

Women's and healthcare professionals' views on immediate postnatal contraception provision: a literature review

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ABSTRACT

Objectives Provision of immediate postnatal contraception, including long-acting reversible contraceptive (LARC) methods, is increasingly identified and endorsed as a key strategy for reducing unplanned and rapid repeat pregnancies. This literature review aims to evaluate the views of women and healthcare professionals regarding the receipt, initiation or delivery of these services.

Methods Databases (Embase, Medline, CINAHL, HMIC) were searched for relevant English language studies, from January 2003 to December 2017. In addition, Evidence Search, Google Scholar and Scopus (citation search) were used to identify further literature. Other relevant websites were accessed for policies, guidance and supplementary grey literature.

Results There is clear guidance on how to deliver good-quality postnatal contraception to women, but the reality of service delivery in the UK does not currently meet these aspirations, and guidance on implementation is lacking. The available evidence on the provision of immediate postnatal contraception focuses more on clinical rather than patient-centred outcomes. Research on postnatal women's views is limited to receptivity to LARC and contraception counselling rather than what influences their decision-making process at this time. Research on views of healthcare professionals highlights a range of key systemic barriers to implementation.

Conclusions While views of postnatal women and healthcare professionals are largely in support of immediate postnatal contraception provision, important challenges have been raised and present a need for national sharing of service commissioning and delivery models, resources and evaluation data. Provider attitudes and training needs across multidisciplinary groups also need to be assessed and addressed as collaborative working across a motivated, skilled and up-to-date network of healthcare

Key messages

- The reality of postnatal contraception service delivery does not currently meet the aspirations set out in the relevant guidance.
- Delivery of services should universally target the issue of unplanned pregnancy, not the many diverse high-risk groups.
- The identification and training needs of all relevant groups of healthcare professionals is key to successful implementation of immediate postnatal contraception services and requires investment.
- There is a pressing need for further pilot studies in England offering immediate postnatal contraception together with a coordinated national evaluation and sharing of commissioning models and resources.

professionals is viewed as key to successful service implementation.

INTRODUCTION

Rapid repeat pregnancies are associated with worse outcomes for mother and child. An interpregnancy interval of less than 12 months increases the risk of preterm birth, low birth weight, still-birth and neonatal death.¹ There is robust evidence that the provision of immediate long-acting reversible contraception (LARC) postnatally at the place of delivery is safe²⁻⁴ and effective in preventing rapid repeat pregnancy.⁴⁻⁷ Recent guidance from the Faculty of Sexual & Reproductive Healthcare (FSRH) states that maternity service providers should ensure that all women after pregnancy have access to the full range of effective contraceptive methods and be able to provide these



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Concept 1	Concept 2	Concept 3	Concept 4
healthcare professionals, midwives, nurses, GPs, gynaecologists, doctors, health visitors, patients, women, mothers, service users	contraception, LARC, family planning, condoms, pill, coil, implants, injection, intrauterine	postnatal, postpartum,	hospital, maternity ward, wards

Figure 1 The four concepts of the search strategy

immediately after childbirth.⁸ However, this is not yet routine practice in the UK, Europe nor the USA.^{9–11}

In the UK, reducing unwanted pregnancy after childbirth has been identified by the Department of Health and Social Care as a priority area for sexual health improvement.¹² A 2016 UK study found almost 1 in 13 women presenting for abortion or delivery had conceived within 1 year of giving birth.¹³ UK evidence on immediate postnatal contraception relates exclusively to new and independent initiatives, fledgling, limited services or unmet need.^{14–19} As we look to identify and overcome barriers to implementation and service delivery of immediate postnatal contraception in the UK, there is a need to further understand the views of women and healthcare professionals on receipt, initiation or delivery of these services. This literature review aims to summarise this evidence from UK early adopter sites and other developed countries making efforts to introduce this practice.

