THE IMPACT OF PRE-REGISTRATION EDUCATION ON THE
MOTIVATION AND PREPARATION OF MIDWIFERY STUDENTS TO
WORK IN CONTINUITY OF MIDWIFERY CARE: AN INTEGRATIVE
REVIEW

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Abstract

Access to continuity of midwifery care (CoMC) models in Australia is increasing but the capacity of the emerging midwifery workforce to provide this care remains largely unknown. The aim of this integrative literature review is to discover how well pre-registration midwifery education prepares and motivates Australian midwifery students to work in CoMC models when they enter practice. Following title review of 432 papers, removal of duplicates and review against the inclusion and exclusion criteria, nine papers were included for review.

The results show that access to CoMC is a crucial component of midwifery education, equipping students with knowledge, skills, confidence and motivation to work in this way upon graduation. Existing methods of program delivery and institutional structures often present students with challenges that detract from the value of their CoMC experiences. A focus on CoMC placement - particularly with a continuity of midwifery mentor – may motivate graduates to work in this model of care. This strategy is recommended to better align Australian midwifery education with maternity care reform.

Keywords

Midwifery education

Continuity of midwifery care

Midwifery workforce

Highlights

- CoMC experiences enhance student learning and increase motivation to work in continuity models.
- Challenges experienced by students may be reduced by midwifery education program redesign.
- Increased access to CoMC for students and graduates may enhance workforce sustainability.

Introduction

The term ‘continuity of midwifery care’ (CoMC) refers to a model of care whereby a primary midwife (backed up by up to three other known midwives) provides ‘on-call’ continuity of care to a woman throughout her pregnancy, birth and postnatal period (Cummins et al., 2019). This model of care is promoted internationally as there is now overwhelming evidence that CoMC improves health outcomes for mothers and babies, with women less likely to have a preterm or stillbirth and more likely to experience a spontaneous vaginal birth with fewer interventions including epidurals, episiotomy and instrumental birth (Sandall et al., 2016). Childbearing women in Australia report high satisfaction from CoMC (Forster et al., 2016), with international evidence also demonstrating that midwives experience greater job satisfaction and lower rates of burnout within these models (Dixon et al., 2017; Fenwick et al., 2018a; Forster et al., 2016; Harvie et al., 2019; Jepsen et al., 2017).

In 2010, the Australian government made a commitment to improve access to CoMC (Australian Government 2011), resulting in changes to the way midwifery education is designed - and increasingly - how maternity services are implemented. Despite this commitment, access for women to these models remains limited (Cummins et al., 2019). Recent workforce estimates suggest that less than 4% of the midwifery workforce are employed in CoMC models, with the majority continuing to be employed in standard care (Australian Government 2017). Historically, only more experienced midwives have been considered competent to work in CoMC models, with newly qualified midwives being required to undertake ‘transition to practice’ positions within standard care services (Cummins 2017; Hartz et al., 2012). More recently, a small number of providers have begun to employ early career midwives into CoMC, with research indicating that midwives consolidate their learning and enjoy working in this way (Cummins 2017). Preparation of midwifery students to work in these models is a potential solution to increasing access to

CoMC. yet to date there has been little evaluation as to how well Australia's midwifery students are prepared by their entry to practice education program to work in this way.

Background and Context

In 1997, significant concerns were raised within the Australian Midwifery Action Plan (AMAP) regarding midwifery education, regulation and barriers that inhibited midwives from fulfilling their scope of practice (Leap et al., 2017). Throughout the next decade, these issues continued, coinciding with concern about the ageing midwifery workforce and likely shortfall of appropriately educated midwives in Australia (Leap et al., 2017; Tracy et al., 2000).

In 2012, Health Workforce Australia (HWA) recognised that midwifery workforce predictions were hindered by a lack of quality data (HWA, 2012). It was also recognised that there were challenges in planning for and facilitating the clinical training of midwifery students and that workforce participation of early career midwives was poorly understood (HWA 2012). Resulting recommendations included the use of national data collection tools and a need for varying education pathways to midwifery registration (HWA, 2012). Subsequently, a number of midwifery education pathways are now available including the undergraduate Bachelor of Midwifery; dual Bachelor of Nursing and Midwifery; Graduate or Postgraduate Diploma; and Master's degree (Gray & Smith 2017).

