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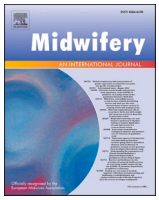

An exploration of the contraceptive counselling practices of midwives who provide postpartum care in Australia

Kate Cheney [a,*], Emily Mignacca [b], Kirsten I Black [c], Caroline Homer [d], Zoe Bradfield [b]

[a] The Sydney School of Nursing and Midwifery, Faculty of Medicine and Health, Susan Wakil Health Building, The University of Sydney, NSW 2006, Australia
[b] School of Nursing, Midwifery, Oral Health Therapy, Paramedicine, Faculty of Health Science, Curtin University Perth, WA 6102, Australia
[c] The Sydney Medical School, Faculty of Medicine and Health, Susan Wakil Health Building, The University of Sydney, NSW 2006, Australia
[d] Maternal, Child and Adolescent Health, Burnet Institute, Melbourne 3004, Australia

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ABSTRACT

Objective: We sought to explore and describe midwives' attitudes and practices relating to their provision of postpartum contraception counselling.
Design: We used an exploratory cross-sectional design. Recruitment used an anonymous online survey using electronic communication platforms of professional, and special-interest organisations, over six months . Descriptive and quantitative analysis was used.
Setting and participants: Australian Midwives who provide postpartum care.
Meaning and findings: A total of 289 complete responses were included. Findings from this national survey of midwives showed that almost 75% of Australian midwives reported providing some contraceptive advice to women. Those working in continuity of care models were significantly more likely to fulfil this responsibility. More than half (67%) indicated they had not received any formal contraception education or training. Those working in private obstetric-led settings were significantly less likely to have received education compared to midwives in community settings. Systems barriers preventing the provision of contraceptive counselling included: clinical workload; lack of management support; lack of education; and models of care.
Key conclusions: Most midwives (82%) wanted to provide postpartum contraception counselling as part of their role. They cited barriers from within the health system, ambiguity about roles and responsibilities and offered solutions to improve the provision of postnatal contraception counselling.
Implications for practice: Recommendations include the development of education programs for midwives. Continuity of care models provided the time, autonomy and opportunity for midwives to undertake contraceptive counselling and fulfil this part of their professional scope. Consideration should be given to expanding access and provision of continuity of midwifery care. An urgent investment in the education and skills of midwives is recommended to ensure all women across acute and community services benefit from improved outcomes associated with pregnancy spacing.

Statement of significance

Problem or Issue	It is estimated that 26-50% of pregnancies in Australia are unintended despite evidence that health optimisation before a first or subsequent pregnancy can make a significant difference to the outcomes for the woman and baby.
What is already known	There is growing recognition that provision of contraception around the time of the birth and prior to discharge from care can increase uptake and reduce unplanned or mistimed pregnancies
What this paper adds	We found that in Australia most midwives want to provide postpartum contraception counselling, three quarters of those surveyed actually provide this education as part of routine care. There was a significant difference in education provision practices between those working in continuity models and those in other models of care An urgent investment in formal contraception education for midwives is recommended. Barriers from within the system identified in this study include

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* Corresponding author.
E-mail address: Kate.cheney@sydney.edu.au (K. Cheney).

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(*continued*)

	lack of time for provision of contraception education and lack of clarity around midwives' scope - these should be addressed to improve outcomes for women

Introduction

In Australia, most women are provided with antenatal care and give birth in the public health system predominantly under the care of midwives. (Department of Health 2020) Traditionally, postpartum discharge planning by midwives includes a conversation about contraceptive options prior to discharge. Australian midwives are professionally responsible for providing support, care and advice throughout pregnancy, labour and birth, and the postpartum period. (Nursing and Midwifery Board of Australia 2018) A discussion about postpartum contraception is a critical component of peripartum women's health care as having a mistimed or unintended pregnancy has been shown to impact adversely on maternal and child health outcomes, including pregnancy complications. (Hanley et al., 2017, Abajobir et al., 2016, Bearak et al., 2020, Bahk et al., 2015, Conde-Agudelo et al., 2006) Health optimisation before a first or subsequent pregnancy can make a significant difference to the outcomes for the woman and baby. (Stephenson et al., 2018) Issues such as loss of employment opportunities and educational attainment, abortion, postpartum depression, shorted duration of breastfeeding may also be experienced by some women with unintended pregnancy. (Gipson et al., 2008, Nelson et al., 2022, Mercier et al., 2013, Qiu et al., 2020, Kost and Lindberg, 2015) Despite the importance of well-planned pregnancies it is estimated that 26-50% of pregnancies in Australia are unintended. (Taft et al., 2018) Internationally, there is growing recognition that provision of contraception around the time of the birth and prior to discharge from care can increase uptake and reduce unplanned or mistimed pregnancies. (McCance and Cameron, 2014, Walker et al., 2021) Access to postpartum contraception supports choice about planning of pregnancy timing and spacing, (or avoiding pregnancy if not desired), and allows optimisation of health before the next pregnancy. Other circumstances such as age, culture and personal situations will inform such decisions. (Barrett and Wellings, 2002) Following a live birth, the World Health Organization (WHO) recommends a minimum interval of 24 months before attempting the next pregnancy. Definitive guidance about pregnancy spacing following stillbirth is yet to be offered. (World Health Organization 2007)