METHODOLOGY

A search strategy was developed that included thesaurus and free-text terms for four concepts (see [figure 1](#)). The databases Embase, Medline, CINAHL, HMIC, Evidence Search, and the search engine Google Scholar were searched for relevant studies and articles from 2003 to December 2017. In addition, backward and forward citation searches were undertaken using the Scopus database. The websites of the Royal College of Obstetricians and Gynaecologists (RCOG), Faculty of Sexual & Reproductive Healthcare (FSRH), National Institute for Health and Care Excellence (NICE), World Health Organization (WHO), and the Royal College of Midwives (RCM) were also searched for policies, guidance and online supplementary grey literature. The results were de-duplicated and managed in Endnote. An English language limit was applied and potentially relevant references were identified. One reviewer screened on title and abstract articles for full-text screening. Two reviewers screened on full text for relevance to *views* on immediate postnatal contraception. Broad inclusion criteria were applied to include quantitative and qualitative studies, and priority was given to systematic reviews and randomised controlled trials (RCTs) where available. Studies with secondary, patient-centred outcome measures such as uptake, continuation and satisfaction were included and considered as surrogate markers of women's views.

RESULTS

Women's views

A recent Cochrane systematic review of three RCTs of immediate versus delayed postnatal insertion of the contraceptive implant showed a higher uptake among women assigned to the immediate insertion group (risk ratio (RR) 1.41, 95% CI 1.28 to 1.55; 410 participants).²⁰ This review did not provide clear evidence of any difference in continuation of contraceptive use at 12 months. One of the RCTs²¹ had a high risk of attrition bias, with large loss to follow-up, particularly in the group randomised to receive the implant at 6 weeks postnatally. The overall quality of the review evidence for each comparison ranged from very low to moderate. High continuation rates of immediate postnatal contraceptive implants, greater than 80% at 6 and 12 months, have been found in prospective observational cohort studies.^{4 7 22}

The most recent Cochrane review meta-analysis of immediate postpartum intrauterine contraception (PPIUC) of 15 trials of moderate quality found that use at 6 months was twice as likely than with standard interval insertion (OR 2.04, 95% CI 1.01 to 4.09; participants 243; studies=4).² This is particularly striking in the context of the higher expulsion rates seen with immediate insertion (OR 4.89, 95% CI 1.47 to 16.32; participants=210; studies=4). More recent prospective cohort studies have also demonstrated high acceptability with good uptake, continuation and satisfaction as well as high replacement rates in those women experiencing expulsion.^{7 14 22}

Women's views of lower levels of pain during immediate insertion of intrauterine contraception (IUC) post vaginal delivery has been evidenced in two small US studies.^{23 24} A recent mixed-methods study of 66 women reported that women were surprised by the rapidity of the insertion procedure, were positively distracted by their newborns, and felt relief and reassurance immediately afterwards.²⁴ This study did not follow up women post-discharge and did not include information on women who declined to participate or for whom insertions failed. It is, nevertheless, one of few studies to consider women's decisional influences, reporting that convenience, efficacy, past contraceptive experience, and financial and logistical barriers to accessing contraception in the community were all motivating factors to uptake.

A recent Scottish prospective service evaluation of provision of IUC at elective caesarean section demonstrated good uptake (13.7%, 120/877).¹⁴ This study had high follow-up rates of 93% at 1 year and showed high continuation rates with 85% still using an intrauterine method at 1 year. The continuation rates incorporated expulsions (8.8% at 1 year), re-insertions and requested removals. High satisfaction rates were also reported with 92.7% (76/82) of the sample happy with the method at 12 months. To date there are no other Western European studies evaluating insertion

of IUC at elective caesarean section in public maternity hospitals. There is good agreement between this study and an earlier US RCT of 112 women comparing intra-caesarean insertion with interval insertion.²⁵ The US trial demonstrated a nearly 20% higher rate of continuation in the immediate post-caesarean delivery group (83%, 40/48) compared with those in the interval group (64%, 32/50; relative risk 1.3, 95% CI 1.02 to 1.66), despite a higher expulsion rate (8% in the immediate group). Free intrauterine devices (IUDs) were offered as part of the US research study, whereas in the UK free maternity care and community contraception provision removes potential incentives related to cost and insurance cover.