CoMC and Midwifery Education

The integration continuity of midwifery care experience as a practice requirement is inconsistent across different countries making international comparison difficult. Early work was undertaken in the United Kingdom when the inclusion of continuity of care requirements was added to one university curriculum (Rawnsdon et al., 2011), and the results of that study though promising, did not influence widescale change in practice in the United Kingdom.

A more structured approach to the promotion of continuity of midwifery care within education programs was adopted in Australia. The Australian Nursing and Midwifery Council (ANMAC) mandated that CoMC experiences be embedded into midwifery education standards in order to prepare future midwives to work in CoMC on graduation (ANMAC 2009; Gray et al., 2016). It was also recommended that clinical placement settings for midwifery students be expanded to include CoMC models (HWA 2012). Despite these changes little evidence exists on how well midwives in Australia feel their education has prepared them to work in CoMC (ANMAC 2009; Gray et al., 2016; Newton et al., 2014). This knowledge is essential to the ongoing evaluation of Australian midwifery entry to practice education programs, workforce planning and the maternity care system of the future.

In order to gain insight into this problem, an integrative review of the literature was undertaken using the five stage approach described by Whittemore and Knafl (2005) to answer the question “ how well do Australian midwifery students feel they have been prepared and motivated by their pre-registration education to work in CoMC models when they enter practice”.

Search Strategy

Keywords (see table 1) using the Boolean operators ‘AND’/ ‘OR’ were searched within CINAHL, PubMed, Google Scholar and Scopus databases to ensure all available and relevant literature was reviewed.

Participants	CoMC	Preparation
Midwi*	Continuity of care	Educat*
Gradua*	“Continuity of care	Prepar*
Student	experience”	Train*
New	Midwifery led care	Experienc*
Begin*	Midwifery care	Motiv*
Start	Caseload	
Commenc*	Midwifery group practice	
	MGP	
	“Team midwifery”	
	COC	
	COCE	

Table 1: Keywords for literature search

Search criteria

The criteria for inclusion in the review required that the papers examined the experiences of midwifery students in the final year of their program. It was considered that final year students would have had sufficient exposure to midwifery education to provide informed answers to the question and enable collection of enough data to represent the population of interest. Research from other countries was excluded as there exists varying approaches to the inclusion of CoMC within midwifery education internationally, and thus findings may not be directly transferable to the Australian context .

Include	Exclude
<ul style="list-style-type: none"> • Midwifery students in final year of education • Registered midwives not yet in employment • Participant experience • Australian education programs • Studies reporting on data collected after the introduction of national accreditation standards • Peer reviewed papers 	<ul style="list-style-type: none"> • Studies which exclusively report on 1st/ 2nd year midwifery students, or which do not identify year level • Overseas education programs • Experienced midwives • Perspective of alternate stakeholders • Opinion pieces • Non peer reviewed papers

Table 2: Inclusion and exclusion criteria

Search Outcomes

Initial keyword searches found 432 results that were screened by title for relevance. Duplicates were removed. The remaining 70 articles were then reviewed against the inclusion and exclusion criteria (see table 2), resulting in eight articles. The reference lists and citations of these articles were searched and identified one ‘in press’ that met inclusion criteria. The total number of papers included in the review was nine. Figure 1 outlines the search process.

Figure 1: Literature search process

Data Evaluation

The nine articles consisted of mixed methods and qualitative research. They were reviewed using the Critical Appraisal Skills Program (CASP) checklist to ensure the quality of their findings (CASP., 2018; Whitemore & Knafl, 2005). All articles were deemed suitable for inclusion and underwent thematic analysis. Several recurring themes emerged – namely; woman-centred care, working to the full scope of midwifery practice, work/life balance, finance and time barriers, increasing skills and confidence, mentors and supports and future career goals. These have been grouped into four overarching themes – “Continuity of Care: Positive and productive learning”, “Challenges”, “Support Structures” and “Into the future”. A summary of all nine articles is provided in table 3.