The International Confederation of Midwives (ICM) have essential competencies around a midwifery scope of practice which include postpartum contraception counselling and provision. (The International Confederation of Midwives (ICM) 2019) Midwives may want to provide postpartum contraceptive advice however there are recognised barriers and challenges. Studies from the United Kingdom (UK) and United States (US) have illustrated that Midwives are supportive of the concept of providing enhanced contraceptive advice and methods to women in their care and believe that it would be advantageous for women. The barriers identified were competing workload, feeling inadequately trained and time pressures. (McCance and Cameron, 2014, Moniz et al., 2022, Moniz et al., 2017, Cameron et al., 2017) More recently, a study exploring the views of postnatal women and clinical midwives around provision of contraception supported the findings from these earlier studies. Women found midwives providing postpartum contraception, was acceptable and convenient; they were enthusiastic about providing more holistic care but identified institutional and time barriers. (Walker et al., 2021)

Two Australian studies undertaken in teaching hospitals showed that midwives wanted to provide contraception education but regularly face systemic barriers including lack of time and need for further education. (Bradfield et al., 2022, Botfield et al., 2021) A Western Australian based study explored the sexual and reproductive health knowledge, attitudes, and practices of 164 midwives working in a tertiary hospital. Participants indicated that contraception and family planning was the topic that midwives felt the most comfortable, and more frequently provided education on. (Bradfield et al., 2022) However, 94% of participants said that they needed further education. These research findings may well be localised to the local health areas and may not represent the broader experience of midwives across Australia, neither captured perspectives of privately practicing midwives or their clients. (Bradfield et al., 2022) The other study explored the practicality, and acceptability of contraceptive implant provision by midwives in the state of New South Wales (NSW) public hospitals, in Australia. (Botfield et al., 2021) Twenty-seven midwives undertook training and inserted 265 implants during the study period. Midwives were found to have been successfully educated and trained to insert contraceptive implants to women. It was noted that sustainability of the program would need institutional supportive policy and regular insertion. (Botfield et al., 2021) Postpartum contraception advice and support is important, and midwives are uniquely placed to provide this care. However, the extent to which midwives working in Australian postpartum care settings currently undertake contraception counselling and provision is unknown.

The aim of this study was to explore the practices of clinical midwives who provide contraception counselling to woman in Australia. A better understanding of this will inform the educational needs of midwives and assist with service planning to ensure women have access to care.

Methods

Study design

An exploratory cross-sectional design was undertaken, using an online survey; such approaches can usefully collect and measure data at a discrete point in time. (Kesmodel, 2018). Ethics approval for this study was obtained from the University of Sydney; HREC number: 2021/933.

In 2022, the Australian Institute of Health and Welfare described Midwives as the most common lead maternity carer for women during the antenatal, intrapartum, and postnatal periods. (Australian Institute of Health and Welfare 2022) The report describes the midwives' role in the major model categories. A continuity model or group practice is care provided by the same midwife, or small team of midwives, during pregnancy, labour and birth, and the postpartum period. See Table 1 Definitions of Models of Midwifery Care.

Recruitment and data collection

We used targeted recruitment strategies, to obtain a convenience sample of midwives in Australia who self-identified as providing postpartum care. Given the exploratory design, there were no statistical calculations for sample size required or conducted. Midwives were invited to participate through e-survey recruitment asking for practitioners who provide postpartum care. The e-survey was advertised and distributed via electronic communication platforms (i.e., member communiques and social media pages) of professional, and special-interest organisations such as the Australian College of Midwives (the peak professional body for midwives in Australia) and CRANAPlus (the peak professional body for rural and remote nursing and midwifery in Australia). Snowball sampling may also have occurred where midwives shared the e-survey recruitment materials with other colleagues. The e-survey flyer invited midwives to participate and contained a link or QR Code to an electronic-survey. Study data were collected and managed using REDCap electronic data capture web platform hosted at The University of Sydney. Participants then completed the survey by clicking on a link or scanning the QR code providing access to the survey.

Consent to participate was indicated through a hurdle question on the survey landing page without which, survey completion was not

Table 1
Main model of midwifery care.

		Model of Care				
		Standard care (rostered staff)	Midwifery Group Practice (midwifery continuity)	Shared Care with GP or Endorsed Midwife	Private Midwifery Care (midwifery continuity)	Private Obstetric Care
Setting of Practice	Public hospital	x	x	x	x	x
	Private hospital	x				x
	Birth Centre		x			
	Community ie clinic or Aboriginal medical service	x				
	Woman's home				x	

possible. No data which could identify individual midwives were collected. The survey was conducted from 1 March 2022 to 31 September 2022.

Survey

As there were no validated tools available to collect data from midwives relating to the study objective, survey items were developed by members of the research team which comprised a Professor of Midwifery, two midwife research academics with extensive clinical experience both who have expertise in survey development, and a Professor of Reproductive Health. Other studies discussed in the introduction also informed the survey development. (McCance and Cameron, 2014, Walker et al., 2021, Cameron et al., 2017, Croan et al., 2018)

The Survey (Supplementary Table 1) collected demographic data including: type of registration (registered midwife, dual registered nurse/midwife, endorsed midwife); workplace postcode; setting of work (for example, tertiary hospital or community clinic); and model of care. Items to explore midwives' practice and knowledge regarding postpartum contraception were developed according to four main domains of (i) midwives post-registration education, (ii) midwives contraception counselling practice, (iii) perspectives of midwife on providing contraception education to women and (iv) midwives knowledge of contraceptive methods. Each question contained a binary yes/no response, followed by multiple-choice options to explain their answer. For each question, an "other" option enabled participants to provide a free text answer. To conclude the survey, a free text question allowed participants to provide any additional comments. The survey was piloted with five midwives who provided feedback on question structure and order which were adopted, pilot data were deleted and not analysed as part of this study.