Women's preferences for postnatal LARC (implants and intrauterine methods) were also examined in a recent prospective cohort study of 1700 postnatal women in eight Texan hospitals, including one hospital that offered immediate postnatal LARC.²⁶ Preference for LARC considerably exceeded use at 6 months (41% vs 22%; $p < 0.001$), but in the single hospital that offered immediate provision, uptake was 36% and the continuation rate was high, suggesting that limited LARC use postnatally may be attributable more to healthcare provider and system-level barriers than women's preferences. The study sample included a high proportion of participants from Mexico, which has uniquely high postnatal IUD use following a 1980s national initiative,²⁷ and therefore these findings may not be more widely generalisable.

Healthcare professionals' views

Many studies on immediate postnatal contraception involve postnatal LARC initiatives and services targeting specific groups at high risk of rapid repeat or unplanned pregnancy. These include adolescents and women at high safeguarding risk, for example, those suffering from addiction, mental health problems and domestic violence.^{47 16 21 28} Women who have their children taken into care have also been targeted as these women often have multiple complex problems which prevent them accessing contraception in the community after delivery or being able to take short-acting methods regularly and reliably.²⁹ Research studies and expert commentaries on immediate postnatal contraception have highlighted the ethical implications of targeted interventions. Concerns have been raised by healthcare professionals regarding the potential for coercion and compromise of reproductive equity.^{27 30}

Current RCOG guidance recommends that healthcare professionals providing contraceptive care recognise and maximise every opportunity during the antenatal, intrapartum and postnatal period to provide information and counsel women on the contraceptive choices available to them after birth.³¹ There is limited UK evidence on what healthcare professionals think about immediate provision of postnatal contraception but the few published studies highlight

differing opinions about their roles in the delivery of these services. An RCM survey conducted in 2013 reported that over half of the midwives (56%) felt that there was not usually enough time and resources to support and inform women about contraception, and service pressures significantly hindered their ability to deliver postnatal contraceptive support.³² A qualitative study of 12 Scottish midwives in 2014 reported that midwives viewed contraception as a minor part of their role, and they expressed concern about expansion of their role to giving contraceptive advice or providing LARC.³³ They identified barriers to the provision of immediate postnatal contraception as lack of time, knowledge, privacy, and maternal preoccupation with the newborn. They also saw general practitioners (GPs) as the most appropriate health professionals to discuss and provide contraception. A mixed-methods study of 86 student midwives at an English university similarly reported a lack of knowledge and confidence in giving safe and accurate advice on contraception, together with a lack of opportunity to observe mentors giving contraceptive advice.³⁴

However, evaluation of the APPLES (Access to Post Partum LARC in Edinburgh South) study, the first UK pilot of a maternity service offering routine antenatal contraception counselling together with postnatal provision of a choice of method, provides evidence of positive views of community midwives in this role.³⁵ These midwives received contraception training and subsequently reported feeling able to deliver a routine, integrated system for antenatal contraceptive counselling and facilitating contraceptive choice. Hospital midwives involved in the project were also generally positive about the provision of contraception after delivery becoming part of routine care. However, the hospital midwives in this study were not trained in LARC provision, and the availability of trained doctors and competing clinical demands were reported as the main obstacles to provision. Despite 43% of respondents planning to use LARC, only 9% (118/1369) of this cohort actually received LARC prior to discharge. A recent Welsh initiative also identified staff availability as a key reason for not being able to fit any postpartum IUC in the initial period of study as planned.¹⁶ There have been no comparable studies published on services providing immediate postnatal contraception, including LARC, in England.