[INSERT TABLE 3 HERE – SUBMITTED AS SEPARATE FILE]

Results

Continuity of Care: Positive and Productive Learning

Six of the nine articles reviewed primarily focused on the continuity of care aspect of midwifery education, either in the format of ‘continuity of care experiences’ (CoCE) (also known as ‘follow through’ experiences) or caseload (CoMC) placements (Browne et al., 2014; Carter et al., 2015; Dawson et al., 2015; McLachlan et al., 2013; McKellar et al., 2014; Sidebotham & Fenwick 2019). The remaining three articles also discussed continuity of care aspects of midwifery education (Evans et al., 2018; Fenwick et al., 2016; Sidebotham et al., 2015).

CoCE included students following individual women’s journeys through the antenatal, intrapartum and postnatal periods as mandated by Australian midwifery education standards (ANMAC, 2014). Most students completed CoCE within standard care models, although a small number of students undertook CoMC placements where they worked with

midwives in either midwifery group practice or private midwifery models (Carter et al., 2015; Sidebotham & Fenwick 2019).

All articles reviewed suggest that CoMC enables the acquisition of further knowledge and indicate that this may increase student confidence to practice in this way on graduation. Consistently all articles reported that CoMC enhanced understanding of woman-centred care. Midwifery students overwhelmingly reported that continuity of care experiences enabled them to build relationships with women that encouraged them to place the woman at the centre of her care (Browne et al., 2014; Dawson et al., 2015; Fenwick et al., 2016; McKellar et al., 2014; Sidebotham et al., 2015). Browne et al. (2014) and Sidebotham et al. (2015) highlighted that the CoCE inspired Bachelor of Midwifery students to advocate for and empower women and that the continuity of care relationship promoted trust between women and students. These factors are noted to improve work satisfaction amongst midwifery students (Brown et al., 2014; Evans et al., 2018; McLachlan et al., 2013; Sidebotham et al., 2015; Sidebotham & Fenwick 2019). With the push towards increasing access to CoMC, more midwives are being required to work to the full scope of midwifery practice. Five articles identified that CoMC provided opportunity for students to work to their full scope of practice (Brown et al., 2014; Carter et al., 2015; Dawson et al., 2015; Evans et al., 2018; Sidebotham & Fenwick 2019). Three studies also reported that Bachelor of Midwifery students considered CoMC experiences provided them with skills to work in CoMC models (Carter et al., 2015; Evans et al., 2018; Sidebotham & Fenwick 2019). This identifies that exposure to CoMC builds students' capacity to work to full scope, equipping them with clinical skills and knowledge across the continuum (Carter et al., 2015; Dawson et al., 2015; McLachlan et al., 2013). Evans et al. (2018) concluded that this way of learning results in the development of competent and capable midwives

The literature revealed a correlating theme between being able to work to the full scope of midwifery practice, building relationships with women and the midwifery students' sense of confidence and empowerment as midwives, but there were mixed results about whether students felt confident to work in CoMC models as they enter practice. Students reported that providing continuity of care enabled them to extend their knowledge which they believed led to increasing confidence (Fenwick et al., 2016; Sidebotham et al., 2015). Importantly, Fenwick et al.'s (2016) study, which explored the views of students under 20 years of age, reported that from an initial lack in confidence, the accumulation of skills and knowledge gathered from experiences - including CoMC - increased students' confidence and sense of empowerment. Conversely McKellar et al. (2014) reported that students felt confidence was linked to personality type rather than knowledge base, with students who lacked confidence finding the CoMC more challenging to achieve. This study though included students of all year levels and thus the knowledge and skills within the sample are varied and could have affected the results. (McKellar et al., 2014).

Challenges

In addition to the theoretical component of their program, midwifery students in Australia are required to achieve a specified minimum number of learning experiences via clinical placement and CoCE in order to gain midwifery registration (ANMAC, 2014). Many of the studies reviewed revealed that students found these requirements hard to meet, with six of the nine articles reporting CoCE as time consuming and affecting students' ability to achieve work/life balance (Brown et al., 2014, Carter et al., 2015; Dawson et al., 2015; Fenwick et al., 2016; McLachlan et al., 2013; Sidebotham & Fenwick 2019). Students identify the on-call nature of the CoCE as particularly challenging to plan for and disliked the long hours this could entail (Carter et al., 2015; Dawson et al., 2015). One study disclosed

that students may occasionally falsify records in order to reach the specified number of requirements (McLachlan et al., 2013).