Data analysis

Of the responses, 13 were incomplete and removed, and one was completed by a student midwife and therefore ineligible. Quantitative data were exported into IBM Statistical Package for Social Sciences (SPSS) Version 28. Descriptive statistics were used to report participant demographics and responses about knowledge and practice around the four domains detailed previously. To enable meaningful data analysis, workplace postcodes were transformed into the relevant Australian Statistical Geography Standard-Remoteness Area (ASGS-RA). The ASGS-RA defines locations in terms of remoteness, i.e. the physical distance of a location from the nearest urban centre (Australian Institute of Health and Welfare 2018).

We wanted to explore if midwives working in continuity models would reports higher levels of practice and knowledge in contraception counselling, regardless of practice location and professional registration type. Chi-squared (χ^2) tests were performed to identify associations between demographics (Table 2) and four main domains: (i) midwifery post-registration education, (ii) contraception counselling practice of midwives perspectives on providing contraception education to women and (iv) midwives knowledge of contraceptive methods. . We performed chi-squared tests to identify associations between demographics and midwives' post-registration contraception education, contraception counselling practice and contraception knowledge. (Table 2)

Table 2
Participant demographics.

Variable	n (%)	
Geographic classification (ASGS-RA)[^]	**n = 254**[#]	
Major Cities (RA 1)	161	(55.7)
Inner/outer regional (RA 2/3)	71	(24.6)
Remote/very remote (RA 4/5)	22	(7.6)
Type of registration	**n = 285**[#]	
Midwife	125	(43.3)
Midwife/registered nurse	150	(51.9)
Endorsed midwife[*]	5	(1.7)
Endorsed midwife/registered nurse[*]	5	(1.7)
Model of care	**n = 288**[#]	
Continuity	98	(33.9)
Standard Care	164	(56.7)
Aboriginal Health and Medical Services (AHMS)[**]	14	(4.8)
Primary health[**]	8	(2.8)
Education/research[+]	4	(1.4)
Setting of care	**n = 288**[#]	
Tertiary	140	(48.4)
Secondary	97	(33.6)
Community	36	(12.5)
Private obstetric-led	12	(4.2)
Education/research[+]	3	(1.0)

[#] Valid count owing to missing.
[*] Combined for association tests owing to low cell counts.
[**] Combined for association tests owing to low cell counts.
[+] Excluded from association tests owing to low cell counts.
[^] Australian Statistical Geography Standard-Remoteness Area (transformed

Free text responses were analysed using descriptive content analysis. The analysis was guided by the four-step process of reading for meaning, classifying, immersion and stabilising and finalisation (Australian Institute of Health and Welfare 2018). Two of the investigators individually analysed data to ensure inter-coder reliability. Whilst counting of categories and sub-categories can be a feature of content analysis, it is not required to evidence meaning and was not undertaken in this analysis. (Vaismoradi et al., 2013, Elo and Kyngäs, 2008) Consensus was reached via the four-step process to determine categories and sub-categories, with discrepancies addressed by returning to the data.; and are supported by italicised verbatim quotes. To maintain brevity, an ellipsis (…) indicates removal of non-relevant text and square brackets reflects content added for context. The range and spread of responses are presented through included participant numbers, as indicated by (P#).

Results

A total of 303 potential participants accessed the survey. Of these, A total of 289 surveys were included in data analysis.

Quantitative results

Participant demographics

Just over half of participants (55.7%) worked in a major city, 24.6% worked in inner or outer regional Australia and 7.6% worked in remote or very remote areas. Around half (51.9%) held a dual midwife and registered nurse registration, 43.3% were midwives only and 3.4% were endorsed midwives (with half [1.7%] of these also registered nurses). The largest proportion of midwives (56.7%) worked in standard care, followed by 33.9% in continuity models including midwifery group practice, privately practising midwives and those providing continuity alongside a private obstetrician. Around half of participants (48.4%) worked in tertiary settings, 33.6% worked in secondary settings and 12.5% in community settings

(i) **Post-registration education**

Over half (64.7%) of participants reported they had not completed any form of education and/or training on postpartum contraception. Of those who had undertaken further education, attending an internal in-service was the most reported education format (19.4%), followed by training via an external provider (14.9%). Only 2.1% of midwives indicated they had completed a university qualification related to contraception. There was no significant association between model of care and receiving contraception training (p = .837; Fig. 1a). With regards to setting of work, there was a significant association between setting of work and reporting having not received contraception training ($p < .010$; Fig. 1b). Pairwise comparisons indicated that midwives working in private, obstetric-led settings were significantly more likely to have received no contraception education or training compared to midwives in community settings.

(ii) **Contraception counselling practice**

Most participants (73.0%) reported that they provided contraception counselling in their current role. We were interested in the relationship between geographical classification and role in contraception as we wanted to explore if there was a relationship between those midwives working outside urban areas who may take on a wider scope of practice and greater role in contraception provision and counselling. However, we found no significant associations between geographic classification (p = .437; Fig. 2a) or type of professional registration (p = .150; Fig. 2b) with current provision of contraception counselling. There was a significant association between both model of care (p = .006; Fig. 2c) and setting of work ($p = < .001$; Fig. 2d) with the provision of contraception counselling. Midwives working in continuity models were significantly more likely to report providing contraception counselling than midwives in non-continuity and primary health models, while midwives working in private, obstetric-led settings were significantly less likely to provide contraception counselling compared to midwives in all other settings.