There have been several recent US cross-sectional studies reporting perceived lack of experience, training and knowledge of immediate postnatal provision among a range of healthcare professionals.³⁶⁻³⁹ A national online survey of 794 US midwives revealed multiple knowledge gaps, and while a significant proportion reported desiring additional training in immediate postnatal IUD (63.5%) and implant (22.8%) insertion, few reported access to such training (IUD, 19.9%; implant, 15.2%).³⁶ In a cross-sectional survey of 409 physicians who provide labour and

delivery care,³⁷ most had never placed an immediate postnatal intrauterine method (81%) or implant (80%). Similarly, an earlier cross-sectional survey of 82 obstetricians, family medicine physicians and midwives practising at seven maternity hospitals in Massachusetts also found low levels of immediate postnatal contraceptive experience. Less than half of those surveyed (35, (42.7%)) had placed an immediate postnatal IUD.³⁸ It is worth noting that these studies had low response rates (17%–35%) and may not be nationally representative due to the focus on academic centres, subjects with primary teaching roles, convenience sampling and selection bias; with those already active and interested in postnatal contraception more likely to respond. These studies have, however, highlighted misconceptions regarding safety and other important potential barriers to implementation. In the Massachusetts cross-sectional survey, 8.4% overestimated the expulsion rate, 8.4% thought there was an increased infection risk, and 25% thought that there was an increased perforation rate; all inconsistent with published data.^{2,3} Physician concerns regarding financial reimbursement, device unavailability in hospitals, and religious institutional policies were also raised.³⁷

Further studies have looked at the views of wider multidisciplinary, non-clinical and community-based staff involved in the care of postnatal women. A qualitative US study of 32 multidisciplinary staff including obstetricians, sexual health doctors and nurses, lactation consultants, pharmacists, procurement, IT, finance, administration and management staff working across 10 hospitals in Georgia to establish immediate postnatal LARC programmes identified key barriers such as knowledge, cost, and competing clinical and administrative priorities.³⁹ A recent Welsh initiative identified delays in equipment delivery and inconsistencies with data entry as non-clinical barriers to provision and analysis of service provision.¹⁶ A recent cross-sectional self-completed US survey of lactation consultants found that while 77% (137/177) offered advice about postnatal contraception and its impact on breastfeeding,⁴⁰ the majority felt that the theoretical or proven risks outweighed the benefits or that there was an unacceptable health risk for the immediate use of progestogen-only methods if used within 21 days of delivery, contrary to the Medical Eligibility Criteria for Contraceptive Use.⁴¹ Such findings highlight the importance of engaging breastfeeding specialists in immediate postnatal contraception initiatives.⁴² A recent study assessing the views of 156 UK community sexual health providers found support for promotion and provision of thread checks for PPIUC but also reported challenges around staffing, knowledge and experience, and access to ultrasound.⁹ Referral pathways and funding for aftercare of immediate PPIUC were also highlighted as barriers.

Evaluation studies and expert commentaries on the initiation of immediate postnatal contraception

services consistently identify the need for strong leadership and project ‘champions’, physician advocacy and early identification of a multidisciplinary implementation team across obstetrics and midwifery, sexual health, ultrasound, pharmacy, procurement, IT, administration and management.^{35,39,43,44} This is in recognition of the complex, integrated pathway spanning the antenatal and postnatal periods, structural hospital barriers and interfaces with community services such as GPs and contraception specialists. Clear communication across regional networks and nationally is also asserted as necessary to develop streamlined effective protocols, implementation guidance and disseminate early best practice to facilitate widespread adoption.³⁹

