnatal service provision in the UK. We included 53 studies of weak to moderate methodological quality.

The duration of hospital stay after delivery was one of the most commonly discussed outcomes across the included studies. While the length of stay decreased over time this was not reflected in changes in the level of satisfaction with maternity care. More importance was placed on women having some choice in their duration of stay, and the discharge itself not being unduly delayed. This is in keeping with a policy initiative in Canada which offered an increase in postnatal stay up to 60 hours. This showed an increase in satisfaction with postnatal length of stay irrespective of whether or not women chose to stay 60 hours (70). While study design limitations necessitate caution in interpretation, Watt et al also found that there was not a large increase in duration of stay as women appeared to leave hospital when they felt ready and there were no changes in maternal or infant health outcomes (70). Not surprisingly, the ability to exercise some degree of control over care continues to be an important issue in women's satisfaction and Watt et al's studies suggest that it is probably a factor in a woman's decision about how long to stay in hospital.

Staff interaction was generally viewed favourably in both quantitative and qualitative studies. Overall women's perceptions of care, being spoken to so they could understand, feeling listened to, and treated as an individual appeared to improve over time. However, many studies reported that midwives did not have enough time to talk to, or otherwise support, women leading to 'task oriented care' (65) and a lack of 'authentic presence' (54). A number of recommendations in the NICE guidelines (7) highlight the need for good communication e.g. asking the woman about her health and wellbeing and that of her baby, offering consistent information and clear explanations to empower the woman to take care of her own health and that of her baby, and to recognise symptoms that may require discussion, encourage the woman and her family to report any concerns in relation to their physical, social, mental or emotional health, discuss issues and ask questions. While establishing good communication is a perennial problem in all aspects of care, the lack of time and resources in the face of many tasks would appear to be particularly problematic in achieving these NICE postnatal care recommendations.

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Communication and support were also raised in many of the included studies in relation to infant feeding. Women reported receiving conflicting advice, sometimes feeling pressurised to breastfeed and there was also a lack of support and information for women who were formula feeding. Breastfeeding was sometimes taught in a reductionist way, and there was a lack of privacy for breastfeeding. However, while the data could not be meta-analysed, the quantitative studies suggested an improving picture with regard to consistent advice, practical help, and active support which all increased over time. Interestingly, these problems highlight the focus on informational and practice support on breastfeeding in the NICE guidelines and reflect the lack of guidance on providing emotional support related to infant feeding. An international meta-synthesis by (71) emphasised the importance of person-centred communication skills and of relationships in supporting a woman to breastfeed, in keeping with the findings of this review. Schmied et al (71), also concluded that organizational systems and services that facilitate continuity of caregiver, for example, continuity of midwifery care or peer support models, are more likely to facilitate supportive care and a trusting relationship with professionals.

Gaps in the literature included the relationship between expectations and experiences, the experiences of minority and vulnerable groups, and the experiences of partners and the wider family. There was only one quantitative study which explicitly explored women's expectations of hospital postnatal care, although seven qualitative studies included some reference to this. Wider maternity care literature suggests that expectations impact on our experience of care (72). However, from the current review it is unclear if the lower satisfaction with postnatal care, in comparison to antenatal or intrapartum care, is related to unmet expectations, poor experience of birth or after giving birth, or the emotional or physical well-being of the women reporting their experiences.

Over twenty years ago, the World Health Organization (WHO) recommended that care after childbirth should include all family members (73), however partners' experience of postpartum care has received little attention. The Royal College of Midwives (RCM) in collaboration with the Royal College of Obstetrics and Gynaecology, the Department of Health and the Fathers Institute produced a paper highlighting the importance of making opportunities to explore and discuss both the mother's and father's experiences of childbirth and early parenting (74). The paper also identified the need to provide health education and support to both parents, covering general health and wellbeing advice such as a nutrition, exercise, rest and relaxation, healthy lifestyle habits and contraception. From this review it is clear that, in the UK, early postnatal care is not designed to involve partners despite being noted as a priority by the NICE Guidelines.

Strengths and limitations

This is an up to date systematic review reflecting on women's experiences of postnatal care in hospitals in the UK. The search strategy was broad and covered 10 different databases. The methods were rigorous and quality assessment and data extraction were by authors independently of each other.

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Although we set out to review the literature relating to postnatal care for women at low risk of complications to explore routine practice, this was not always possible. Most of the studies reported results undifferentiated by risk and without excluding those women at high risk. Similarly, this review has focussed on postnatal care in hospital but for some outcomes, particularly those relating to infant feeding, it was not possible to separate hospital from community care. These studies were included for completeness.

The breadth of the review was a strength in terms of a comprehensive assessment of existing literature but this also limited the ability to meta-analyse the data in a meaningful way due to heterogeneity.

Implications for research

The review identified a number of gaps in the literature that would benefit from additional research. Although several large surveys included women who delivered in birth centres, no studies were found which specifically explored women's experience of postnatal care in these settings. This would be a topic worth exploring, particularly as there has been an increase in the number of birth centres in the UK over time. Further research is also required to explore the experiences of women with more complex needs. For example, there was some evidence that women were more critical of their care following an operative delivery or following complications in childbirth, when they expected that physical help and support would be more forthcoming.

Priority should be given to developing a stronger evidence base to guide postnatal hospital care in areas such as length of hospital stay, the use of clinical pathways, involvement of partners and the nature and timing of routine observations of mother and baby to enhance the provision of individualised care. Schmied and Bick (75), highlighted a number of potential strategies that might improve care including planning for the postnatal period during pregnancy, development of consumer written information, introduction of new handheld records to prompt individualised care, and offering daily 'One to One' time in which a midwife listens to a woman's needs and discusses issues related to their health and that of their baby. Such initiatives are promising but require rigorous evaluation.

Also when conducting evaluations we need to re-think how to measure the main outcomes of postnatal care. So called 'hard outcomes' such as maternal morbidity and breastfeeding initiation remain important but, building on our review findings, we need to detect other aspects that are important to women, including discharge readiness, parenting confidence, and psychological wellbeing (both positive and negative aspects).

Policy implications

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The review suggests that current approaches, such as fixed length of stay, may inhibit rather than support individualised care for women after childbirth and that a move towards greater flexibility in the organisation and provision of care would be valued by women. Hospital care was widely perceived by women to be complex, busy and under resourced which allowed for limited investment in effective psychosocial support to women and their families at this key time just after birth. Studies of women's views of maternity care have consistently found that hospital postnatal care is poorly rated compared to other areas of maternity care. In line with the recommendations from Better Births (8) and the Maternity Transformation Programme (9), strategies are needed to optimize women's experiences, including improving communication and information giving, involving women in decisions regarding their length of stay, and continuing to improve feeding support. NICE postnatal care guidelines are currently being reviewed and updated which provides an important opportunity to reflect on our current model of care and its limitations.

The review also highlights that more needs to be done to integrate partners into postnatal hospital care policy. Partners are important not only as supporters and a resource for the mother (76) but also as a recipient of care (77). A number of other groups were also identified who would benefit from additional research and policy attention, for example, primiparous women, those with complex needs, those from ethnic minorities and other vulnerable groups.

Much of the research in this review suggests that staff shortages have placed midwives under too great a pressure to provide a good service. This clearly has resource implications but this must be considered for realistic strategic future planning. If we want to see further reductions in maternal and perinatal mortality and improved experiences of care much more needs to be done to establish effective care particularly in the early days after birth.

CONCLUSIONS

This review suggests that the majority of women in the UK were generally happy with their hospital postnatal care. The results of this review suggest that there are areas of hospital postnatal care that could be improved to ensure that the first days after birth establish good maternal and infant health and wellbeing.

FIGURES

Figure 1 - PRISMA 2009 Flow Diagram

Figure 2 - Proportion of women who were satisfied with length of postnatal hospital stay

Figure 3 – Proportion of women who were satisfied with overall postnatal hospital care

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COMPETING INTERESTS

None of the authors has any competing interest.

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AUTHORS' CONTRIBUTIONS

FA conceived the idea and planned the project, FA, JH and RM developed the protocol and RM developed the search strategy. RM, JH and FA screened the search results and full papers, assessed the quality of included papers, extracted the data and synthesised the results. RM, JH and FA drafted the manuscript and all authors agreed the final manuscript. RM conducted the search update, RM and FA screened and extracted the updated results and RM, JH and FA agreed the revised manuscript.

DATA SHARING STATEMENT

All the data included in this systematic review are in the public domain.

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Table 1. Characteristics of included quantitative studies

Study	Study objective(s)	Study period & setting	Study design	Participants' characteristics	Postnatal expectations & experiences
Alderdice et al 2015(18)	What is current practice in N. Ireland, key areas of concern, do experiences of vulnerable groups differ from others, how do women's experience compare to those in England?	Oct-Dec 2014 N. Ireland	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in study period. Option of online completion. *Eligibility*: Ages 16+ yrs, live baby 2 reminders sent at 2 & 4 wks *Response rate:* 45%, n=2722	*Mean age* 31 yrs Primips 43.2% White 97.9% *Mode of delivery*: SVD 54.6% Instr 15.3% CS 30.2%	*LoS:* Mean LoS 2.1 days, primips 2.1, multips 1.9 days 74% felt LoS about right (primips 71%, multips 74%), 14% too short, 8% too long Women living alone more likely to stay in longer No significant difference in LoS in women from deprived areas *Relationship with the staff:* Always spoken so that they could understand 85% Always treated with respect 83% Always treated with kindness 82% Always treated as an individual 79% Always felt listened to 77% *Overall satisfaction* – 89% satisfied/very satisfied
Bick et al 2012(19)	To assess whether a quality improvement intervention was associated with improved bf, maternal health, and enhanced women's views of care	Jan 2008 to Jun 2009 for pre-intervention; Apr- Sep for post-intervention 1 hospital in England	Before-after design using Continuous Quality Improvement survey approach. Interventions included longer hospital stay, skin-to-skin contact and bf encouragement, preparation of PN discharge on the PN ward and a revision of PN information booklet. Questionnaire distributed by research MW on PN ward. *Eligibility*: 16 yrs or more, live baby, sufficient English *Response rates*: pre-intervention 64%, n= 741	*Mean age* 30.5 yrs *Parity*: 1.66 White European 81% *Mode of delivery*: SVD 52.6% Instr 19.0% CS 28.2%	*LoS:* pre-intervention mean 2.2 days, post-intervention 2.4 days *Expectations of hospital PN care:* Care in hospital better than expected: pre-intervention 33.7%, post-intervention 40.2% *Overall satisfaction with postnatal care:* pre-intervention 77.4%, post-intervention 82.1% *Emotional support needs:* No statistically significant differences between groups in women's views of need for emotional support in hospital; of those women who reported that they did need emotional support in hospital, there was no difference in being able to speak to a midwife. *Initiation of bf:* pre-intervention 86.1%, post-intervention 87.4%