(iii) **Perspectives on providing contraception education to women**

Most participants (82.0%) indicated they would like to provide contraception education more regularly as part of routine practice. There were no significant associations between model of care (p = .294; Fig. 3a) or setting of work (p = .123; Fig. 3b) and the desire to provide contraception education more regularly.

Of those who did not want to provide more contraception education (18%), the top three reasons were time /organisational barriers (14.2%), lack of training (6.6%) and a belief that contraception is a medical responsibility (5.6%;). There was a significant association between model of care and the reason for not wanting to provide contraception education. Compared to midwives in both continuity and non-continuity models, midwives in primary health models were more likely to report that the presence of a woman's partner dissuades them from providing contraception education to women (p = .002).

(iv) **Knowledge of contraceptive methods**

Overall, midwives reported they were most familiar with and able to provide women with education on methods of barrier contraception (91.3%), shorter acting reversible contraception (SARC) such as the progesterone only pill (87.9%), and longer acting reversible contraception ([LARC] 67.5%) (Fig. 4). Notably, there was significant variation between specific methods within some categories. The majority (87.2%) reported familiarity with the progesterone only pill as a SARC, compared to only 21.5% of participants being familiar with the combined oral contraceptive pill. Similarly, only a quarter (25.6%) of participants were familiar with fertility awareness tracking compared with 57.1% of total participants who reported familiarly with lactational amenorrhoea. Further, less than half of participants were familiar with each LARC method, including intrauterine devices (33.6%), Implanon (49.8%) and Depo-Provera injections (46.4%).

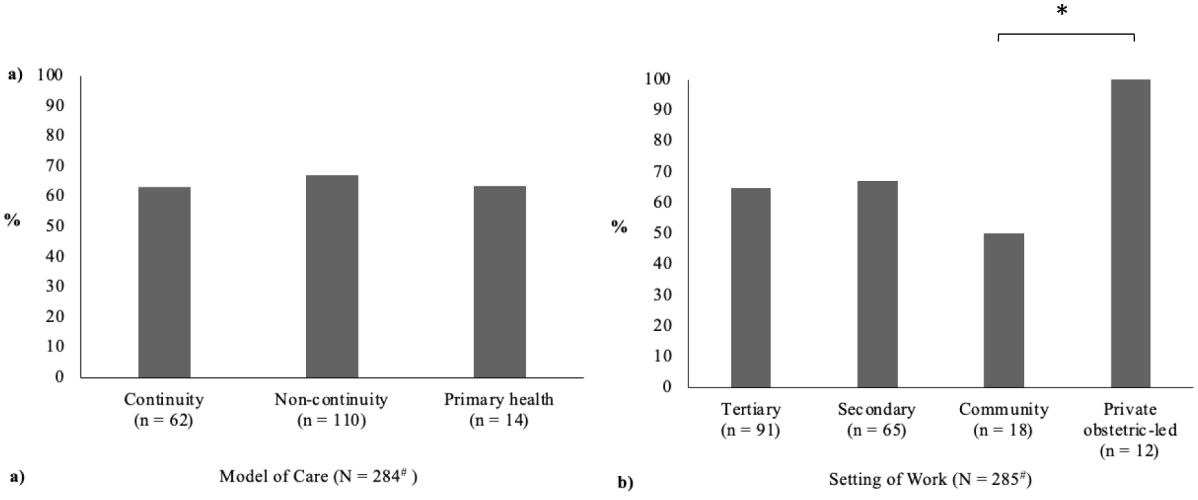

Fig. 1. Proportions of participants who have completed no contraception education or training by **a)** Model of care, and **b)** Setting of work.
#Valid count owing to missing. *Denotes significantly different pairwise comparison of proportions using Bonferroni-adjusted p = .0125.