However, students undertaking a focused CoMC placement found it easier to gain the numbers required for registration and were able to see how midwives in such models achieved work/life balance (Carter et al., 2015; Sidebotham & Fenwick 2019). The placement in Sidebotham and Fenwick's (2019) study differed from standard clinical placement as students 'followed' an allocated CoMC midwife, as opposed to the more common rostered shifts in standard care services. This study found that students were exposed to the reality of caseload management, enabling them to visualise how they themselves could manage working this way (Sidebotham & Fenwick 2019). The authors suggest that increasing opportunities for students to undertake clinical placement in CoMC models would motivate them to work in such models upon graduation (Sidebotham & Fenwick 2019).

Completion of CoCE also impacts students' finances with costs arising from missing paid employment, childcare, travel and parking (Brown et al., 2014; Fenwick et al., 2016; McKellar et al., 2014; McLachlan et al., 2013; Sidebotham & Fenwick 2019). One unique study provided participants with a financial contribution aimed at eliminating their need to undertake employment during their placement (Carter et al., 2015). Despite this assistance, students remained concerned about their ability to achieve work/life balance within CoMC models. These results could have been influenced by the fact that students were placed with midwives establishing new models of care whereby staff were completing business development activities in addition to midwifery work. This could have negatively influenced students' perceptions of workload (Carter et al., 2015). In contrast, students in Sidebotham and Fenwick's (2019) paper acknowledged the flexibility around family and other commitments that they experienced within their CoMC placement within an established model of care.

Support Structures

Support structures associated with the CoMC aspect of programs played a crucial role influencing students learning and future career aspirations. The influence of midwifery mentors was a common discussion point. Models of mentorship varied, some were formerly arranged for students (Carter et al., 2015) but more often, midwifery mentors were described as those who supported students' ad-hoc during clinical placement (McKellar et al., 2014; Sidebotham et al., 2015).

Students in this review found that working with a specific mentor for extended periods enhanced learning through the establishment of trusting professional relationships that broadened educational opportunities and actively extended students' knowledge and skills (Carter et al., 2015; Sidebotham & Fenwick 2019). Having continuity of mentorship from a midwife, who works in and whose midwifery philosophy aligns with continuity of care, improved students' confidence and understanding of the role of the CoMC midwife (Carter et al., 2015; Sidebotham & Fenwick 2019). Of interest were the findings by Sidebotham and Fenwick (2019) who argued that continuity of CoMC mentorship provided students with opportunity to gain insight into what working in these models really 'looks like'.

A lack of midwifery support had negative impact on student's sense of confidence and arose when students did not have a well-developed partnership with the midwife they were working with (Fenwick et al., 2016; Sidebotham et al., 2015). Students' explained that some midwives behaved in a discriminatory and critical manner, resulting in students questioning their knowledge and abilities (Evans et al., 2018; Fenwick et al., 2016).

Institutional support was also a key issue. McKellar et al.'s (2014) reported on the impact of misunderstanding of the education requirements of midwifery programs by midwives and care facilities on students learning and wellbeing. The study explains that

CoCE and clinical requirements are more easily achieved when staff and services assist students to accomplish them (McKellar et al., 2014).

Students also found support from their peers during their education program (Fenwick et al., 2016; Sidebotham et al., 2015). Sidebotham et al. (2015) described peer relationships as ‘a buffer’ to negative experiences, with students providing strong social support for each other. Both papers acknowledge the importance of social support for midwifery students and yet in the Fenwick et al.’s (2016) study, peers were sometimes discriminatory, which lowered confidence and made students question their value and contribution to midwifery. However, these younger students found great support from their same age peers.