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			post-intervention 63%, n= 725		
Bowers & Cheyne 2016(20)	What is the impact on cost and quality of care of reducing PN stay	2013, 2014 Scottish & English national maternity surveys (2013)	Secondary analysis of surveys, Nursing and Midwifery Workforce and Workload Planning (NMWWP) in Scotland in 2014 including 13 major hospitals with varying mean PN LoS (range 1.4 to 2.4 days), data from Scottish Government Information Service Division, routine NHS data. Simulation and financial modelling conducted.	Not reported	*LoS:* Small correlation between LoS and mothers saying that LoS was too short. No correlation between mean LoS and overall satisfaction with PN care. *Infant feeding:* 40% didn't get information needed 60% did get active support and encouragement with feeding, *Relationship with the staff:* 30% not treated with kindness and respect *Parents education before discharge:* 70% of general communication and feeding advice and assistance happened at the time of hospital admission and discharge, only 30% took place during the recovery phase.
Care Quality Commission (CQC) 2010(21)	No objectives specified	Apr-Aug 2010 births England, 144 trusts	Cross-sectional survey posted 3 months after birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 52%, n=25,229	*Age*: <25 yrs 14% 25-34 yrs 56% 35+ yrs 29% Primips 44% White 86% *Mode of delivery*: SVD 62% Instr 14% CS 25%	*LoS:* <24 hrs 36% 1-2 days 35% 3+ days 29% *Views on duration of hospital stay:* 72% "appropriate" *Kindness and understanding:* 93% "always" *Information and explanations:*53% always given information/explanations 89% received information needed when leaving hospital *Feeding advice: [may include community]* 79% "always or generally" received consistent advice 14% did not receive support
Care Quality Commission (CQC) 2013(22) (Mixed methods)	No objectives specified	Feb 2013 births 137 Trusts, England	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in study period. *Eligibility*: Excluded if woman or baby died,	*Mode of delivery*: SVD 60% Instr 14% CS 26% No other characteristics reported	*Relationships with staff:* *Always treated with kindness and understanding:* 66% *Always received information/explanations needed after birth*: All women 59%, Primips 50%, Multips 67% *Definitely given enough information about own recovery*: All women 61%, Primips 54%, Multips 68%

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			woman aged <16 yrs, concealed pregnancy, baby taken into care, private maternity care, woman resident outside UK. 2 *reminders* sent to non-responders *Response rate*: 46%, n=>23,000 (exact number not reported)		*Definitely received information about emotional changes*: 56% *LoS:* </=12 hrs 17% 1-2 days 37% 3-4 days 18% 5+ days 9% *Views on LoS:* About right: all women 72%, Primips 69%, Multips 75% *Infant feeding*: *[may include community]* Decision on feeding method always respected 81%, *Always consistent advice* 54%, Primips 47%, Multips 61% *Always active support/encouragement:* all women 61%, Primips 56%, Multips 66%
Care Quality Commission (CQC) 2015(23)	No objectives specified	Feb 2015 births England, 133 trusts	Cross-sectional survey posted 3 months after birth *Eligibility:* Age 16 yrs or more, live baby 2 *reminders* *Response rate*: 40%, n=20,631	*Age*: <25 yrs 9% 25-34 yrs 59% 35+ yrs 32% Primips 51% White 77% *Mode of delivery*: SVD 59%, Instr 51%, CS 25%	*LoS:* 1-2d 36% *View of LoS:* about right 72%, too long primips 19%, multips 15% *Always treated with kindness and understanding*: All women 71% Primips 66% Multips 75% *Always able to get help in reasonable time: 81%* *Always took account of personal circumstances*: 96 % *Always given consistent feeding advice:* 55% *[may include community]*
Care Quality Commission (CQC) 2019 (47)	**No objectives specified**	**Feb – Jan 2018 births England, 129 trusts**	**Cross-sectional survey posted 3 months after birth.** **Eligibility: Age 16 yrs or more, live baby** **No data about reminders** **Response rate: 37%, n=17,600**	**Age:** **<24 yrs 7.3%** **25-34 yrs 58%** **35+ yrs 35%** **Primips 42%** **White 86%** **Mode of delivery:** **SVD 58%** **Instr 14%** **CS 26%**	***LoS*:** **within 2 days 70 % of all women** ***View of LoS*:** **about right 72%, 11% too short, 17% too long** ***Always treated with kindness and understanding*:** **All women 77%** ***Always able to get help in reasonable time*: 59%** ***Initiated bf*: 80%** ***Always given information needed*: 66%**

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					***Always given support and encouragement about feeding*: 63%** ***Always given consistent feeding advice*: 56%** ***Always respected their decision on feeding*: 83%** ***Partners able to stay* 71%** ***Hospital room very clean*: 70%**
Cheyne et al 2013(25)	No objectives specified	Feb-Mar 2013 births Scotland	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in 2 wks in study period. Option of online completion. *Eligibility*: Excluded if woman or baby died, woman aged <16 yrs. 2 *reminders* sent (not stated when) *Response rate*: 48%, n= 2366	*Age*: <25 yrs 15% 25-34 yrs 57% 35+ yrs 28% Primips 42% White 92% *Mode of delivery*: SVD 56%, Instr 14%, CS 30%	*Views on LoS:* 77% "about right", 14% "too long", 10% "too short" *Always given explanations needed:* 61% *Always treated with kindness and understanding*: 67% *Overall quality of care:* 83% excellent or good *Bf initiation:* 49% *Feeding: consistent advice*: always 57% *Feeding: active support and encouragement*: always 63%, *Feeding decisions respected by staff*: always 82% *[Feeding may relate to community as well as hosp]*
Cheyne et al 2015(24) (Mixed methods)	No objectives specified	Feb-Mar 2015 Scotland	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in study period. Online option for completion. *Eligibility*: Excluded if woman or baby died, woman aged <16 yrs. 2 *reminders* sent (not stated when) *Response rate*: 41%, n=2036	*Age*: <25 yrs 10% 25-34 yrs 60% 35+ yrs 30% Primips 42% 93% White *Mode of delivery*: SVD 53% Instr 14% CS 33%	*Views of LoS:* About right 78%, too short 11%, too long 11% *Bf initiation:* 52% *Always received information and explanations needed* 60% *Always treated with kindness and understanding* 70% *Partners accommodated on PN ward* 58%. *Infant feeding decision always respected* 82% *Always consistent advice*57% *Always active support and encouragement* 63% Overall quality of care: excellent 54% , good 32% *[Feeding may relate to community as well as hosp]*
Cranfield 1983(26)	To assess women's views of support received	1981 One centre in the North Herts	Cross-sectional postal survey sent 3 months after birth to 250 consecutive hospital admissions.	*Mean age* 26.8 yrs Primips 44% *Mode of delivery*: SVD 76%	*LoS*: 1 day 3%, 2 days 28%, 3-4 days 9%, 5-6 days 9%, 7 days 30%, >7 days 22% *Received adequate help:* 84%

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		Maternity Unit, England	*Response rate*: 76.4%, n= 191. No eligibility criteria specified. No mention of reminders.	Instr 11% CS 13%.	*Satisfaction with LoS:* just right 75%, too long 18% *Bf initiation:* 73%
Dowswell et al 1997(45)	To describe variation in the care process and to explore associations between care process, satisfaction, and psychological wellbeing	Apr 1994 births Six districts in Yorkshire, England	Cross-sectional postal survey sent 4-8 weeks after birth to random selection of women who delivered in the study period. *Eligibility*: live term births discharged home with mother Reminder sent 2 wks after initial mailing. *Response rate*: 72%, n= 720	No participant characteristics reported. *Mode of delivery*: SVD 62.8% Instr 33.3% CS 3.8%	*LoS (mean)*: SVD 2.6 days (range 2.0-3.0 days) Instr 3.6 days CS 5.9 days *Women's satisfaction with the LoS:* 85% of women were satisfied with LoS. -those who thought it was too long: mean LoS 3.1 days -those who thought it about right: mean 2.6 days -those who thought it too short: mean 1.6 days *Depression scores and LoS:* Women with SVD and thought LoS too long had lowest EPDS score (mean 5.69), SVD but thought LoS too short had highest EPDS score (mean 9.60).
Farquhar et al 2000(27)	To describe the views of women using a team MW scheme providing continuity of care giver vs traditional care	Dec 1994 to Jun 1995 South-East England	Cross-sectional survey posted 1 wk after birth to all women resident in health authority who delivered at 1 of 3 hospitals during study period. Women in Study group received team MW. Comparison hospitals A & B provided traditional care. *Eligibility*: Excluded women with concealed pregnancy, those with baby placed for adoption. Postal reminders sent after 2 wks, then phone reminder. *Response rates*: Team MW: 88%, n= 1077 Comparison A: 88%, n=272 Comparison B: 90% n=133	% Age (yrs) / Team / Comp A / Comp B <25: 22 / 16 / 10 25-34: 65 / 71 / 70 35+: 13 / 12 / 20 Primips: 38 / 35 / 27 White: 95 / 98 / 98 Mode of delivery not reported	% / Team MW / Comp A / Comp B Received fairly/very helpful advice: 94 / 93 / 94 Very satisfied with hospital PN care: 65 / 70 / 69

