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Skills and knowledge of midwives at free-standing birth centres and home birth: A meta-ethnography

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ABSTRACT

Problem: When midwives offer birth assistance at home birth and free-standing birth centres, they must adapt their skill set. Currently, there are no comprehensive insights on the skills and knowledge that midwives need to work in those settings.
Background: Midwifery care at home birth and in free-standing birth centres requires context specific skills, including the ability to offer low-intervention care for women who choose physiological birth in these settings.
Aim: To synthesise existing qualitative research that describes the skills and knowledge of certified midwives at home births and free-standing birth centres.
Study design: We conducted a systematic review that included searches on 5 databases, author runs, citation tracking, journal searches, and reference checking. Meta-ethnographic techniques of reciprocal translation were used to interpret the data set, and a line of argument synthesis was developed.
Results: The search identified 13 papers, twelve papers from seven countries, and one paper that included five Nordic countries. Three overarching themes and seven sub-themes were developed: 'Building trustworthy connections,' 'Midwife as instrument,' and 'Creating an environment conducive to birth.'
Conclusion: The findings highlight that midwives integrated their sensorial experiences with their clinical knowledge of anatomy and physiology to care for women at home birth and in free-standing birth centres. The interactive relationship between midwives and women is at the core of creating an environment that supports physiological birth while integrating the lived experience of labouring women. Further research is needed to elicit how midwives develop these proficiencies.

Summary of relevance

In many countries, midwives offer birth assistance at home and in free-standing birth centres. In practical midwifery training, students often don't experience low intervention physiological births.

What is already known

Research has shown that midwives practicing home birth and birth centre birth have to adjust their skill-set when commencing work in these settings.

What this paper adds

This is the first paper to synthesize what is known about midwifery skills in free-standing birth centre and home birth settings. This paper shows that midwives must engage more deeply in relationship-centred work, thus giving them access to knowledge acquired through sensory experience.

Introduction

The International Confederation of Midwives (ICM), an NGO representing midwifery associations in over 140 countries, states in their definition of scope of practice for midwives that "a midwife may practice in any setting including the home, community, hospitals, clinics or health units" [1]. Midwives are the experts for normal, physiological labour and birth, but may not always be able to implement their full scope of practice in settings where they do not work autonomously

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[2–7]. The scope of practice of midwives is different in each country and is generally regulated by the country's healthcare system, government, professional association, and/or place of practice. When women give birth in their own home or in a free-standing birth centre (FSBC) in a high income country (HIC), they are supported by a certified or licensed midwife or a team of certified midwives who have usually also cared for them during pregnancy. In FSBCs and at home birth in HICs, midwives work autonomously whilst being part of the local healthcare network [8–12]. They generally collaborate with i.e. local hospitals, obstetric physicians in the community, and emergency services [9, 13, 14].

Throughout the world, there are different types of maternity support workers. In contrast to HICs, in low and middle income countries (LMICs), maternal healthcare delivery from support workers who have been educated in midwifery before working with women is less established [15]. In LMICs, it is customary for traditional birth attendants (TBAs) to care for women in their home or in the community [16]. While it is difficult to make generalizations, given that traditional midwifery has evolved differently throughout the world, TBAs are by and large apprenticeship trained and may have had additional organized training in hygiene, newborn care, and mouth-to-mouth resuscitation [17]. They do not hold a license to practice midwifery and are increasingly being replaced by skilled birth attendants [18]. Skilled birth attendants (SBAs) work in healthcare units and can be either midwives, obstetricians, or nurses. They attend 66% of births in LMICs [19,20]. In the USA, several states allow lay midwifery. Lay midwives learn midwifery through apprenticeship-training with experienced midwives and care for women at home birth [21]. An overview of the different types of midwifery/maternity support and birth settings are detailed in Table 1.