DISCUSSION

The majority of studies on immediate postnatal contraception focus on provision of the most effective, LARC methods, which have potential advantages specific to the immediate postnatal period. These include assurance that the woman is not pregnant, masking of early bleeding associated with the method, prior anaesthesia, access to healthcare professionals, and avoidance of a subsequent procedure. Research into immediate postnatal LARC has, in turn, focused primarily on clinical and safety outcomes (infection, expulsion, perforation etc.); however, some studies included secondary patient-centred outcomes (uptake, continuation and satisfaction). While RCTs have shown a higher uptake of immediate versus delayed postnatal insertion of contraceptive implants, further large-scale, high-quality studies with longer-term follow-up are needed to corroborate evidence of higher continuation rates. Studies on the insertion of intrauterine methods at the place of delivery vary widely according to type of device, timing of postnatal insertion and mode of delivery. Comparisons are also challenging due to population differences such as age and parity of women, inserter technique, and experience and length of follow-up. However the literature consistently shows high acceptability of immediate PPIUC with good uptake and continuation rates, despite higher expulsion rates. UK evidence on women’s views of immediate PPIUC is to date restricted to insertion at the time of caesarean section via hysterostomy. This insertion process is quick, requires less additional equipment relative to community insertion, and may carry a lower perforation risk than at 6 weeks postpartum.¹⁰

The evidence base for implementation of immediate postpartum LARC includes many studies of services targeting specific groups at high risk of rapid repeat or unplanned pregnancy. While targeting some groups may be practicable when piloting services and when facing cost and staffing constraints, the heterogeneity of the population at risk of short interpregnancy intervals supports universal provision. A large retrospective UK study found that women presenting for abortion and

delivery with interpregnancy intervals of ≤ 12 months spanned *all* ages and socioeconomic groups.¹³ A recent publication of secondary analysis of a large prospective US cohort study also describes the heterogeneous nature of women at risk of short interpregnancy intervals.⁴⁵ Such views support the adoption of unrestricted, universal access to immediate postnatal contraception with transparent policies based on principles of informed consent and freedom of choice.

The most appropriate healthcare professional resource for provision of immediate LARC methods postnatally is currently unknown and may vary across populations and services. In the UK, likely resources include obstetricians, midwives or sexual health nurses. However, this resource will need initial and ongoing didactic training on technical insertion skills and education on risks and benefits. The importance and current inadequacy of training and education in postnatal contraception across different staff groups is a consistent theme in the literature.^{14 27 30 33 34 38 40 44} The introduction of a new FSRH qualification in 2017, open to doctors, nurses and midwives for implant insertion only, acknowledges this distinct need within maternity services.⁴⁶ In contrast, there are no current national UK training schemes on the fitting of intrauterine methods immediately postnatally, and relatively few experienced trainers of immediate post vaginal delivery insertion. The training needs of other relevant healthcare professionals involved in antenatal and postnatal care, including GPs, breastfeeding specialists, pharmacists and administrative staff, must also be considered in order for women to be given correct and consistent messages about immediate postnatal contraception and to achieve integrated provision of their chosen method. A shortfall in sufficient numbers of trained staff in the UK remains a significant barrier to implementation of successful programmes and requires considerable investment.³⁵

Funding of immediate postnatal contraception is a particular challenge under the current commissioning system in England, with contraception services split between local authorities, NHS England and Clinical Commissioning Groups. Different local models have been proposed but as yet there are no shared pilot data. Pilot studies in England are needed to test the feasibility and generalisability of the emerging evidence from Scotland and Wales. However, evidence from the USA provides a good example of how restructuring can overcome financial barriers to implementation of these services. There a rapid expansion of revised Medicaid insurance policies allowed hospitals to bill the cost of devices and insertion separately from a global delivery fee, removing a key structural barrier and increasing access and uptake of this service.^{47 48} Initial cost-effectiveness data are emerging and are also encouraging.^{49 50} Early UK models should be rigorously evaluated in terms of uptake and impact on unplanned

and rapid repeat pregnancy, and successes promoted in order to expedite widespread necessary structural change.