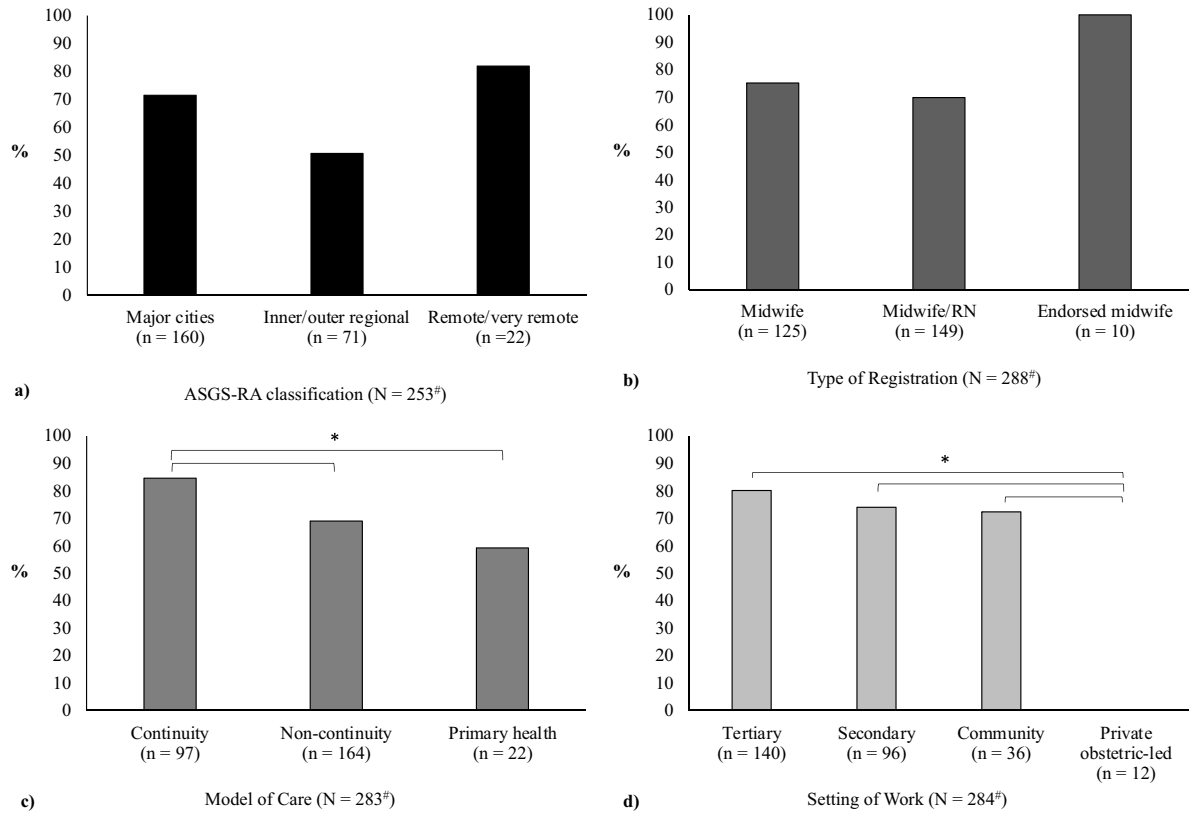

Fig. 2. Proportions of participants currently providing contraception education counselling. Proportions of participants currently providing contraception counselling by **a)** Australian Statistical Geography Standard – Remoteness Area (ASGS-RA) classification, **b)** Type of Registration, **c)** Model of care, and **d)** Setting of work. #Valid count owing to missing. *Denotes significantly different pairwise comparison of proportions using Bonferroni-adjusted $p = .017$ (figures a, b and c) and Bonferroni-adjusted $p = .0125$ (figure d).

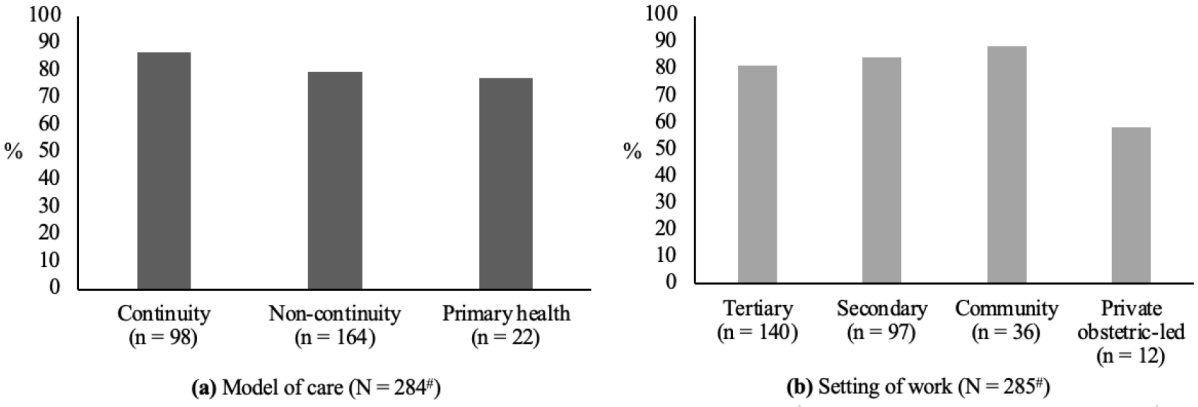

Fig. 3. Proportions of participants who want to provide contraception education. Proportions of participants who want to provide contraception education more regularly by **a)** Model of care, and **b)** Setting of work.
#Valid count owing to missing.

Qualitative results

Free text survey responses generated three categories with corresponding subcategories: system barriers; system ambiguity; and looking for solutions. These are displayed in Fig. 5.

1. **System barriers**

Midwives reported several systems barriers preventing the provision of contraceptive counselling. These included: clinical workload; lack of management support; lack of education; and models of care.

1.1 **Clinical workload and lack of management support**

Contraception counselling was viewed as an optional extra in the clinical environment. Given persistently high workloads, one midwife felt they are *"too busy already to focus on something that is not immediate"* (P104). Midwives reported pressure to constantly take on additional responsibilities with *"no extra staff or time"* (P76), resulting in contraception counselling being missed or superficial.