Into the future

Only two of the included articles explicitly explored students’ work intentions following completion of midwifery education programs (Dawson et al., 2015; Evans et al., 2018). Evans et al.’s (2018) study found that 58% of final year students from one university would prefer to work in CoMC models but highlighted barriers in the form of limited access and regulatory restrictions that prevented them from achieving this. Dawson et al.’s (2015) study in Victoria is the only study in the review that drew comparisons based on education pathway. The authors reported that 86% of final year students wanted to work in CoMC models of care, the majority being Bachelor of Midwifery (BMid) students. This implies some difference between the BMid and alternate education pathways, supporting previous findings by Gray and Smith (2017).

McLachlan et al.’s (2013) article suggested that the current CoCE format was so demanding for students that it might actually deter them from working in CoMC models upon graduation. However, students in more recent studies indicate that they do want to work in CoMC models suggesting that any challenges are far outweighed by the benefit of CoMC on their learning experiences (Dawson et al., 2015; Evans et al., 2018; Sidebotham & Fenwick

2019). Dawson et al.'s (2015) study found that most students felt that they needed more experience of midwifery work before they would consider themselves confident to work in CoMC models. Conversely, both Carter et al. (2015) and Sidebotham et al.'s (2019) analysis suggested that their CoMC midwifery placement motivated students to work in CoMC models and propose that embedding CoMC into clinical placement may deliver more students who are confident and motivated to work in this way on graduation.

Discussion

This review suggests that CoMC is beneficial for midwifery students in that it delivers unique and productive aspects of learning that enhance students' breadth of knowledge, understanding of midwifery work and comprehension of the woman-midwife relationship. Woman-centred care is central to the midwifery philosophy, providing the foundation from which Australian maternity care should be designed (Australian College of Midwives (ACM), 2019; Australian Government, 2011; Nursing and Midwifery Board of Australia, 2018). The fact that midwifery students begin to comprehend the concept of woman-centred care from their CoCE and CoMC placements is evidence that these unique components of midwifery education are vital to the generation of a workforce capable of providing such care. These findings echo recently published work on the primacy of the CoCE as a core component of midwifery education (Gamble et al., 2019).

The review also reveals that CoMC may have capacity to increase student confidence. Confidence is a difficult concept to define but encompasses feelings of ability, preparedness, self-efficacy and success (Bäck et al., 2017). It is known that low confidence results in self-doubt, anxiety and an aversion to certain tasks. Conversely, high confidence results in increased motivation, improved learning engagement, adaptability and greater social interaction (Norman & Hyland 2003). Midwives require all these latter skills and thus

building confidence should be an integral part of midwifery education (Bäck et al., 2017; Donovan 2008).

Despite the positive impact on learning and influence on career planning it is clear that for some students the existing continuity of care requirements (CoCE) of midwifery education are time intensive and can be difficult for students to manage alongside academic, employment and family commitments. These findings are consistent with previous literature published on the subject (Tierney et al., 2017).

It is important to recognise however, that once graduated, midwives are unlikely to experience the same challenges as they face during their education. This is supported by recent workforce studies which show that midwives working within CoMC models have lower levels of 'burnout' and higher levels of work satisfaction (Fenwick et al., 2018b; Dawson et al., 2018; Dixon et al., 2017; Jespsen et al., 2017; Newton et al., 2014). This is supported by Harvie et al.'s (2019) study on midwives' intentions to leave the profession, citing that the inability to provide woman-centred care and dissatisfaction with the way maternity services are delivered as the main reasons why midwives were considering leaving. These contrasting views between students in education and midwives providing CoMC highlights discrepancy between completing the CoCE in midwifery education and the reality of midwifery work.

It is important to note the potential impact of changes to education standards on these results. In 2014, ANMAC reduced the minimum number of CoCE from 20 to 10 (ANMAC., 2014). This may mean that there is variation in the time pressures experienced both by students in this review and the current cohort, a factor noted by Gamble et al. (2019) to add complexity to the evaluation of the CoCE as a learning strategy. Further research should report on individual participant requirements to identify whether time challenges are linked to specific midwifery education strategies.