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Garcia et al 1998(28) (Mixed methods)	No objectives specified	Jun-Jul 1995 England & Wales	Cross-sectional survey posted 4 months after birth to random sample of women who delivered in study period. *Eligibility*: Ages 16+ yrs, live baby *Response rate*: 67%, n=2406	*Age*: <25 yrs 19.9% 25-34 yrs 65.6% 35+ yrs 14.5% Primips 42% White 92% *Mode of delivery*: SVD 71.9% Instr 11.7% CS 17.3%	*LoS:* Had a say/choice in when they went home 62% Felt the duration was appropriate 73% *Treated with respect, kindness and understanding*: Always treated with respect 54% Always treated with kindness & understanding 51% *Well-supported, confidence and trust in staff*: Always had confidence in staff 59% *Overall satisfaction:* 46% very satisfied *Discussion of delivery whilst on PN ward:* Not wanted 23% Not been able to 23% Yes, at least in part, 53% *Bf:* 72% put the baby to the breast at least once *Bf support:* Always consistent advice 31% Always practical help 34% Always active support and encouragement 38% Always enough privacy to feed 49%
Glazener 1999(29)	To describe structures, processes & outcomes of PN care, characteristics, expectations & experiences of women, experience & roles of providers, factors associated with adverse outcome, and areas of unmet need	May 1990 and May 1991 2 hospitals in Scotland	Postal questionnaires sent to random sample of women immediately after discharge home. *Eligibility*: All women discharged from PN ward *Reminders* sent at 2 & 6 wks *Response rate*: 89%, n=1412 *[Denominator was all women who initially agreed to take part]*	*Mean age*: 28.2 yrs Primips 46.7%; Ethnicity not reported *Mode of delivery*: SVD 72.6% Instr 13.6 CS 13.8%	*Mean LoS*: Primips 5.8 days, Multips 4.0 days *LoS considered*: about right 90%, too short 2%, too long 8% Considered room unsuitable (would have preferred smaller/single room) 13% *Visiting arrangements*: Happy with visiting hrs 89% Not enough 9% Too much 2% *Staff adjective checklist*: 1+ positive adjective 97% 1+ negative adjective 36% *Bf initiation*: 58% *Received enough advice about*: Dressing baby 62% PN exercises 84% Own health 68%

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					Bf problems at discharge: 16.8% Received conflicting advice re bf 31%
Healthcare Commission (CQC) 2007(30)	No objectives specified	Feb 2007 births England	Cross-sectional survey posted 3 months after birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 59%, n=26,325	*Age*: <25 yrs 17% 25-34 yrs 56% 35+ yrs 28% Primips 49% White 87% Mode of delivery not reported	*Information & kindness:* 42% were not given information or explanations needed 37% were not treated with kindness and understanding. *Infant feeding: [may include community]* 23% did not receive consistent advice 22% did not receive practical help 22% did not receive active support or encouragement *Care after birth:* 96% reported their baby had an examination or baby check before leaving hospital. *Ward environment:* Room/ward very clean 40% Toilets/bathroom very clean 36% *Food*: Always offered choice 70% Not enough 28% Poor overall 19%
Henderson & Redshaw 2017(1)	To explore change over time in women's perceptions of maternity care	1995 to 2014 Jun-Jul 1995, 1 wk Mar 2006, 2 wks Oct-Nov 2009, 2 wks Jan 2014 England	Secondary analysis of 4 cross-sectional postal maternity surveys 1995, 2006, 2010 and 2014. Random samples selected, questionnaires sent 3 mth after birth. *Eligibility*: Aged 16 yrs or more, live baby. *Reminders* sent at 2, 4 (and 8 wks for 2014); 1995 no reminders sent. *Response rates:* 1995: 67%, n=2406 2006: 63%, n=2966	*Age (yrs)* / *<25 (%)* / *25-34 (%)* / *35+ (%)* 1995 19.9 65.6 14.5 2006 19.3 56.6 24.1 2010 17.1 58.4 24.5 2014 21.2 58.3 20.5 *Primips* / *White* 1995 42.3 91.9 2006 41.0 87.4 2010 50.1 85.7 2014 49.9 83.9 *SVD* / *Instr* / *CS* 1995 71.9 11.7 17.3 2006 64.9 12.4 22.4 2010 62.6 12.7 24.8 2014 58.7 14.8 26.4	LoS ***3 days or more (%)*** / Women's view of LoS ***Too short (%)*** / Confidence & trust in staff ***Always (%)*** 1995 46.7 12.6 75.2 2006 34.8 13.1 68.9 2010 30.6 12.0 68.6 2014 28.7 12.2 68.7

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			2010: 55%, n= 5333 2014: 48%, n= 4571		
Henderson et al 2013(31)	To examine use of services and perceptions of care of women from 7 specific ethnic minority groups	Apr-Aug 2010 births England, 144 trusts	Secondary analysis of CQC 2010 data *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 52%, n=25,229	Only ethnicity reported: White 80.9% Mixed 1.2% Indian 2.3% Pakistani 2.3% Bangladeshi 0.6% Caribbean 0.6% African 2.6% Chinese or other 2.7%	LoS >2 days (%) / LoS too long/too short (%) / Information about recovery (%) White 28.5 / 27.4 / 82.0 Mixed 32.8 / 25.3 / 80.5 Indian 36.6 / 32.7 / 83.4 Pakistani 33.8 / 34.9 / 79.9 Bangladeshi 32.5 / 29.0 / 81.3 Caribbean 32.1 / 32.0 / 80.5 African 38.5 / 28.6 / 87.5 Other 33.1 / 28.7 / 85.4
Hicks et al 2003(32)	To compare a Changing Childbirth initiative, including continuity of care, with traditional care	2001 England	RCT comparing intervention with traditional care. Validated questionnaires sent 4-6 wks after birth, care elements scored out of 5. *Eligibility* and *reminders* not reported *Response rate*: Intervention group n=81 (81%) Control group n=92 (92%)	*Mean age*: Intervention grp 28.9 yrs Control grp 28.2 yrs Mean no. previous births: Intervention grp 2.4. Control group: 2.1 Mode of delivery and ethnicity not reported	No significant difference between the two groups on PN ward re*:* Care and sensitivity (scores 2.2 vs 2.2) Explanation/consultation (scores 2.3 vs 2.3) Contact with obstetrician (scores 2.5 vs 2.6) Contact with GP (scores 2.5 vs 2.4) Contact with midwives (scores 2.0 vs 2.0) Not rushed/under pressure (scores 2.1 vs 2.2) Own views taken into account (scores 2.2 vs 2.2) Consistency of information (scores 2.2 vs 2.3) Willingness of MWs to attend to needs (scores 2.2 vs 2.2)
Hirst & Hewison 2002(33) (Mixed methods)	To compare the quality of hospital PN care for Pakistani and indigenous White women	Jul 1995 - Aug 1996 20 GP practices in 2 districts in Northern NHS region, England	Prospective comparative survey between districts and between ethnic groups using purposive sampling. No data on reminders or eligibility. *Response rate*: 83% , n=187	No details of participant characteristics reported. White women who were having their first pregnancy were older than Pakistani women. Age range (15–20, 21–30 and 31–41) was similar for each district.	*Expected LoS (hrs)* / *Pakistani* / *White* *District A* 60.0 36.5 *District B* 61.4 36.0 *LoS:* Mean duration 50.7 hours (SD 30:6) for all women.
Hundley et al 2000(34)	To determine the extent to which recommendations	10 day period in Sept 1998	Cross-sectional postal survey distributed by MWs 10 days after birth with	*Mean age 29.3 yrs* *Primips 45*.4% White 98.2%	*LoS:* 3-5 days 48% 1-2 days 29%

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	from policy documents had been adopted	Scotland	Freepost return to study team. *Eligibility*: All women delivering in Scotland during study period except if insufficient English, MW considered inappropriate, or no longer resident in Scotland. Reminders sent by post at 2 wks. *Response rate:* 69%, n= 1137 women	Mode of delivery not reported	*Views on LoS:* 87.2% felt it was right 3.9% felt it was too long 8.8% felt it was too short *Choice on when to go home:* 77% had a choice
Ifionu et al 2010(35) (abstract only)	To assess the quality of maternity care provided in a busy teaching maternity unit	Feb-Jul 2009 Norfolk and Norwich University Hospitals	Questionnaire distributed to women (no further details). *Eligibility*: Live births, baby in 'good condition'. *Response rate*: n=302, denominator not reported	Participant characteristics not reported	*Overall postnatal hospital care:* 11-13% rated "poor" *Contraception postnatal advice:* 65% did not receive any advice
Ingram et al 2002(36)	To determine whether specific 'hands-off' bf technique taught in hospital increases successful bf; to investigate factors associated with bf at 2 & 6 wks	Oct 1996-Nov 1998. Bristol, England	Non-randomised prospective cohort phased intervention study *Eligibility* and *reminders* not reported *Response rate*: 84%, n= 1171	*Mean age* 29.5 yrs Primips 58.4% Mode of delivery and ethnicity not reported	*Receiving enough support increased bf:* (OR 2.13 CI 1.28, 3.53). Conflicting advice, enough advice and help, poor advice re problems not significantly associated with bf at 2 wks.
McCourt et al 1998(37) (Mixed methods)	1. Was 1:1 continuity of care giver preferred by women; 2. Was it associated with	1994-96 London, England	Prospective study of all women receiving care in Trust over 1 yr period. Intervention and control groups from different areas.	Age not reported Primips 35% White 42% Mode of delivery not reported	*Postnatal care experience comparing 1:1 care with routine care:* Very satisfied with care: 1:1 50%, routine care 54%

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	any benefit to women?		Questionnaires sent during pregnancy, and at 2 & 13 wks postnatally. *Eligibility*: Women resident in area over period of study, delivered live, term baby. Analysis restricted to 1 hospital. *Single reminder*. *Response rates at 2 wks:* 1:1 grp 59% n=646 controls 60% n=603		
NCT 2010(46)	To explore women's experience of care and support during the first month after birth	Sep 2008 to Sep 2009 UK	Online survey on NCT website. Open to anyone accessing website. 95% NCT members. *Response rate* unknown (no denominator): n= 1321	Primips 83% *Age* (years) Primips only: <25 (1%) 25-34 (65%) 35+ (34%) Primips: White 95%, *Mode of delivery* *Primips* SVD 48%, Instr 26% CS 26%. *Multips* SVD 81% Instr/CS 3%	*LoS* *Primips (%)* *Multips (%)* < 24 hours 15 40 1-2 days 44 32 3-4 days 27 19 5+ days 14 9 *Emotional support 24 hours after birth-Primips*: 41% received "all", 41% "some" 25%, "little" 17%, "none" 17%. *Physical support 24 hours after birth:* "all" 56%,"some" 24%," little" 12%,"none"9%. *Information received:* 45% received "all" 25% "little or none" *Babies' health information and advice-Primips:* "all" 52%, "some"31%, "little"11%, "none" 6%. *[Data above refer to first 24 hrs. For 15% of primips and 40% of multips some of this period was post-discharge]*
Raleigh et al 2010(38)	To examine social and ethnic inequalities in women's experience of maternity care	Feb 2007 births England	Cross-sectional survey posted 3 months after birth. *Eligibility:* Age 16 yrs or more, live baby No data about reminders	*Age*: <25 yrs 17% 25-34 yrs 56% 35+ yrs 28% Primips 49% White 87% Mode of delivery not reported	Compared to White women, women from ethnic minority stayed in hospital longer after normal delivery, were more likely to initiate bf and their babies be checked pre-discharge. Women from ethnic minorities were more positive about receiving adequate information, being treated with respect and less positive about cleanliness and choice of food.