Giving birth at home or in a FSBC has multiple benefits [22–24]. It has been shown to result in good outcomes for women and newborns. Women who have given birth in these settings report high levels of satisfaction. At home births and in FSBCs, where women are cared for by one and possibly two certified midwives, women have reported that they have more control over decision-making; they value being in a familiar physical environment; they experience minimal medical intervention; and they benefit from continuity of care [25,26]. Women who plan to give birth in FSBCs or at home are assessed throughout their pregnancy for risk factors that would put them at risk for complications during labour [27–29]. These women are referred to an obstetrician or physician in these cases. Otherwise, for women birthing at home and in FSBCs, if they request analgesia or require additional surveillance or care from a physician during labour, they must be transferred to a hospital.

Table 1
Terminology.

Hospital maternity unit or obstetric unit	A hospital maternity unit or obstetric unit is generally staffed by midwives and obstetricians, and may have a neonatal ward on site. Hospital maternity units can be midwife-led or consultant/obstetrician-led.
Home birth	A home birth is when a woman gives birth in her own residence. She is generally accompanied by a certified midwife, nurse-midwife, lay midwife, or, in LMICs, a traditional birth attendant.
Free-tsanding birth centre	Free-standing birth centres are midwife-led units that are geographically separate from hospitals. Women must be at low-risk for complications at birth to receive care there.
Alongside-midwifery unit	Alongside midwifery units (AMUs) are situated in hospitals and are midwife-led. Women must be at low-risk for complications at birth to receive care there.
Certified/licensed midwife	A certified or licensed midwife has generally had predominantly hospital-based training, potentially some training at home births and in free-standing birth centres, and she has passed a state exam.
Lay midwife	A lay midwife has completed an apprenticeship model of education with a practicing midwife, generally at home births. She does not usually have state-certification.
Traditional midwife or birth attendant	Traditional birth attendants customarily acquire their competencies through apprenticeship to other traditional birth attendants.
Skilled birth attendant	A skilled birth attendant can be a midwife, doctor, or nurse and has received training and accreditation to manage normal childbirth.

Only a small percentage of women give birth at home or in a FSBC in HICs [30–34]. The Netherlands have the highest rate of births taking place in settings other than the hospital at 16.3% [35], while most HICs have rates under 3% [30–34]. According to the research literature, midwives require skills and knowledge specific to the environment they are working in [9, 12, 36, 37]. While midwifery education in HICs prepares midwives with the skills and knowledge necessary to offer safe care in all birth settings, Coddington et al. in their Australian studies about midwives' transition from hospital to home birth discovered that midwives go through a period of honing their skills when they begin supporting home birth [9,38]. Skogheim et al. reported in their Norwegian study about midwives' transition from hospital birth to midwife-led units that midwives had to move their focus from disease to health. The midwives also had to learn to support labour without the use of oxytocin, a medication used at hospital births to augment contractions [37]. Working in the home-like environment of a FSBC was shown to cultivate midwives' self-confidence, as well as their confidence in their team members, according to Hunter et al. [36]. These authors also identified the importance of midwives' confidence in women's ability to have a normal, physiological birth, a finding that is echoed in many studies about home birth [34, 39–41].

The difference between hospital labour wards, home birth, and FSBCs can be explained in part by the care structure. In most hospital labour wards, midwives must care for more than one woman at a time, while at home birth and in FSBCs, midwives provide 1:1 care [4,12]. In addition to this, hospital labour wards provide care to women with varying levels of risk, including women with high-risk pregnancies. Women who give birth at home or in FSBCs must be at low risk for complications at birth [24,42]. In hospital maternity wards, medicalized care at birth means that women are less likely to give birth without interventions, including induction, epidurals or other analgesics, augmentation with oxytocin, caesarean section, and/or episiotomy [42–44]. Lastly, while some hospital maternity units are midwife-led, giving midwives considerable autonomy, when midwives work in hospitals under the supervision of an obstetric physician, they must often comply with medicalized standards and guidelines for childbirth, even when they are the primary caretakers [4, 6, 7, 45–48]. They may have the feeling that "someone is always 'watching over (their) shoulder'" [49].

Given that these settings are different, it is important to understand what skills and knowledge midwives need to deliver care in home or FSBC contexts. We undertook a systematic review and meta-ethnography to synthesize the findings of qualitative studies describing the skills and knowledge that midwives utilize to care for women during labour and birth in home and in FSBC settings. We aimed to generate conceptual and theoretical understanding of the proficiencies that midwives need when working in FSBCs and at home births.