CONCLUSIONS

Emerging evidence on women's views on immediate postnatal contraception is encouraging. There is good and increasing evidence that LARC methods provided in this context are highly acceptable to women. However, the challenges of widespread routine provision in the UK remain significant. Successful implementation relies on a motivated, knowledgeable and skilled network of healthcare professionals, and the identification and training needs of all relevant groups must be assessed and addressed. Further pilot studies across England are needed to test feasibility, cost-effectiveness and impact on unplanned pregnancy. There are strong ethical arguments that these services should offer all methods to all women. There is also a need for a coordinated, national sharing and evaluation of commissioning and delivery models and resources in order to secure consistent provision for women nationwide and the associated reproductive benefits for women and their families.

ADDITIONAL EDUCATIONAL RESOURCES

- ▶ The American College of Obstetricians and Gynecologists (ACOG) has recently developed a Postnatal Contraceptive Access Initiative to support immediate postnatal LARC implementation across three phases: (i) capacity building, (ii) onsite simulation and (iii) training and ongoing support via a web-based hub with resources and follow-up consultation with experts. <https://pcainitiative.acog.org/> <http://links.lww.com/AOG/A900>
- ▶ The Association of State and Territorial Health Officials (ASTHO) is also providing clinical and operational support for postnatal LARC implementation across states, working to identify, document and address technical assistance needs, promising practices and barriers. <http://www.astho.org/Maternal-and-Child-Health/Long-Acting-Reversible-Contraception/LARC-Immediately-Postpartum-Learning-Community-Background/>

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REFERENCES

- 1 Smith GC, Pell JR, Dobbie R. Interpregnancy interval and risk of preterm birth and neonatal death: retrospective cohort study. *BMJ* 2003;327:313.