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			Response rate: 59%, n=26,325		*[Numbers varied by ethnic group]*
Redshaw & Heikkila 2010(10)	What is current clinical practice, what are key areas of concern, have women's experience of care changed over the years, are there regional differences in care?	Oct-Nov 2009 births England	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in 2 wks in Oct-Nov 2009. Option of online completion. *Eligibility:* Age 16 yrs or more, live baby *Reminders* sent at 2, 4 and 8 wks *Response rate*: 54%, n= 5333	*Age*: <25 yrs 17.1% 25-34 yrs 58.4% 35+ yrs 24.5% Primips 50.1% White 85.7% *Mode of delivery*: SVD 62.6% Instr 12.7% CS 24.8%	*Mean LoS:* Primips 2.4 days Multips 1.6 days *Satisfaction with LoS:* About right 70% Too short 12 % Too long 15% *Relationships with staff*: Always treated as an individual 57% Treated with respect most of the time 91% Treated with kindness most of the time 91% Always had confidence in staff 69% Always spoken to so could understand 94% Treated with kindness most of the time 94% *Infant feeding*: Initiation of bf 63% Always … % All women Primips Multips Consistent advice 37.5 35.2 39.8 Practical help 35.6 35.2 35.7 Active support 39.5 38.9 40.0 *[may include community]*
Redshaw & Henderson 2015(3)	To describe current practice, areas of concern to women, especially experience of vulnerable women, and change over time	Jan 2014 births England	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in 2 wks in study period. Option of online completion. *Eligibility*: Ages 16+ yrs, live baby 3 reminders sent at 2, 4 & 8 wks	*Age:* <25 yrs 21.2% 25-34 yrs 58.3% 35+ yrs 20.5% Primips 49.9% White 83.9% *Mode of delivery*: SVD 58.7% Instr 14.8% CS 26.4%	*Mean LoS:* Primips 2.2 days, Multips 1.8 days *Satisfaction with LoS:* About right 68%; too short 12%, too long 15% Primips 18% too long; Multips 13% too long *Relationship with the staff*: Always spoken to so could understand 79% Always treated with respect 76% and kindness 75% Always treated as an individual 71% Always felt listened to 68% *Overall satisfaction*: very/quite satisfied 77% dissatisfied: primips 14%, multips 10%

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			Response rate: 47%, n=4571		*Infant feeding*: Bf initiation 87% Always… (%) — All women: Consistent advice 42.7, Practical help 42.2, Active support 47.2; Primips: 40.1, 41.6, 47.8; Multips: 45.6, 43.0, 47.8 *[may include community]*
Redshaw et al 2006(11)	From the perspective of women needing maternity care, what is current clinical practice, what are key areas of concern, have women's experience of care changed over the years?	Mar 2006 births England	Cross-sectional survey posted 3 months after birth to random sample of women who delivered in 1 wk in Mar 2006. *Eligibility:* Age 16 yrs or more, live baby No data about reminders *Response rate*: 63%, n=2966	*Age*: <25 yrs 19.3% 25-34 yrs 56.6% 35+ yrs 24.1% Primips 41.0% White 87.4% *Mode of delivery*: SVD 64.9% Instr 12.4% CS 22.4%	*Mean LoS:* Primips SVD 2.8 days Multips SVD 2.0 days CS all women 4.1 days 63% stayed < 3 days *Relationship with the staff:* Always spoken to so could understand 91.5% Treated with respect most of the time 89.2% *Always treated as individuals*: All women 53.1%, primips 50.4%, multips 55.2% *Ward environment*: Improvements needed: primips 77%, multips 72% Critical of privacy 28%, space 22%, temperature 27%, cleanliness 19%, noise 23% *Overall satisfaction*: (satisfied/very satisfied) 79.8% *Infant feeding*: Bf initiation 80% Always… (%) — All women: Consistent advice 32.7, Practical help 30.9, Active support 35.8 *[may include community]*
Scott et al 2003(39)	To examine autonomy, privacy and informed consent in care of PN women	Study period not reported Scotland (6 University and District hospitals)	Questionnaire packs left with ward staff. Care elements scored out of 5. *Eligibility* not reported *Response rate*: 60%, n=404	Women's characteristics not reported	*Information women received about LoS:* mean score 3.79 *Infant feeding information:* mean score 4.34 *Supporting bowel and bladder function:* mean score 3.48 *Information related to personal hygiene*: mean score 3.56 *Breast care information:* mean score 3.62 *Privacy:* mean score 4.33 *Staff knocked before entering the room*: mean score 4.32 *Receiving help with their meals:* mean score 4.17

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					Able to bf in private: mean score 4.63 *Confidentiality of women's treatment*: mean score 4.73 *Helped to use toilet*: mean score 4.86 *Helped with hygiene*: mean score 4.81 *Exposing woman's body to others*: mean score 4.85
Shields et al 1998(40) (Mixed methods)	To compare women's satisfaction with MW managed care vs shared care over 3 different time periods as part of RCT	1993-4 Glasgow, Scotland	RCT of MW managed vs shared care**.** Questionnaires sent during pregnancy and at 7 wks and 7 mths postnatally. *Eligibility*: Booked within 16 wks, normal, healthy pregnancy, live birth, resident in catchment area. No data on reminders. *Response rate at 7 wks***:** MW grp: 71.9%, n=445 Shared care: 63.1%, n=380	*Mean age* at booking:* MW group 25.8 yrs Shared care 25.5 yrs Primips: MW group 54.7% Shared care 53.5% *Mode of delivery* (%): MW grp Shared care SVD 73.5 73.7 Instr 13.6 14.3 CS 12.9 11.9	Satisfaction with staff interaction (mean score on 5 point Likert scale, -2 to +2) MW grp Shared care Relationships with staff 1.31 0.84 Information transfer 1.20 0.70 Choices & decisions 1.13 0.07 Social support 1.21 0.74
Spurgeon et al 2001(41)	To investigate satisfaction with 2 pilot schemes based on Changing Childbirth compared to traditional care	Jan 1997 to Jun 1998 Large trust in central England	Retrospective cohort between-group comparison, two received midwifery-led card (A & B) and the controls (C) received standard obstetric-led care. All delivered in same hospital. Questionnaires sent 6 weeks after birth. *Eligibility*: Excluded women at high obstetric risk. *Reminders* sent out until a minimum of 100 questionnaires had been received from each group. *Response rates not specified:* Intervention groups n=215 Control group n= 118	*Mean age* A. 27.9 yrs B. 28.7 yrs C. 28.7 yrs *Average no. previous births* A. 1.7 B. 1.9 C. 2.0 Mode of delivery and ethnicity not reported	*LoS***:** No significant difference between the groups (actual LoS not stated) *Information and advice:* No significant difference between the groups for information, feeding methods, the baby's health, handling, washing and changing the baby

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Van Teijlingen et al 2003(42)	To identify individual or specific concerns with maternity care provision	September 1998 Scotland (Scottish Birth Study)	Cross-sectional survey distributed by MWs 10 days after birth to all women who delivered in a 10 day period. *Eligibility*: All women delivering in Scotland during study period except if insufficient English, MW considered inappropriate, or no longer resident in Scotland. *Reminders* sent by post at 2 wks. *Response rate*: 69%, n= 1,137	*Age*: 15–24 yrs, 21.4% 25–34 yrs 64.2% 35+ 14.5% Primps: 45.4% White 98.2% Mode of delivery not reported	*Overall satisfaction with postnatal care [may include community]*: Very satisfied 81%; Satisfied in some ways/dissatisfied 19%; *Primip women's satisfaction with postnatal care:* Very satisfied 78% Satisfied in some ways/dissatisfied 22% *Multip women's satisfaction with postnatal care:* Very satisfied 84% Satisfied in some ways/dissatisfied 16%
Wardle 1994(43)	To examine women's experience of maternity care	April-May 1991 births Staffordshire, England	Cross-sectional postal survey sent 7 to 8 weeks after birth to all women who had a hospital birth in study period. No eligibility criteria specified. Reminders sent 2 & 4 wks after initial mailing. *Response rate*: 80%, n=639	No participant characteristics reported.	*Infant feeding:* 58% of babies given breast milk in hospital, >50% supplemented with formula *Women's health and baby's care:* 30% received conflicting advice from HCPs 45% wanted to talk more to HCPs about babies' care and their own health 21-27% did not have enough advice about feeding, handling, settling the babies and problems with their own health. *Relationship with HCPs:* 53% reported midwives were too busy to talk to them. 259 women wrote comments: 81% reported HCPs were helpful and friendly, 29% not receiving enough help or advice, 15% staff too busy, 18% staff attitudes poor and not helpful. *Information to women separated from their babies*: Most given enough information about baby's health and progress, 1/4 wanted more, 1/4 wanted to talk to HCP about worries
Wray 2006(44)	To gain the views of women about PN care	Study period not reported	Cross-sectional survey distributed by community MWs 10th or 14th day after	*Age*: <25 yrs 18.5% 25-34 60.9%	*Visiting arrangements:* 81% felt visit durations were about right, 19% too short *Flexibility of visiting*:

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		North West England (two neighbouring urban locations).	birth, not clear how survey was returned. *Eligibility:* Women & babies discharged home together, birthweight >2kg, care by MWs, both mother & baby well, not placed for adoption . No data about reminders *Response rate:* 42%, n=452	35+ 19.7% Primips 44.5% *Mode of delivery*: SVD 66% Instr & CS 33% Ethnicity not reported	62% right, 38% not flexible *Postnatal ward:* 86% had enough opportunity to rest *LoS:* <24 hrs 32% <2 days 59% 3 or 4 days 26% 5 to 10 days 12% *Infant Feeding*: 70% intended to bf and of those 75% did bf *Feeding support: [may include community]* During the day 86% of women felt they were given enough help vs 80% at night. *Baby's care: [may include community]* 66% shown how to bath the baby, 34% of women shown how to change nappies and 34% shown top and tail clean, 69% care of cord, 70% had help with baby sleeping position.