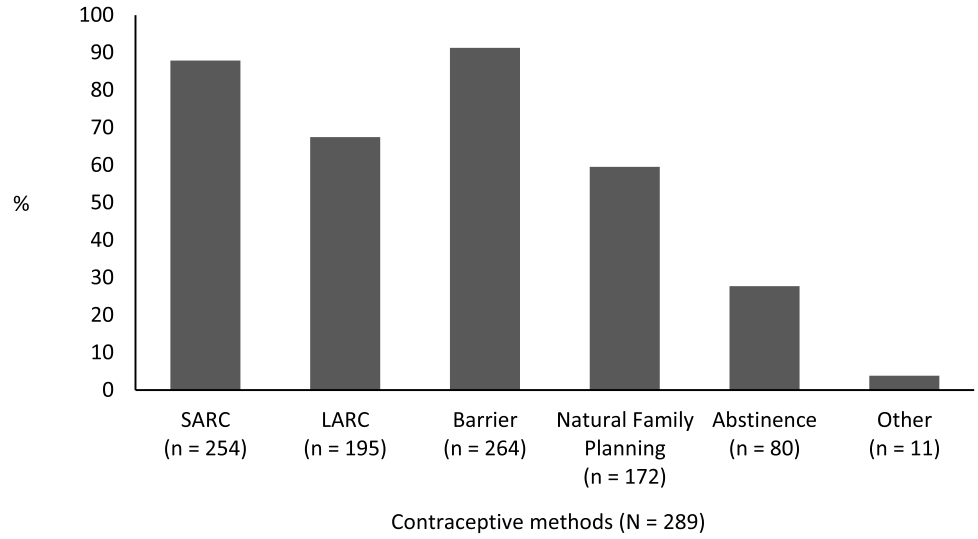

Fig. 4. Proportions of participant who reported familiarity with different contraceptive methods
Proportions of participant who reported familiarity with different contraceptive methods (N = 289). *Multiple responses permitted.

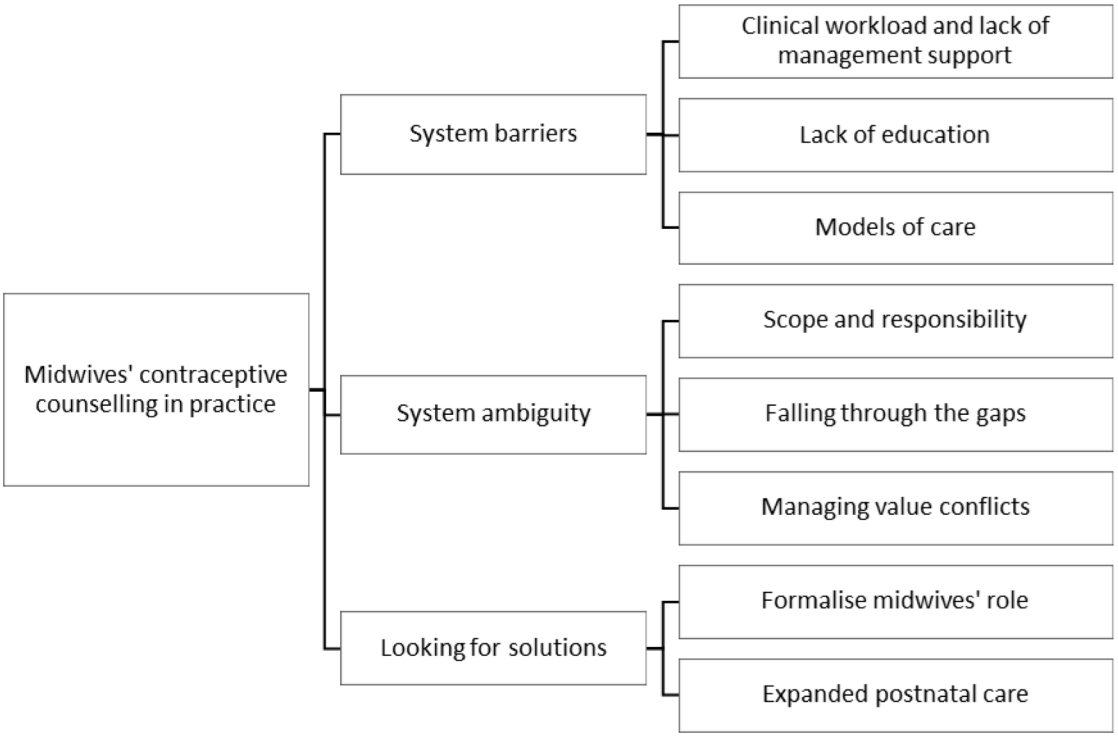

Fig. 5. Categories and subcategories from midwives' free text.

Many midwives commented that 'busyness' in the postnatal environment meant contraception education was consequently forwarded to general practitioners (GPs) in primary care settings; "*…I think we all would say we do this but really [it's] more that we send to general practitioners"* (P287)*; "We only have the quickest conversation and send them to [the] GP"* (P199).

Citing conflicting priorities, participants also reported lack of management support to provide contraception counselling; *"…[management] have so many problems that [contraception] seems the least of the problems"* (P94). Further, one midwife noted that a lack of managerial support creates geographical inequity in the counselling provided; *"…especially in the country it is the women who miss out"* (P83).

The low prioritisation of contraception counselling was also recognised in a lack of *"…guidelines and resources available [for midwives to] to discuss contraception…"* (P35).

1.2 **Lack of education**

There was a notable absence of workplace-supported education, with most learning self-directed and self-motivated. Participants expressed a desire for further education and training to improve their practice and knowledge; "*We need to be able and educated to do so much more of this type of work …what about preconception health"* (P166). There were only rare instances of inclusion as core content in midwifery courses, and one new midwife expressed they were *"…*

only newly graduated and haven't had any education in my course about this" (P88).

1.3 Models of care

Midwives reflected on the challenge of providing contraception counselling in fragmented models of care, stating that "the lack of continuity in hospital… makes it difficult… women are less likely to engage in these conversations with a midwife they don't really know" (P191). The requirement for trust between woman and midwife when engaging in contraception counselling was expressed by several midwives, and one respondent reported that "without an ongoing *relationship with the woman, it [is] an area I would not [spontaneously] broach"* (P176). The benefit of known relationships was reinforced by a continuity of care midwife, who affirmed that *"[contraception] is easily doable in group practice/caseload…we know the women and family; they trust us"* (P163).