- 2 Lopez LM, Bernholc A, Hubacher D, *et al.* Immediate postpartum insertion of intrauterine device for contraception. *Cochrane Database Syst Rev* 2015;121(Suppl s2).
- 3 Sonalkar S, Kapp N. Intrauterine device insertion in the postpartum period: a systematic review. *Eur J Contracept Reprod Health Care* 2015;20:4–18.
- 4 Tocce KM, Sheeder JL, Teal SB. Rapid repeat pregnancy in adolescents: do immediate postpartum contraceptive implants make a difference? *Am J Obstet Gynecol* 2012;206:481.e1–e7.
- 5 Baldwin MK, Edelman AB. The effect of long-acting reversible contraception on rapid repeat pregnancy in adolescents: a review. *J Adolesc Health* 2013;52:S47–S53.
- 6 Brunson MR, Klein DA, Olsen CH, *et al.* Postpartum contraception: initiation and effectiveness in a large universal healthcare system. *Am J Obstet Gynecol* 2017;217:55.e1.
- 7 Cohen R, Sheeder J, Arango N, *et al.* Twelve-month contraceptive continuation and repeat pregnancy among young mothers choosing postdelivery contraceptive implants or postplacental intrauterine devices. *Contraception* 2016;93:178–83.
- 8 Faculty of Sexual & Reproductive Healthcare Contraception After Pregnancy. 2017. <https://www.fsrh.org/documents/contraception-after-pregnancy-guideline-january-2017/> (Accessed 30 Jul 2018)
- 9 Cooper M, Boydell N, Heller R, *et al.* Community sexual health providers' views on immediate postpartum provision of intrauterine contraception. *BMJ Sex Reprod Health* 2018;44:97–102.
- 10 Cameron S. Postabortal and postpartum contraception. *Best Pract Res Clin Obstet Gynaecol* 2014;28:871–80.
- 11 American College of Obstetricians and Gynecologists' Committee on Obstetric Practice. Committee Opinion No. 670: Immediate postpartum long-acting reversible contraception. *Obstet Gynecol* 2016;128:e32–e37. [Reaffirmed 2018].
- 12 Department of Health. A Framework for Sexual Health Improvement in England, 2013. <https://www.gov.uk/government/publications/a-framework-for-sexual-health-improvement-in-england> (Accessed 30 Jul 2018).
- 13 Heller R, Cameron S, Briggs R, *et al.* Postpartum contraception: a missed opportunity to prevent unintended pregnancy and short inter-pregnancy intervals. *J Fam Plann Reprod Health Care* 2016;42:93–8.
- 14 Heller R, Johnstone A, Cameron ST. Routine provision of intrauterine contraception at elective cesarean section in a national public health service: a service evaluation. *Acta Obstet Gynecol Scand* 2017;96:1144–51.
- 15 Cameron S, Lakha F, Gallimore A, *et al.* The APPLES pilot: access to post partum LARC in Edinburgh South. *Eur J Contracept Reprod Health Care* 2016;21:93.
- 16 Brammeier K, Cutter J, Cook S, *et al.* The Cardiff postpartum family planning initiative: improving provision of postpartum contraception. *BMJ Sex Reprod Health* 2018;45:68–70.
- 17 Thwaites A, Bacon L. Bringing postnatal contraception back into the hospital: provision for sick and vulnerable patients, postnatal ward survey and implant pilot. *BJOG* 2016;123:172.
- 18 Crouch M, Crow M. A review of postnatal contraception: staff and patient's perspective of hospital services. *BJOG* 2017;124(Suppl. 5):32.
- 19 Graham A. Immediate post-partum intrauterine contraception - making the guidelines a reality. Available: <https://www.fsrh.org/blogs/anna-graham-on-immediate-post-partum-intrauterine-contraception/> (Accessed 30 Jul 2018).
- 20 Sothornwit J, Werawatakul Y, Kaewrudee S, *et al.* Immediate versus delayed postpartum insertion of contraceptive implant for contraception. *Cochrane Database Syst Rev* 2017;4:CD011913.
- 21 Bryant AG, Bauer AE, Stuart GS, *et al.* Etonogestrel-releasing contraceptive implant for postpartum adolescents: a randomized controlled trial. *J Pediatr Adolesc Gynecol* 2017;30:389–94.
- 22 Eggebrotten JL, Sanders JN, Turok DK. Immediate postpartum intrauterine device and implant program outcomes: a prospective analysis. *Am J Obstet Gynecol* 2017;217:51.e1–e7.
- 23 Dahlke JD, Terpstra ER, Ramseyer AM, *et al.* Postpartum insertion of levonorgestrel-intrauterine system at three time periods: a prospective randomized pilot study. *Contraception* 2011;84:244–8.
- 24 Carr SL, Singh RH, Sussman AL, *et al.* Women's experiences with immediate postpartum intrauterine device insertion: a mixed-methods study. *Contraception* 2018;97.
- 25 Levi EE, Stuart GS, Zerden ML, *et al.* Intrauterine device placement during cesarean delivery and continued use 6 months postpartum: a randomized controlled trial. *Obstet Gynecol* 2015;126:5–11.
- 26 Potter JE, Coleman-Minahan K, White K, *et al.* Contraception after delivery among publicly insured women in Texas. *Obstet Gynecol* 2017;130:393–402.
- 27 Potter JE, Hubert C, White K. The availability and use of postpartum LARC in Mexico and among Hispanics in the United States. *Matern Child Health J* 2017;21:1744–52.
- 28 Sinha C, Guthrie KA, Lindow SW. A survey of postnatal contraception in opiate-using women. *J Fam Plann Reprod Health Care* 2007;33:31–4.
- 29 Ritchie J, Shaughn O. Postpartum contraception options in patients with substance misuse, attempting to break the cycle of repeated children being taken in to care. *BJOG* 2016;123:38.
- 30 Moniz MH, Spector-Bagdady K, Heisler M, *et al.* Inpatient postpartum long-acting reversible contraception: care that promotes reproductive justice. *Obstet Gynecol* 2017;130:783–7.
- 31 Royal College of Obstetricians & Gynaecologists (RCOG). Postpartum Family Planning (Best Practice Paper No. 1), 2015. <https://www.rcog.org.uk/en/guidelines-research-services/guidelines/bpp1/> (Accessed 30 Jul 2018).
- 32 Royal College of Midwives. Postnatal Care Planning 2014.
- 33 McCance K, Cameron S. Midwives' experiences and views of giving postpartum contraceptive advice and providing long-acting reversible contraception: a qualitative study. *J Fam Plann Reprod Health Care* 2014;40:177–83.
- 34 Walker S, Davis G. Views of final-year student midwives on giving postpartum contraception and sexual health advice. *J Fam Plann Reprod Health Care* 2014;40:312.
- 35 Cameron ST, Craig A, Sim J, *et al.* Feasibility and acceptability of introducing routine antenatal contraceptive counselling and provision of contraception after delivery: the APPLES pilot evaluation. *BJOG* 2017;124:2009–15.
- 36 Moniz MH, Roosevelt L, Crissman HP, *et al.* Immediate postpartum contraception: a survey needs assessment of a national sample of midwives. *J Midwifery Womens Health* 2017;62:538–44.
- 37 Moniz MH, McEvoy AK, Hofmeister M, *et al.* Family physicians and provision of immediate postpartum contraception: a CERA study. *Fam Med* 2017;49:600–6.