Abbreviations

Bf/bf: Breastfeeding

CS: Caesarean section

EPDS: Edinburgh Postnatal Depression Scale

Grp: group

HCP: Health care professional

Instr: Instrumental delivery

LoS: Length of stay

Multip: Multiparous

MW: Midwife

PN: Postnatal

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Primip: Primiparous

RCT: Randomised controlled trial

SVD: Spontaneous vaginal delivery

* Reported in original trial report (78)

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Table 2. Characteristics of included qualitative studies

Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Baker et al 2005(48), England	To explore women's experience of childbirth and the postpartum in the context of Changing Childbirth	Semi-structured interviews with 24 women (of 99 recruited for previous study of PN depression), 4-5 yrs postpartum in women's homes. Interviews recorded and transcribed.	Open and axial coding conducted independently by 3 researchers who then met to discuss interpretation.	Age range 27-45 Primips 9 Caucasian All *Mode of delivery* SVD 16 Instr 3 CS 5 Length of stay 1-3 days	Perception of control Staff attitudes and behaviour Resources Feeding
Beake et al 2005(49), England	To explore women's views and experiences on postnatal care in hospital and at home	In-depth semi-structured interviews 8-12 mths postpartum in women's homes conducted by researcher. Interviews recorded and transcribed.	Thematic approach similar to that adopted in grounded theory. 2 researchers independently read and coded transcripts.	22 women, no demographics reported. 'Diverse' sample. Over 1/3 of sample could not be contacted.	Support - unable to ask for help as women thought MWs too busy Feeling neglected Help with feeding baby Informational support Poor facilities Lack of privacy Women wanted to go sooner
Beake et al 2010(50), England	To explore women's experience and expectations of hospital PN care	Semi-structured interviews by research MW on PN ward within a few days of birth.	2 researchers independently read transcripts to identify themes, analytic framework developed. Interviews continued until data saturation reached.	20 women Age range (yrs) 23-39 White Europeans 18 Afro-Caribbean 1 Chinese 1 Primips 13 *Mode of delivery* SVD 2 Instr 3 Emergency CS 12 Elective CS 3	Ward environment Attitudes of staff Support for bf Unmet information needs Women's low expectations of care
Bowes & Domokos	To explore Pakistani women's own health concerns, including	Semi-structured interviews, through an interpreter if required,	Interviews transcriptions indexed and sorted	19 Pakistani women and 1 Libyan, characteristics not reported	Negative staff attitudes Women reluctant to criticise service

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
1996(51), Scotland	those related to maternity service provision	in women's home or community venue, time point not stated.			Women appreciated having their babies taken away during night Hospital food was criticised
Care Quality Commission (CQC) 2013(22), England (Mixed methods)	No objectives specified	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2013 to random sample of women. Free-text from 10,007 women but only 8000 analysed.	Thematic analysis	Whole sample: *Mode of delivery*: SVD 60% Instr 14% CS 26% No other characteristics reported. No characteristics reported specific to women who wrote free-text comments.	Spoken to rudely and without consideration Lack of discussion and explanation following complications Being left unattended too long Being neglected Discharge too soon or held up Partners not able to stay Ward too noisy Lack of privacy Severely understaffed MWs bossy and pushy No support with bf
Cheyne et al 2015(24)c, Scotland (Mixed methods)	No objectives specified	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2015 to random sample of women. Free-text from 1244 women.	Thematic analysis using detailed coding and constant comparison.	Whole sample: Age <25 yrs 10% 25-34 yrs 60% 35+ 30% Primips 42% White 93% *Mode of delivery* SVD 53% Instr 14% CS 33%	Staff were excellent but too busy to have time to help with practical support Some staff rude and unsupportive Food was poor Noisy environment No proper after care or advice for specific conditions Receiving conflicting advice Need to build up women's confidence Women wanted partner involvement Lengthy wait for discharge
Condon et al 2012(52), England	To explore teenagers' experience of bf promotion and support by health professionals	Semi-structured interviews and focus groups involving 23 teenage mothers up to 2 yrs postpartum, carried out in 2009. Snowball sampling. Interviews recorded and transcribed.	Inductive thematic analysis using nVivo.	23 teen mothers aged <19 yrs, predominantly White (details not reported for PN sample). Mode of delivery and parity not reported	Experiences of bf promotion and support at birth Experiences of continuing bf support MWs helpful in showing how to position baby but insufficient help with subsequent feeds

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
		Location for interviews not reported.			
Cross-Sudworth 2011(53), UK	To explore perspectives of first and second generation women of Pakistani origin and their experiences of maternity care	Purposive sample. Semi-structured interviews (N=8) and focus groups (N=7 in 2 groups), 3-18 mths postpartum in community setting, with interpreter as required	Q methodology using -14 stage process to content analysis. Q set independently assessed by all team members.	UK born 10 UK educated 12 Age range 15-21 yrs Parity 1-4	Empowerment and high confidence Isolation and need for of professional support Poor maternity care Caring maternity services and cultural traditions Information and support Importance of MW care Wanted help bathing baby Wanted to stay longer
Dykes 2005(54), England	To explore the nature of interactions between MWs and bf women in PN ward, 2000-2002.	Participant observation of 97 encounters and 106 focussed interviews with 61 women on PN ward in first few days of birth. Excluded women unable to communicate in English or if baby was in NICU.	Ethnographic thematic analysis. Concurrent data collection and analysis. Basic, organising and global themes developed. Continued until theoretical saturation.	Age range (yrs) 17-42 Primips 40 White 56 Asian 5 *Mode of delivery* SVD 37 Instr 11 CS 13	MWs extremely busy, women aware of pressure on MWs Bf support mechanical act and time-bound process Limited continuity of carer MWs constrained from developing 'authentic presence', not based on trusting relationship, led to labelling and stereotyping Bf as a technically managed activity, teaching of specific techniques in reductionist way, invading body boundaries Conflicting information received
Edwards 2013(55), Scotland	To explore the expectations, knowledge and experiences regarding bf initiation in PN women.	5 focus groups including 8 PN women within 6 mths postpartum held at PN clinics. Focus groups	Inductive and deductive thematic analysis	8 PN women All primips All White Age 26-30 yrs 3 31- 35 4	Women who had CS upset of not having skin-to-skin contact with the baby MW taking over, attaching the baby to the breast Distressing feeding experiences Feeling of dependency bf, women expected the MW to attach baby to the breast

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
		recorded and transcribed.		36-40 1 No data on mode of delivery	Lack of skill on the part of the MWs when baby does not attach Reality better than what women expected Busy MWs, some short tempered, seemed uninterested Feeling left alone Receiving inconsistent help and support Peers providing help in hospital with feeding
Fawcett 2016(56), UK	To examine women's experiences of hospital-based PN care	Stories posted by women to the Patient Opinion website relating to hospital PN care, 2013-15.	Thematic analysis	168 stories No characteristics reported	Bf support – primips reported more negative experience Inclusion of partners Longer visiting hours Contrast between good day care, poor night care Ward environment Not receiving pain relief Fast discharge when women wished to be discharged early Women happy to stay in hospital longer when staff intention was good Positive comments when continuity of carer Hospital staff stressed and over worked Treating women as people not a number
Fraser 1999(57), England	To determine how competence in midwifery might be defined from the women's perspective and aid curriculum development	Opportunistic sample of 40 women. Semi-structured to unstructured interviews at 3 times including 6-48 hrs after birth (n=28), in hospital in 1996 with an interpreter if required.	Thematic analysis using constant comparison aided by Textbase Alpha.	Whole sample: Age <20 yrs 4 20-29 22 30+ 15 White British 28 Primips 14 *Mode of delivery* SVD 25 Instru 7 CS 7	*Not specific to PN hospital care* Characteristics and qualities of caregivers Individualized of care Clinical competence of the caregivers Developing a trusting relationship with a female MW was perceived as essential to promoting a positive childbirth experience
Garcia et al 1998(28), England &	No objectives specified	Free-text comments in postal questionnaires sent at 4 mths	Thematic analysis	Whole sample: Age <25 yrs 19.9% 25-34 yrs 65.6%	Wanting help on PN ward and not getting it Being patronised due to young age Poor clinical care and negligence

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Wales (Mixed methods)		postpartum in 1995 to random sample of women. Free-text from 1042 women.		35+ yrs 14.5% Primips 42% White 92% *Mode of delivery* SVD 71.9% Instr 11.7% CS 17.3%	Feeling rushed & impersonal Staff being rushed, under-staffed wards
Hirst & Hewison 2002(33), England (Mixed methods)	To compare the quality of hospital PN care for Pakistani and indigenous White women	In-depth interviews with 139 women in their homes recorded using hand written notes, 6-8 wks postpartum. Bilingual interviewer if required.	Content analysis	No details of participant characteristics reported. White women who were having their first pregnancy were older than Pakistani women. Age range (15–20, 21–30 and 31–41) was similar for each district.	Practical care and guidance Staff support, sensitivity and communication Rest Length of stay Catering Socialisation Psychological well-being Ward environment
Jomeen & Redshaw 2013(58), England	To explore Black and minority ethnic women's experiences of maternity care.	Free-text comments in postal questionnaires sent at 3 mths postpartum in 2006 to random sample of women. Free-text from 219 BME women.	Thematic analysis using nVivo.	Black 25.5% Asian 57.9% Mixed 11.4% Chinese 2.7% Other ethnic group 0.3% Age range 16-40+ Primips 39.3% *Mode of delivery* SVD 66.7% Instr 10.5% CS 22.8%	Feeling cared for Expectations of care and policies Rules and organisational pressures Staff attitudes and communication Hospital as a safe place Choices denied Sensitive and supportive care Ethnicity and culture stereotyping Improving the quality of care
Lagan 2014(59), Scotland	To report on women's reflections on their infant feeding expectations and experiences	Purposive sampling to ensure a range of infant feeding method. 40 semi-structured interviews and 7 focus groups (38 women), 4-8 mths postpartum in non-hospital setting in 2010.	Framework analysis using nVivo.	Age range (yrs) 19-41 Caucasian 75 Primiparous 49 *Mode of delivery* SVD 43 Instr 12 CS 23	Mixed and missing messages Conflicting advice Information gaps Unrealistic expectations Pressure to bf Emotional costs *Not clear if themes relate to hospital or community care*