2. System ambiguity

Participants reported system ambiguity and inconsistency over who, when and how contraception counselling is provided, with subcategories including: differing perspectives on scope and responsibility; women falling through the gaps; and managing value conflicts.

2.1 Scope and responsibility

Participants expressed that contraception counselling is within the midwifery scope, however described varied levels of competency and opportunities for practice. Some reported high confidence and competence, enabling them to work to scope and provide regular counselling. One midwife felt that seeing *"…the proof when [contraception] isn't offered and provided"* (P227) contributed to her belief that contraceptive counselling is essential to the postnatal midwifery role.

Conversely, other midwives reported the view that contraceptive counselling fell in the remit of medical staff; *"…this is full on doctor territory [in] my private hospital"* (P181), and *"[this is] thought of as doctors' work…"* (P65]. There were also reports of midwives being actively told *"…not to talk about [contraception] as it is for the GP…"* (P65), and that they are *"…not allowed to 'get involved'"* (P197). As a result of these restrictions on midwives, one respondent reflected that *"it is all well and good being educated…but [there is] nowhere to use [my] skills* (P164).

2.2 Falling through the gaps

Midwives reported that uncertainty around whose responsibility it is to provide contraception counselling extends beyond the hospital system. It was felt that a lack of clear responsibility causes women to miss out on care; *"…many…women tell me the GP doesn't provide contraception let alone discuss it"* (P180); *"GPs don't do it…that's what women say"* (P165); "*The doctors tell us not to talk about it as it is for the GP but women can't get to a GP so no one talks about it* (P97) . Further, some expressed sentiments that primary health was more focused newborn over maternal care; *"Many women go to the GP but just [for] baby vaccination not for themselves…"* (P154), and cited GP shortages and difficulty gaining appointments as a barrier to access.

2.3 Managing value conflicts

There were reports of managing values that conflict with the provision of contraception counselling. These included institutional restrictions that make it *"very difficult [to provide] many services as part of a Catholic hospital"* (P46). Another midwife indicated that she had undertaken alternative research as traditional contraception education "*does not align with my values*" (P127). Others responded that they did not feel that the immediate postnatal period was the appropriate time to be discussing contraception:

" *I feel the women are pressured by RMO or registrars to take a hormonal contraceptive post birth. I think it's too early to discuss in hospital! Too rushed too by the doctors*" (P32).

3. Looking for solutions

Midwives suggested changes to increase equitable access to contraception counselling, including formalising midwives' role and expanding postnatal care.

3.1 Formalise midwives' role.

Some offered the development of formalised and endorsed roles in contraception counselling and provision to facilitate midwives working to scope. This was extended to state that *"all midwives should be endorsed for contraception"* (P164). It was further suggested that formalised endorsement would assist other professions to recognise that contraception is within the midwifery scope;

"…not sure what the specialist would think but if I had qualifications maybe she would support it" (P163).

3.2 Expanded postnatal care.

Further, participants expressed ideas around expanded, community-based postnatal care to create opportunities for contraception counselling, specifically noting this should be *"usual care"* (P262) available to all. The current position of contraception as a *"tick-box at discharge"* (P154) was criticised and more intentional planning of how and when contraception counselling should occur was recommended. Midwives were keen to fulfil their scope by providing this care; "*I provide this education antenatally and postnatally [it is an] important topic with lots of room for improvement and more integration into [midwives'] scope of practice as primary maternity care providers!* (P12).

Discussion

Our national survey of midwives is unique, as the other studies in Australia have been locally based and may reflect local sentiments. This research has showed that almost three quarters of participants reported providing some contraceptive advice to women. Those employed in continuity of care models were significantly more likely to take on this responsibility compared to those in standard models. A higher proportion stated an interest in providing contraception education, suggesting a gap in knowledge and opportunity. This finding was supported by qualitative data, where midwives expressed keen interest in contraception professional development. Together, these findings imply that harnessing and developing education opportunities for midwives focused on contraception provision and specifically in LARC is of interest, which T can reduce unintended pregnancy and short interval pregnancy rates. (Elo and Kyngäs, 2008, Lipetz et al., 2009)

We identified gaps in knowledge amongst participant midwives regarding LARC methods. This finding resonates with work in the United Kingdom and United States where programs to enhance LARC related knowledge and skills in the midwifery workforce have been developed (Moniz et al., 2017). In the two UK studies, midwives were supportive of an expanded role in postpartum contraception (Walker et al., 2021) but

authors identified that midwives require ongoing training and support (McCance and Cameron, 2014). A small survey of midwives at one Australian teaching hospital reported that most midwives believed provision of contraception is important but lack knowledge and training (Botfield et al., 2021). Indeed, only 14% of this cohort stated they had received formal training in contraception. In our study, 34% of the respondent midwives told us they had completed any training. There have been a small number of small trials of midwifery provision of postpartum contraception (Walker et al., 2021, Moniz et al., 2017, Cameron et al., 2017, Botfield et al., 2021, Concepcion et al., 2019, Botfield et al., 2022), confirming the acceptability and efficacy of midwife-led contraception insertion. In our national study we found midwives' overall knowledge of LARC methods was low, with only a third being familiar with the intrauterine device and a half the contraceptive implant. These knowledge and skills gaps should be addressed in pre and post registration education contexts. The Australian Nursing and Midwifery Accreditation Council (ANMAC) makes no specific mention of contraception but there are references within the curriculum related to "…integrated knowledge of care across the childbearing continuum within the scope of midwifery practice including: i. social and emotional wellbeing of women ii. complex family health, domestic and family violence, stillbirth, and bereavement care iii. perinatal mental health". (Australian Nursing and Midwifery Accreditation Council (ANMAC) 2021) There also appears to be a range of barriers that inhibit scope of practice in this area as drawn out in the open text comments including workload pressures, lack of managerial support, lack of education and fragmentation in models of care.