- 38 Holland E, Michelis LD, Sonalkar S, *et al.* Barriers to immediate post-placental intrauterine devices among attending level educators. *Womens Health Issues* 2015;25:355–8.
- 39 Hofler LG, Cordes S, Cwiak CA, *et al.* Implementing immediate postpartum long-acting reversible contraception programs. *Obstet Gynecol* 2017;129:3–9.
- 40 Dunn K, Bayer LL, Mody SK. Postpartum contraception: an exploratory study of lactation consultants' knowledge and practices. *Contraception* 2016;94:87–92.
- 41 Faculty of Sexual & Reproductive Healthcare (FSRH). UK Medical Eligibility Criteria for Contraceptive Use (UKMEC). 2016. <http://www.fsrh.org/standards-and-guidance/uk-medical-eligibility-criteria-for-contraceptive-use/> (Accessed 30 Jul 2018).
- 42 Thwaites A, Bacon L, Dickson J. Breastfeeding and postpartum contraception: dual priorities in the immediate postnatal period. *J Fam Plann Reprod Health Care* 2017;43:163–4.
- 43 Moniz M, Chang T, Heisler M, *et al.* Immediate postpartum long-acting reversible contraception: the time is now. *Contraception* 2017;95:335–8.
- 44 Tappy E, Jamshidi R. Postpartum LARC: best practices, policy and public health implications. *Curr Obstet Gynecol Rep* 2017;6:310–7.
- 45 Masinter LM, Dina B, Kjerulff K, *et al.* Short interpregnancy intervals: results from the First Baby Study. *Womens Health Issues* 2017;27:426–33.
- 46 Faculty of Sexual & Reproductive Healthcare. Letter of Competence Subdermal Contraceptive Implants Techniques Insertion Only (LoC SDI-IO). <https://www.fsrh.org/education-and-training/letter-of-competence-subdermal-implants-loc-sdi-insertion-only/> (Accessed 30 Jul 2018).
- 47 Moniz MH, Dalton VK, Davis MM, *et al.* Characterization of Medicaid policy for immediate postpartum contraception. *Contraception* 2015;92:523–31.
- 48 Chambers C, Van Deman J, Heberlein E, *et al.* Increased utilization of immediate postpartum etonogestrel contraceptive implant in adolescents after novel medicaid policy change. *J Pediatr Adolesc Gynecol* 2017;30:273–4.
- 49 Rodriguez MI, Caughey AB, Edelman A, *et al.* Cost-benefit analysis of state- and hospital-funded postpartum intrauterine contraception at a university hospital for recent immigrants to the United States. *Contraception* 2010;81:304–8.
- 50 Washington CI, Jamshidi R, Thung SF, *et al.* Timing of postpartum intrauterine device placement: a cost-effectiveness analysis. *Fertil Steril* 2015;103:131–7.