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
McCourt et al 1998(37), England (Mixed methods)	1. Was 1:1 continuity of care giver preferred by women; 2. Was it associated with any benefit to women?	Free-text from questionnaires (N not reported); interviews (N=24) either face-to-face or by phone; focus groups at drop-in centres (N and location not reported).	Interviews and focus groups recorded and transcribed. Key emergent themes developed through open coding. Analysis of open text corroborated by independent researcher.	Age not reported Primips 35% White 42% Mode of delivery not reported	Insensitive responses to requests for support Staff seeming unavailable, offhand, too busy Inconsistent advice about bf Staff undermining women's self-esteem regarding baby care Serious lack of morale and motivation among MWs NB – No quotes presented
McFadden 2009(61), England	To explore factors influencing women's bf experiences following CS	Semi structured interviews 2 -52 days postpartum, in ward or NICU, with 10 women who had delivered by CS; 5 had their babies with them on PN ward, 5 had babies in NICU.	Thematic analysis using MaxQda using constant comparison.	Age range 27 -38 yrs 6/10 Primips 8/10 White British All CS	Maternal baby separation Feeling isolated and left to cope alone Lack of privacy Underestimated the emotional and physical effect of CS Lacking confidence in their abilities to bf Highly dependent on ward staff to initiate bf Receiving emotional support from staff & families
McFadden et al 2012(60), England	To explore the extent to which cultural context makes a difference to experiences of bf support for Bangladeshi women and to consider the implications for the provision of culturally appropriate care	Purposive sampling. In depth interviews and focus groups in community setting with 23 Bangladeshi women in 2008 who had bf within previous 5 yrs. Bilingual interviewer if required.	Initial coding was inductive then codes reorganised into logical framework	Age range 21-40 yrs Parity 1-6 UK born=4 No other characteristics reported	Bf support in hospital Satisfaction with hospital care Staff not always sympathetic to women's need Ineffective support with bf Expectation of hand-on support with feeding Women's concerns about producing enough milk Use of formula milk
Proctor & Wright 1998(63), England	To gain insights into aspects of maternity care among	Postal survey: 313 questionnaires returned, 155 from PN women (6-8 wks), 117	Framework analysis using NUDIST	Primips 54% No other characteristics reported	Continuity of carer Environment of care Information Access

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
	pregnant and recently delivered mothers	commented in free-text ('anything in the service that had particularly impressed or bothered them').			Care and treatment Relationship with carer Outcome Attributes of staff Choices Control
Proctor 1998(62), England	To identify and compare perceptions of women and MWs concerning women's beliefs about what constitutes quality in maternity services	7 focus groups and interviews, recorded and transcribed, 1994-97, 2 units in Yorkshire. Interview numbers, PN time point and setting not reported.	Framework analysis using NUDIST	19 PN women, 5 of whom gave birth 2-5 yrs previously Age range 14-43 yrs Parity 0-3 *Mode of delivery* SVD 7 Emergency CS 3 Elective CS 2 Instr 2	Continuity of carer Environment of care Information Access Care and treatment Relationship with carer Outcome Attributes of staff Choices Control
Puthussery et al 2010(64), England	To explore the maternity care experiences and expectations in UK-born ethnic minority women	In-depth semi-structured interviews with 34 UK-born ethnic minority women at mother's home or convenient setting 3-12 mths postpartum. Interviews recorded and transcribed. Women with adverse physical or mental health were excluded.	Grounded theory approach using nVivo.	Age <30 yrs 14 30-39 18 40+ 2 Primips 22 *Ethnicity*: Indian 11 Pakistani 4 Bangladeshi 2 Black African 10 Black Caribbean 2 Irish 5	Sensitive care Mismatch between expectations and experiences Women with additional needs less support than expected Staff unfriendly and care impersonal Care environment PN wards perceived to be poorly equipped and furnished Issues around privacy, noise, lack of cleanliness and hygiene
Ridger 2007(65), England	To explore women's views of ward postnatal care	Purposive sample of 12 women. Non-participant observation and interviews at 2 to 4 wks after birth at women's home or a health facility.	Ethnographic analysis	Primips 6 *Mode of delivery* SVD 5 Emergency CS 2 Elective CS 3 Instr 2	Busy wards and lack of staff Task-initiated care Wanting to have care needs acknowledged Receiving support

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Study ID-country	Study aim	Method	Analysis	Sample characteristics	Themes-Findings
Shields et al 1998(40), Scotland (Mixed methods)	To compare women's satisfaction with MW managed care vs shared care over 3 different time periods as part of RCT	Free-text comments in questionnaire about what they liked and disliked about their care, 825 women commented on hospital PN care.	Elements of satisfaction grouped and coded independently by 2 researchers.	*Mean age* at booking:* MW group 25.8 yrs Shared care 25.5 yrs Primips: MW group 54.7% Shared care 53.5% *Mode of delivery* (%): MW grp Shared care SVD 73.5 73.7 Instr 13.6 14.3 CS 12.9 11.9	Relationships with staff Information transfer Social support Environment General satisfaction
Taylor 2014(66), England	The experiences of postnatal ward cot type: side care crib and stand-alone cot in relation to breastfeeding	RCT sub-study. Semi-structured interviews in women's home, mostly by phone	Content analysis using nVivo	Side care crib N=29 Primips=17 SVD=15 CS=2 Multips=12 SVD=8 CS=4 Stand-alone cot N=35 Primips=16 SVD=10 CS=6 Multips=19 SVD=15 CS=4	Birth experiences Skin to skin contact Delayed bf initiation Mother Infant separation Unrealistic bf expectation Bf experiences on the PN ward Ward environment Introduction of formula milk on the PN ward

Abbreviations:

Bf/bf breastfeeding; Instr Instrumental delivery; CS caesarean section; hrs hours; mths months; MW midwife; PN postnatal; NICU neonatal intensive care unit; primips primiparous; RCT randomised controlled trial; SVD spontaneous vaginal delivery; wks weeks; yrs years

* Reported in original trial report (78)

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Table 3 – Risk of bias in quantitative studies (Y yes, N no, U unclear)

Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Alderdice et al 2015(18)	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	N
Bick et al 2012(19)	Y	Y	Y	Y	U	U	Y	Y	Y	Y	Y	N	U
Bowers & Cheyne 2016(20)	Y	U	U	U	U	U	U	U	U	U	U	U	U
Care Quality Commission 2010(21)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	Y	Y
Care Quality Commission 2013(22) (Mixed methods)	U	Y	N	U	N	Y	N	N	Y	Y	N	Y	Y
Care Quality Commission 2015(23)	U	Y	N	U	N	Y	N	N	Y	Y	N	Y	Y
Care Quality Commission 2019(20)	y	y	N	U	Y	Y	Y	N	Y	Y	N	Y	Y
Cheyne et al 2013(25)	U	Y	N	U	U	Y	Y	Y	Y	Y	U	Y	Y
Cheyne et al 2015(24) (Mixed methods)	U	Y	N	U	N	Y	Y	Y	Y	Y	N	Y	N
Cranfield 1983(26)	Y	Y	Y	N	U	N	Y	N	N	N	N	N	U
Dowswell et al 1997(45)	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y
Farquhar et al 2000(27)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y

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Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Garcia et al 1998(28) First class delivery (Mixed methods)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	N	Y
Glazener 1999(29)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	U	N	Y
Healthcare Commission 2007(30)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	Y	Y
Henderson & Redshaw 2017(1)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
Henderson et al 2013(31)	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	Y	Y	Y
(32)													
Hirst & Hewison 2002(33) (Mixed methods)	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	N	N	U
Hundley et al 2000(34)	Y	Y	Y	N	Y	Y	N	N	Y	Y	N	N	N
Ifionu 2010(35)	U	N	U	U	N	U	N	N	Y	N	N	N	U
Ingram et al 2002(36)	Y	Y	Y	U	Y	U	Y	Y	Y	Y	U	N	Y
McCourt et al 1998(37) (Mixed methods)	Y	Y	Y	U	N	U	N	N	Y	Y	N	N	Y
NCT 2010(46)	Y	Y	Y	Y	Y	U	Y	N	Y	Y	Y	N	Y
Raleigh et al 2010(38)	Y	Y	Y	Y	Y	U	Y	Y	N	Y	Y	N	Y
Redshaw & Heikkila 2010(10)	U	Y	Y	U	Y	Y	N	N	Y	Y	N	N	Y
Redshaw & Henderson 2015(3)	U	Y	N	U	Y	Y	Y	Y	Y	Y	Y	N	Y

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Study ID	Was the research question clearly stated?	Was the study population clearly defined?	Was the participation rate of eligible persons at least 50%?	Were all the subjects recruited from the same or similar populations?	Was the sample of participants representative to low risk women?	Are the measurements (questionnaires) likely to be valid and reliable?	Was the statistical significance assessed?	Are confidence intervals given for the main result?	Was the sample size >100?	Were the exposure measures clearly defined, valid, reliable?	Were key potential confounding variables measured and adjusted for?	Was weighting used?	Can the results be generalized to low risk women in the UK?
Redshaw et al 2006(11)	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y
Scott et al 2003(39)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
(40)													
Spurgeon et al 2001(41)	Y	Y	Y	Y	U	U	Y	N	Y	Y	N	N	U
Van Teijingen et al 2003(42)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
Wardle 1994(43)	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	Y
Wray 2006(44)	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	N

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Table 4 – Quality assessment of qualitative studies (Y yes, N no, U unclear)

Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?
Baker et al 2005(48)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Beake et al 2005(49)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Beake et al 2010(50)	Y	Y	Y	U	Y	N	Y	Y	Y	Y
Bowes & Domokos 1996(51)	U	Y	Y	U	Y	Y	U	U	N	N
Cheyne et al 2015(24) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	U	Y
Condon et al 2012(52)	Y	Y	Y	Y	Y	N	Y	U	Y	N
Care Quality Commission (CQC) 2013(22) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	Y	Y

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Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?
Cross-Sudworth 2011(53)	Y	Y	Y	U	Y	Y	Y	U	Y	U
Dykes 2005(54)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Edward 2013(55)	Y	Y	Y	Y	U	Y	Y	Y	Y	Y
Fawcett 2016(56)	N	Y	N	N	Y	N	N	U	Y	N
Fraser 1999(57)	Y	Y	Y	Y	U	Y	N	N	Y	Y
Garcia et al 1998(28) (Mixed methods)	U	Y	Y	Y	Y	N	N	U	Y	Y
Hirst & Hewison 2002(33) (Mixed methods)	Y	Y	Y	Y	U	N	Y	N	Y	Y
Jomeen & Redshaw 2013(58)	Y	Y	U	Y	N	N	Y	Y	Y	Y
Lagan 2014(59)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
McCourt et al 1998(37) (Mixed methods)	Y	Y	Y	U	Y	N	Y	Y	Y	Y
McFadden 2009(61)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y