Only a third of the midwives who completed this survey worked in a continuity model. Research on the benefits of midwifery continuity models of care include safety, professional satisfaction, and financial benefits for all women regardless of level of obstetric risk ((Botfield et al., 2022, Australian Nursing and Midwifery Accreditation Council (ANMAC) 2021, Homer et al., 2019, Sandall et al., 2016, ten Hoope-Bender et al., 2014)). Midwives in our study described some of the reasons for not wanting to provide contraception education more regularly which included organisational challenges and lack of resources. The challenges of providing comprehensive contraception education in the context of busy postnatal wards was described as a barrier for midwives' participation in an earlier study undertaken in one Australian jurisdiction (Bradfield et al., 2022). Midwife participants in the study also described lack of resources such as diagrams, printed material, and other information to assist in communicating education to women. The confirmability of findings of our study necessitates recommendations regarding workload planning to ensure that midwives have sufficient time within their work to provide this education. Midwives should also consider the appropriate timing of the education in the antenatal period in a way that would reduce all 'new' information being given in the postnatal period, but rather, a refresher of knowledge to facilitate pre-discharge education or access of LARC insertion if desired by the woman. Resources that facilitate conversations regarding contraception education should be developed and made readily available to midwives enabling education and health counselling for women in their care.

There was variation in midwives' descriptions of their professional role and scope of practice regarding the provision of contraception education. International and national standards indicate that provision of contraception education is core midwifery practice ((The International Confederation of Midwives (ICM) 2019, Australian Nursing and Midwifery Accreditation Council 2021, Bradfield et al., 2018)). Local guidelines and cultural barriers to this scope fulfilment have been identified in this study and were found in other recent studies too (Botfield et al., 2021, Geuens and Vermeulen, 2023). Midwifery leaders and health service executives should consider the opportunities for scope fulfilment outlined in these study findings and seek to address barriers to midwives working to scope. Additionally, the concern expressed about women falling through the gaps between discharge from maternity services and the 6 week postpartum check-up strengthens calls from professional midwifery leaders to capitalise and realise the sexual and reproductive primary care expertise of midwives (Beek et al., 2019, United Nations Population Fund 2021). The State of the World's Midwifery report highlights universal access to postnatal and interconception care is essential to ensure that women receive timely, expert sexual and reproductive health care (United Nations Population Fund 2021). Further that despite challenges experienced by midwives "there is no better incentive to make midwives more central to all health systems and to ensure that they are educated, protected and treated as the valued professionals they are". Expanding the Medicare Benefits Scheme to enable women to access bulk billing endorsed midwives on discharge would support the provision of this primary care function. Timely access to sexual and reproductive health care is essential to ensuring women's economic empowerment and eliminating gender-based violence (United Nations Population Fund Asia and the Pacific 2020). Our research identified that midwives outside the continuity model of care model felt having the partner present was a barrier to provision of counselling. This interesting focus requires further inquiry about how best to provide postpartum contraception counselling: should midwives wait until partners are not present to provide postpartum contraception counselling education and should the education be provided to the woman and her intimate partner?

The strengths of this study lie in the cross-sectional design which facilitated responses from a wide range of midwives from around Australia. Studies that use convenience sampling have advantages such as wide distribution and require minimal additional resources enabling effective national benchmarking to occur. However, we acknowledge that the participants may hold distinctive views as they were interested in the topic enough to complete the study when others did not; this is a recognised limitation of convenience sampling. Another limitation may be that we used social media and electronic means to recruit the participants. Age and years of practice were not among the demographics collected about participants and did not test for associations here as we were interested in overall knowledge across all demographics. Our sample reflects only a small proportion of registered midwives across Australia [303 of more than 35,000 registered midwives and registered nurse/midwives (Nursing and Midwifery Board of Australia 2023)] and the response rate is unknown. While our population demographics are described we do not claim for our participants responses to be generalisable, however readers are able to consider the transferability of these findings to their setting.

Conclusion

In this study we sought to explore the contraception education practices of Australian midwives working in postpartum care. We found midwives across all models of care are supportive of their professional role to include the provision of postpartum contraceptive counselling; with those working in continuity of care models being significantly more likely to report providing contraception education than midwifery colleagues working in standard models. However, there are barriers to midwives' provision of education, which includes a lack of education and training, absent institutional support and few opportunities to realise midwives 'full scope of practice While there are challenges, midwives are committed to provision of contraception counselling none the less. Targeted strategies to ensure midwives working in rural and remote areas have access to education and training is important to ensure scope fulfilment. Findings are useful to consider pre and post-registration education and credentialing opportunities for midwives. Addressing gaps identified in this study will enable health service providers to capitalise on the important role midwives play in postnatal care whilst improving women's access to contraceptive services.

Ethical approval

Ethics approval for this study was obtained from the University of Sydney; HREC number: 2021/933.

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CRediT authorship contribution statement

Kate Cheney: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Emily Mignacca:** Formal analysis, Writing – original draft, Writing – review & editing. **Kirsten I Black:** Conceptualization, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Caroline Homer:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Zoe Bradfield:** Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.midw.2024.103948.

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