Previous research shows that the existing, fragmented Australian maternity care system is challenging for women and midwives to navigate (Australian Government, 2011; Creedy et al., 2017). Given that this status remains largely unchanged, it is unsurprising that students also find the ‘system’ difficult to navigate. Misunderstanding between academic and clinical institutions as to the requirements of midwifery education impinges on student learning (Gamble et al., 2019; Morrow et al., 2016; Tierney et al., 2017). This was not the case however in Carter et al.’s (2015) or Sidebotham et al.’s (2019) study where the university actively enabled and developed CoMC placements in conjunction with local CoMC models. This suggests that when academic institutions actively support CoMC by prioritising and embedding it within program delivery with assistance from care providers, challenges associated with CoMC are minimised.

This review identifies midwifery mentors as a form of support for students. Difficulty arises when trying to identify how a mentor supports students when the term ‘mentor’ is used interchangeably between various roles. Marshall et al. (2017) explain how the word ‘mentor’ is used to describe teachers, preceptors, supervisors and facilitators – all of whom may provide support, but support that differs in format such as in this review. Although the role of ‘mentor’ requires further definition and clarification, this review concurs with McKellar and Graham (2017), identifying that midwives play an influential role in students’ learning and confidence and are well placed to guide students and early career midwives. Additionally, this review offers compelling evidence that continuity of ‘mentorship’ should be an integral aspect of midwifery education. With less than 4% of midwives working in continuity models in some areas of Australia, it is challenging to provide consistent opportunity and optimal mentorship to all midwifery students (Australian Government, 2017; McKellar & Graham 2017). However, the results suggest continuity of mentorship is helpful in the promotion of

CoMC as a career choice and is consistent with findings previously published (Cheney-Morris 2015; Cummins et al., 2015; Fenwick et al., 2012; Gamble et al., 2019).

Peer support may provide opportunity for students to assist each other, though if students receive adequate support from a CoMC mentor and their academic institution, it could be argued that this may be less necessary.

The Australian midwifery workforce is ageing and a shortage already exists (Australian Government, 2019). Predictions are of escalating shortages and thus the recruitment and retention of early career midwives is essential in order to sustain the Australian midwifery workforce (Callander et al., 2020). It is suggested that working in CoMC is protective against workforce attrition, with flexibility of work arrangements, autonomous practice and higher levels of motivation as potential reasons for this (Sheehy, 2016). This review identifies that midwifery students wish to work in CoMC models but are hindered by either lack of opportunity or a sense of 'needing more experience'. Overcoming existing obstacles to enable students to move directly into this model of care upon entry to practice may be protective of the future sustainability of the midwifery workforce.

Limitations of findings

No data from Western Australia, the Northern Territory or Tasmania was found in the literature search for this review and therefore findings cannot be considered representative of the national Australian setting. Additionally, most studies focused on the BMid education program. While some studies did include other pathways, they are not well represented amongst this sample. Several studies included midwifery students from the first and second year of their program without definition of responses by year level, making it impossible to extract only final year student perspectives. To gain greater accuracy, it would be necessary to sample only final year students to ascertain whether the summation of their education has prepared and motivated them to work in CoMC models of care.

This review is limited by its focus on Australian education programs, however as other countries are seeking to expand access to continuity of midwifery for women the findings may inform curricula approaches in other jurisdictions.

Conclusion

Due to increasing awareness of the benefits of providing women with midwifery care (Renfrew et al., 2014), there is growing interest internationally as to how to transition maternity services towards offering continuity of midwifery care (McInnis et al., 2020; Styles et al., 2020). It is therefore imperative to develop midwifery education programs that equip midwives with the capability of providing this model of care. It is evident that final year midwifery students in Australia wish to work in CoMC models yet variation exists within their confidence and opportunity to do this. Those who have been supported to achieve CoMC specific placements appear to experience less challenges and feel more prepared to work in this way, giving credibility to the idea that educational focus should be re-directed towards embedding and increasing these opportunities, rather than the standard shift-work placements where CoCE is achieved in addition.

This review confirms that CoCE and CoMC placements provide valuable learning opportunities for midwifery students. It is concerning then that this requirement of midwifery education has been reduced from twenty to ten (ANMAC, 2014). Whilst ANMAC has acknowledged the challenges this component brings, its important role in the development of midwives who are ready to enter CoMC models of care appears overlooked (Gamble et al., 2019).