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Study ID	Was there a clear statement of the aims of the research?	Was a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Were the data collected in a way that addressed the research issue?	Has the relationship between researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	Is the research valuable?
McFadden et al 2012(60)	Y	Y	Y	Y	U	N	Y	Y	Y	Y
Proctor 1998(62)	Y	Y	Y	Y	N	N	N	N	Y	U
Proctor & Wright 1998(63)	Y	Y	Y	U	U	N	U	N	N	U
Puthussery 2010(64)	Y	Y	Y	U	U	U	Y	Y	Y	U
Ridger 2007(65)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shields et al 1998(40) (Mixed methods)	Y	Y	Y	Y	Y	N	Y	N	Y	Y
Taylor 2014(66)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Figure 1 - PRISMA 2009 Flow Diagram

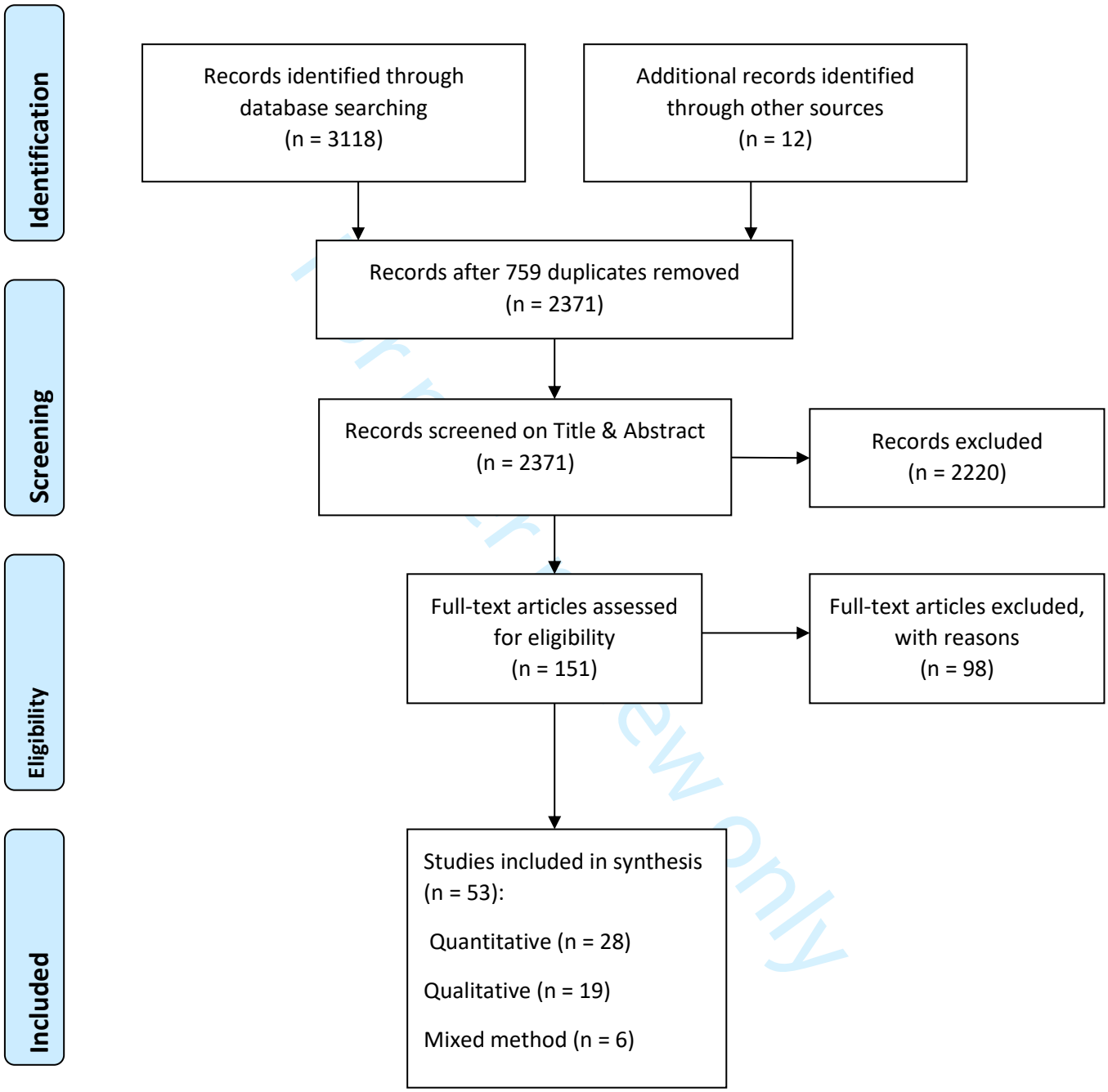

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Figure 2 - Proportion of women who were satisfied with length of postnatal hospital stay

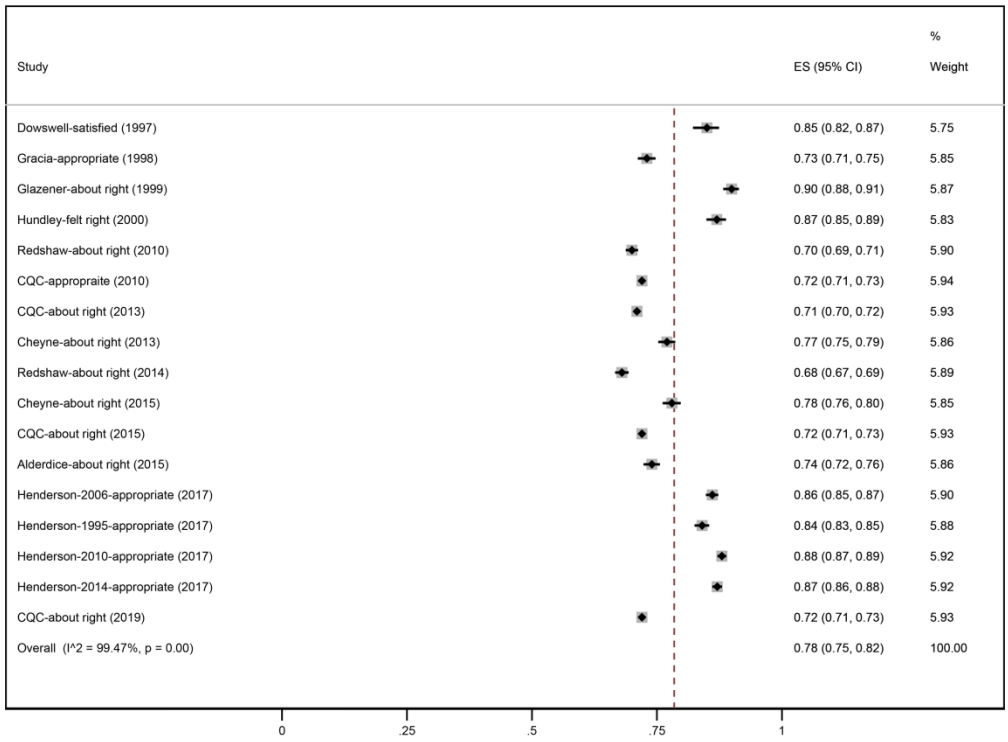

Figure 2 - Proportion of women who were satisfied with length of postnatal hospital stay

259x200mm (300 x 300 DPI)

Figure 3 – Proportion of women who were satisfied with overall postnatal hosptial care

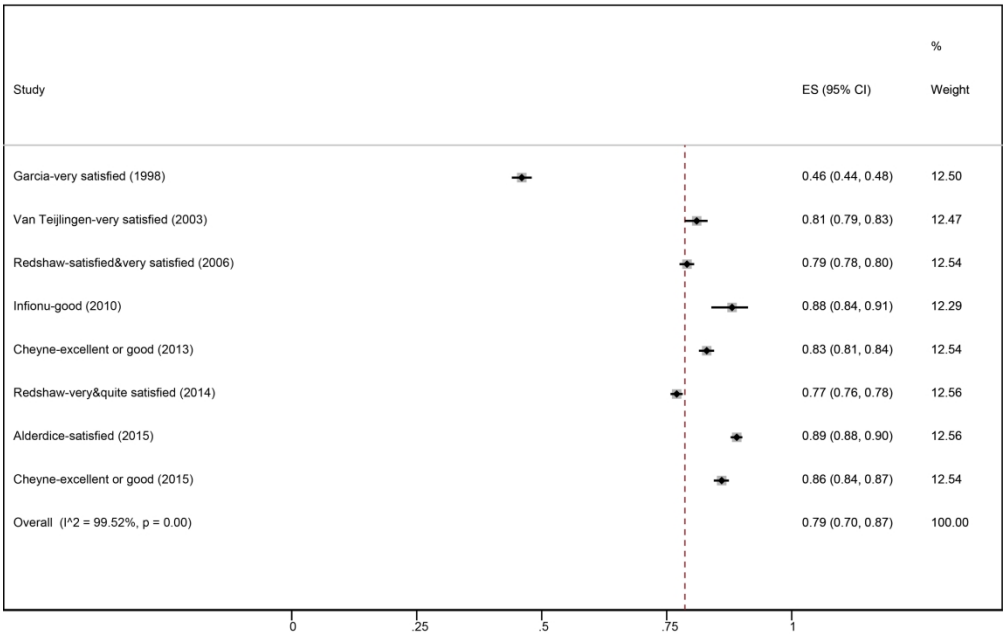

Figure 3 – Proportion of women who were satisfied with overall postnatal hospital care

257x173mm (300 x 300 DPI)

Appendix 1: MEDLINE search results 14 February 2017

postnatal care/	4682
Postpartum Period/	21647
((Postnatal adj3 care*) or (postnatal adj3 service*) or (postnatal adj3 healthcare*) or (postnatal adj3 "health care*") or (post?natal adj3 care*) or (post?natal adj3 service*) or (post?natal adj3 healthcare*) or (post?natal adj3 "health care*") or (postpartum adj3 care*) or (postpartum adj3 service*) or (postpartum adj3 healthcare*) or (postpartum adj3 "health care*") or (post?partum adj3 care*) or (post?partum adj3 service*) or (post?partum adj3 healthcare*) or (post?partum adj3 "health care*") or (puepr* adj3 care*) or (puepr* adj3 service*) or (puepr* adj3 healthcare*) or (puepr* adj3 "health care*") or (maternal adj3 care*) or (maternal adj3 service*) or (maternal adj3 healthcare*) or (maternal adj3 "health care*")).mp.	24582
1 OR 2 OR 3	45222
(Satisf* or value* or expectation* or perception* or perceive* or experience or need* or attitude* or view*).mp.	4578926
Birthing Centers/	678
Delivery Rooms/	1368
Maternal Health Services/	12095
exp Hospitals/	241620
exp Hospitalization/	191937
Inpatients/	16494
Patients/	18731
exp Nursing/	238100
exp Nurses/	79310
hospital*.ti,ab.	1024300
(ward* adj2 patient*).ti,ab.	1691
(inpatient* or "in-patient*").ti,ab.	1470847
(midwifery or midwife or midwives).ti,ab.	19983
6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18	2733608
exp United Kingdom/	332484
(UK or "United Kingdom" or England or Wales or Scot* or "Northern Ireland" or Britain or British or NHS).ti,ab.	248959
20 or 21	470597
4 and 5 and 19 and 22	783
limit 23 to (english language and yr="1970 -Current")	777

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Protocol title: Expectations and experiences of postnatal care at hospitals and birth centres in the UK: a protocol for qualitative and quantitative systematic review

Reem Malouf, Jane Henderson, Fiona Alderdice

Background

Key aspects of postnatal care include attention to the physical health of the mother, breastfeeding support, psychological well-being of parents, education as to what she should expect after birth and regarding infant care. Over time there have been a number of changes in postnatal care, the most evident being a reduction in length of hospital stay (Henderson and Redshaw, 2016). A hospital lying-in period of between eight to 14 days was standard in the 1950s (Rush, Chalmers and Enkin, 1989), whereas length of postnatal hospital stay for a woman with an uncomplicated vaginal birth in the United Kingdom is now often 1-2 days (Redshaw and Henderson, 2015).