In its current format, students undertake CoCE as an adjunct to academic and clinical placement requirements to gain CoMC experience. Though implemented differently dependent on institution, it remains a challenging method through which to achieve this. Academic and clinical placement hours also vary widely by institution (Gray & Smith 2017).

With a lack of consensus on how best to achieve ‘experience’, ANMAC does not specify an ‘hours’ requirement, instead prescribing the minimum number of student ‘experiences’, such as the ten CoCE (ANMAC, 2014). However, the current lack of a consistent approach as to how achieve these minimum numbers, adds to the variation experienced by students.

This review supports the notion suggested by Gamble et al (2019) that new methods of providing continuity experiences would be useful. The novel CoMC placements outlined by Carter et al., (2015) and Sidebotham et al., (2019) describe strategies to integrate continuity experiences into program delivery. The gathering of these experiences during clinical placement incorporates two components of midwifery education into one, therefore minimising time challenges without a reduction in learning. Gamble et al., (2019) take this further, suggesting that the CoMC become the core principle around which midwifery education programs are designed and delivered. This proffers a transformative educational pedagogy, supported by strategies that restructure CoMC as the foundation of midwifery education (Gamble et al., 2019).

Interestingly, all studies in this review focused on the CoCE as opposed to any other aspect of midwifery education. Midwifery education programs consist of equal amounts theoretical and clinical components (ANMAC., 2014). There is a dearth of evidence on how well theoretical and non-CoMC clinical learning prepare students to work in continuity models. This review has found that while most midwifery students wish to work in CoMC, not all feel able or capable to do so upon completion of their education. As motivation appears high, it is important to identify, expand and promote factors which increase new midwives’ preparedness to work in CoMC. More research is required to identify educational factors that enable and inhibit midwives from working in CoMC upon entry to practice. These factors can be used to inform and implement a consistent approach to midwifery education internationally.

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Table 3: Summary of included research

Author(s), Year, location	Study Objective	Study design, participants	Methods	Findings relative to review	Quality (CASP)
Browne et al (2014) ACT	analyse CoCE to optimise experiences	Qualitative Participants: Final year BMID students (n=15) *Other stakeholder responses were excluded from the review	Focus groups	<ul style="list-style-type: none"> • COCE provided student midwives with an appreciation of the benefits of these models, the importance of relationships in midwifery and facilitated a woman-centred focus • COCE helped students to consolidate learning • COCE enabled students to feel more confident in their abilities • Students were easily able to achieve the clinical requirements of their studies within the COCE • COCE place considerable demand on students work/life balance and finances 	Meets criteria
Dawson et al (2015) VIC	Aims to explore midwifery students' views and experiences of caseload midwifery and their work intentions in relation to this model after graduation.	Mixed methods comprising scaled quantitative data and qualitative free text data Participants: final year midwifery students in Victoria (n=129)	Cross sectional survey	<ul style="list-style-type: none"> • 75% of students expressed interest in working in caseload models, though the majority wanted to consolidate skills first • 66% of students considered that COCE had prepared them well to work in caseload models • Students were concerned about work/life balance with on call hours • Of the students who wished to work caseload, the majority of those who wanted to do this upon graduation had undertaken the Bachelor of Midwifery education pathway • Students expressed a desire to have mentors assist their preparation for caseload work 	Meets criteria
McLachlan et al (2013) VIC	Aims to explore the follow- through experience from the perspective of midwifery students and academics	Survey including quantitative and qualitative free text data Participants: midwifery students (all year levels) from Victoria (n=401) student responses only included in this review	Web-based cross sectional survey	<ul style="list-style-type: none"> • COCE requirements impacted negatively on academic and personal lives • COCE can create a financial burden for students • COCE was a positive learning experience, improving relationships with women and enhancing clinical skills • negative impacts on home life could discourage students from going into CoMC models after graduation • recommends COCE numbers be reduced 	Mostly meets criteria – data rigour insufficiently discussed
Carter et al (2015) QLD	Aims to evaluate student midwives' experiences of a CoMC clinical	descriptive cohort design survey comprising scaled quantitative data and qualitative free text data	Web based survey	<ul style="list-style-type: none"> • COCE placements enabled them to develop skills required to work in CoMC models • Students expressed concern over managing COCE and work/ life balance • Students reported that mentors supported learning • COCE enabled students to feel confident to fully contribute to woman's 	Meets criteria though relationship of participants and

Author(s), Year, location	Study Objective	Study design, participants	Methods	Findings relative to review	Quality (CASP)
	placement model	Participants: students undertaking a post-graduate Bachelor of Midwifery (n=17)		care <ul style="list-style-type: none"> The unique CoMC placement model enabled students to achieve academic and clinical requirements 	researchers not discussed
McKellar et al (2014) SA	Aims to explore the challenges and identify supportive strategies for student midwives undertaking CoCE	Qualitative action research Participants: BMid students at one SA university (all years) (n=69)	Focus groups (n=3) Survey (n=69)	<ul style="list-style-type: none"> Students found it difficult to access COCE Mentors facilitated access to – and learning within- COCE Students identified ‘blurred boundaries’ as problematic when recruiting women for COCE COCE were more difficult to achieve if student was ‘shy’ or lacking in confidence 	Meets most criteria but reports issues with participant recruitment, impacting on final number of participants. Participant relationship to researcher not adequately discussed
Fenwick et al (2016) QLD	Explore the experience of “young” BMid students	Qualitative descriptive Participants: BMid Students and one early career midwife from one QLD University (n=10)	Interviews	<ul style="list-style-type: none"> Discrimination from midwives, women and peers reduced confidence COCE facilitated rapid learning and confidence increased over time The program enabled students to ‘overcome’ lack of self-confidence and mature into empowered midwives/ young women 	Meets criteria
Sidebotham et al (2015) QLD	Identify enablers and barriers to success in a BMid program	Qualitative descriptive Participants: second and third year BMid Students at one QLD University	Surveys (n=56) Focus groups (n=16)	<ul style="list-style-type: none"> early exposure to clinical placement to increased skill and confidence over the course of their program COCE embedded a sense of purpose and motivation to complete the program COCE, educators and preceptors had a positive impact on learning 	Meets criteria
Evans et al (2020) ACT	explore career plans of graduating students from one Australian	Survey comprising scaled quantitative data and qualitative content analysis Participants: final year BMid	Surveys	<ul style="list-style-type: none"> Upon completion of their education, 96% of participants planned to work as a midwife 58% of participants identified that their ideal job role would include CoMC 22% of participants felt they would not be able to work in their ideal role 	Meets criteria

Author(s), Year, location	Study Objective	Study design, participants	Methods	Findings relative to review	Quality (CASP)
	university during the years 2012–2016.	and Graduate Diploma of midwifery students at one university (4 years consecutive) (n= 95)		because CoMC models were not available to them <ul style="list-style-type: none"> • 87% of participants stated they would get job satisfaction from being able to provide CoMC • Recommends CoMC opportunities should be made available to early career midwives to capitalise on their motivation and expand such models of care 	
Sidebotham and Fenwick (2019) QLD	explore the experiences of third year midwifery students undertaking clinical placement within a midwifery caseload model.	Qualitative descriptive Participants: Final year BMid students at one QLD University (n=12)	Interviews	<ul style="list-style-type: none"> • Caseload placement enabled students to comprehend the context of caseload midwifery work in regards to work/ life balance and inter-disciplinary collaboration • Opportunity to work to “full-scope” was empowering for students • Caseload midwives provided one-on-one mentorship opportunities which aided the development of critical thinking and clinical skills • Close partnerships with women and midwives increased student confidence • Some students found the caseload placement difficult to manage in regards to time and finances. • This paper recommends that flexible caseload placements optimise students learning experience and recommends that such placements should be prioritised over fragmented continuity of care experiences 	Meets criteria

Highlights

- CoMC experiences enhance student learning and increase motivation to work in continuity models.
- Challenges experienced by students may be reduced by midwifery education program redesign.
- Increased access to CoMC for students and graduates may enhance workforce sustainability.

Conflict of Interest Statement

I declare a potential conflict of interest as one of the named authors (Associate Professor Mary Sidebotham) is a deputy editor of the journal being submitted to.

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