A Cochrane review by Brown et al (2002) on length of postnatal hospital stay for healthy, term mothers and babies suggests that early discharge home does not appear to have an adverse effect on maternal health or breastfeeding outcomes when accompanied by a policy of offering women at least one nurse-midwife home visit post discharge. Most trials included assessments of women's satisfaction with postnatal care in hospital, and overall, while not statistically significant, women tended to favour a short postnatal stay. A trial by Waldenström et al (1987) also reported that, following early discharge, fathers were more involved in early care of the infant. The Cochrane review has not been updated since 2002 and the current state of the evidence regarding the impact of length of postnatal hospital stay is unclear, particularly regarding current UK postnatal care policy and practice.

More choice around place of birth means that women may have more variation in what is defined as 'hospital' in the immediate postnatal period, for example, stand-alone birth centre in comparison to a hospital maternity unit. Content of care has also changed. Maternal health observations, feeding support and parental education all remain priorities but there are limits to what can be achieved during a short stay. In addition, national guidance recommends that women are asked about their emotional wellbeing at every contact, that they have an initial assessment of needs and individualised plan of care (NICE Postnatal care guidelines) which require time. Better Births: Improving outcomes of maternity services in England (The National Maternity Review, 2016) acknowledges that postnatal care needs to be resourced appropriately and that women should have access to their midwife (and where appropriate obstetrician) as they require after having had their baby.

The need to invest in postnatal care arises from the knowledge that it is the most commonly criticised aspect of care by women as evidenced in the National Maternity Survey reports and publications arising from secondary analysis of survey data (Redshaw et al 2006; Redshaw and Heikkila 2010; Redshaw and Henderson 2015; Henderson and Redshaw 2017). However, we do not know if this is related to unmet expectations, poor experience of birth or afterwards, emotional or physical well-being of the women reporting their experiences.

As 'hospital' postnatal care has been decreasing in duration and also changing its focus, identifying the changes in maternal expectations, experiences and satisfaction may provide important insights to what aspects of care need to be improved for future services.

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Review objectives:

- The main aim of this review is to comprehensively report on women and their families' expectations and experiences of the immediate postnatal care received in hospitals and birth centres including both alongside units and free-standing maternity units.
- To report on women's satisfaction with hospital/birth centre postnatal care and how it relates to expectations and experience.
- To identify gaps and changes in postnatal care provided to women who delivered in hospitals and birth centres in the UK.

Review method

This review will be prepared and conducted according to the PRISMA checklist (PRISMA 2009). We will incorporate findings from different research methods: qualitative, quantitative and mixed method design studies.

Selection of studies and review inclusion criteria:

We will consider studies for their eligibility for inclusion in this review if they fulfil the following criteria:

Study designs: studies of the following designs will be included:

- Qualitative studies: interviews (individuals or focus groups), participant and non-participant observation studies and documentary analyses.
- Quantitative studies: RCTs, cross-sectional studies, retrospective or prospective survey-based studies and observational cohort studies design will be included.
- Mixed method studies: Studies using both quantitative and qualitative methods, for example the open text responses within survey studies.
- No studies will be excluded based on their design.

Reviews, editorials, commentaries and reports will be identified during screening but used solely to identify additional studies that are not retrieved by the searches.

Type of participants:

- We will consider studies for inclusion in this review if they included women with low risk pregnancies as defined by the NICE 2017 guidelines (NICE 2017), who gave birth in hospitals or birth centres in the UK.
- We will include studies on postnatal care in hospital and birth centres involving partners or fathers.
- We will include studies with findings collected from both women and their partners even if women's data cannot be retrieved separated.

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- If studies have data on both low and high risk pregnancies, only information relevant to the low risk group will be extracted (if feasible).
- Studies of women of all ages, parity, ethnic background and mode of delivery will be included.

Objective of included studies:

- The specific objectives of the included studies will include presenting data on women's expectations, satisfaction and experiences of their immediate postnatal care in hospital or birth centre.

Study setting:

- We will only include studies that focused on early postnatal care in hospitals and birth centres in the UK.

Review exclusion criteria:

We will apply the following exclusion criteria:

- We will exclude studies conducted on women with high risk pregnancies as defined by the NICE 2016 guidelines on Antenatal Care (NICE 2017).
- Studies involving women with various or unknown pregnancy risks when separating data for low risk women is not feasible.
- Studies reporting on other aspects of hospital birth care such as birth plan, choices of pain relief unless also including data about postnatal care.
- Studies involving healthcare professionals in relation to aspects of postnatal care will be excluded unless also including data focussing on women's or families' experience.
- Studies on aspects of community postnatal care for women who chose home birth will be excluded.
- Studies conducted outside the UK and published before 1970 will be excluded.

Review outcomes:

Primary outcome:

- Women's and families' expectations, satisfaction and experiences of postnatal care received in hospital or birth centres.

Secondary outcome:

- None

Search strategy and study selection

We adopted the methodological component of the SPIDER (Cooke 2012) search strategy we developed sets of search terms to cover the following concepts: expectations, satisfactions and experiences of postnatal care in hospital and other birth centres in the UK.

We have developed and tested a sensitive search strategy which will be used to electronically search the following databases:

- Embase [OvidSP](1970-present)
- Medline [OvidSP](1970-present)
- PsycINFO [OvidSP](1970-present
- Applied Social Science Index and Abstracts (ASSIA)[Proquest] (1970-present)

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- Cumulative Index to Nursing and Allied Health (CINAHL) plus [EBSCOHost] (1970-present)
- Science Citation Index [Web of Science Core Collection](1970-present)
- Social Sciences Citation Index [Web of Science Core Collection](1970-present)
- Grey literature searches will be conducted in the databanks of British Library EThOS, Open Grey and ProQuest Dissertations & Theses Global.

All retrieved references (title and abstract) will be screened independently by two reviewers. Full text of references considered potentially relevant will also be examined by two reviewers. Any discrepancies will be resolved by discussion. A screening checklist will be used to record in detail the reasons for excluding any full text paper which has been selected as potentially relevant through abstract and title screening.

All the retrieved references will imported to Endnote (X8) to store references, and to maintain an audit trail of screening decisions. A PRISMA flow chart will be constructed to illustrate the number of records retrieved from each database, the number of full-text papers retrieved, and the final number of studies included in this review.

Searches will be conducted in English and limited to the period from 1970 to the present.

Methodology and assessment of the included studies:

For quantitative designs we will apply a modified version of the NIH quality assessment tool for the observational cohort and cross-sectional studies (NIH 2017) which includes a total score. The tool will be used to assess included studies for generalisability and risk of bias based on recruitment, exclusion criteria applied, description of the study population (demographic, location and time period), sample size, response rate and comparability to the wider population. The tool will assess the adequacy of statistical techniques and adjustment for potential confounders and the reliability and validity of standardised measures.

For evaluating the risk of bias of qualitative studies we will use the Critical Appraisal Skills Programme (CASP) (2006). This tool has a checklist of ten questions which cover the study objectives and rationale, study methods, study design, recruitment strategies, method of data collection, information on ethical approval, and rigor of the method of analysing data and reporting of findings. Each domain is designated “yes”, “no” or “unclear”.

Two reviewers will independently assess the quality of the included studies and any discrepancies in quality rating will be resolved by discussion.

Data extraction:

We will develop two different data extraction forms, one for the quantitative studies and the second for qualitative studies. Both forms will have information relevant to the participants’ characteristics (age, parity, and ethnicity), study period, setting, inclusion and exclusion criteria, outcomes and a summary of results.

For the quantitative studies form we will extract additional data such as study design, sample size, method of data collections and method of analysing data.

For the qualitative studies we will extract the following information: recruitment strategy and sampling strategy, method of analysing data and recognized themes.

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For mixed method studies, the qualitative and quantitative data will be extracted and aggregated separately using the appropriate forms.

When missing data are identified, the study authors will be approached if possible. These data will be added to the original data extraction forms.

Data analyses:

We will analyse data from qualitative and quantitative designs separately.

For quantitative studies: narrative synthesis will be implemented as we expect significant heterogeneity across studies due to design variations, populations and perhaps outcomes.

For the qualitative design studies: we will compare and contrast themes identified across included studies. We will use N-vivo 10 software to perform the thematic analysis.

Quantitative and qualitative data retrieved from mixed method studies will be synthesised separately and added to other data as appropriate.

In this review the findings from the qualitative synthesis will be used to contextualize the findings from the quantitative data.

Subgroup analysis:

We are planning to perform the following subgroup analysis were possible:

- Primiparous women versus multiparous women
- Delivery mode: spontaneous vaginal birth, assisted vaginal birth, elective caesarean section, emergency caesarean section
- Duration of postnatal stay: < 24 hours, 24 < 48 hours, 48 < 72 hours, >72 hours
- Postnatal care received in hospitals in comparison to birth centres.
- Comparisons over time: postnatal care from 1970 to 1989, 1990 to 2009, 2010 to the present.

Funding

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	3-4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	4
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	4
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	4
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	5
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	5
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	4-5
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	N/A
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	5

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	4-5
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	5
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	5, Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Tables 1 & 2
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Tables 3 & 4
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	N/A
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Tables 3 & 4
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	8-9
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	12-13
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13-14
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	14
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	14

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