Aim

To synthesise existing qualitative research that describes the skills and knowledge of certified midwives at home births and in free-standing birth centres.

Methodology

The systematic review and meta-ethnography was carried out using analytical techniques based on the seven-step approach developed by Noblit and Hare and the eMERGe guidelines (France et al. [50,51]. A meta-ethnographic synthesis approach was chosen because we aimed to

generate "conceptual and theoretical understandings" of the phenomenon of interest [52].

Reflexive statement

The first author, who has worked as a midwife for 22 years in both hospital labour wards and in a FSBC, experienced the need to develop a different approach to attend births when she switched from the hospital to the FSBC. She has conducted two research studies in FSBCs and is currently conducting research in FSBCs funded by a government grant in her home country [53]. The second author has a psychology background and has undertaken maternity-related research for over 20 years. Her beliefs centre around the importance of physical and psychological safety for all concerned; with skills and knowledge playing a central role as to how birth can be impacted. The third author has midwifery experience in a hospital setting as a primary caregiver. As the director of a midwifery degree programme, she sees the necessity to analyse the skills and knowledge required in all settings where midwives practice and integrate these into the midwifery curriculum wherever possible. The authors all believe that pregnant women with low risk for complications at birth should be able to choose where they give birth, and that the 1:1 care offered at home birth and in FSBCs is safe.

Review question

The review question was: What are the skills and knowledge of midwives caring for labouring and birthing women at home and in free-standing birth centres?

Review methodology

A meta-ethnographic approach was chosen as most appropriate to extract and analyse findings [50]. While originally developed by Noblit and Hare, more recently the eMERGE team has produced best practice standards for this approach, and their protocol for meta-ethnographic reporting was used in this review [50]. The review protocol was published in PROSPERO 2021 CRD42021277616 [54].

Search strategy

A scoping exercise supported by the PEO (Population; Exposure; Outcomes/themes) framework was used to develop the search terms and to define the inclusion and exclusion criteria. (See Table 2). The search terms were developed by the authors and two librarians at the University of Central Lancashire.

All qualitative or mixed-methods studies where the qualitative data could be extracted that reported midwives' experiences, specifically skills and knowledge at home births and FSBC births, were included. Quantitative based studies, and studies that included midwives' experiences at alongside-midwifery units (AMU) were excluded. When it was unclear if a study was concerned with an AMU or a FSBC, the author was contacted and asked for clarification. Studies that only reported midwives' or women's perceptions and attitudes about birth settings were also excluded. Lastly, after the search was completed, studies were excluded that focussed on traditional birth attendants and lay midwives after an initial reading of several full texts and discussion with the review team. In the case of this meta-ethnography, the review team decided to keep the focus on comparable contexts and healthcare workers. Studies that focussed on vastly different contexts (home birth and FSBC birth in HICs vs LMICs) and vastly different service providers (certified midwives vs. traditional birth attendants) would have made the translation and synthesis of the studies unfeasible. According to Atkins et al., explanatory context can get lost if studies are combined that encompass different contexts. [55].

The authors are proficient in English, German, and French. If studies had been included that were in a foreign language in which the authors were not proficient, the studies were to have been translated with a software translation program and read by a native speaker to check the quality of the translation. Only studies published after 1980 were included, since the return to home birth and the birth centre movement began in the late 1970s and 1980s, with research commencing in the 1980s.

The search was conducted in five bibliographic databases: Cumulative Index of Nursing and Allied Health Literature (CINAHL), MEDLINE (Ovid), PsychArticles, Web of Science, and Global Index Medicus. These databases were chosen to ensure widespread results in a variety of research areas and geographies (e.g., medical, psychological, global healthcare). Additional search methods involved author runs, citation tracking, and reference checking. Four key journals were searched using their online search functions (Midwifery, Birth, Sexual and Reproductive Healthcare, and Women and Birth). (Fig. 1).

Study selection and appraisal

The first author ran the database searches, with potentially relevant articles downloaded into EndNote and duplicates removed and then uploaded to Rayyan (a web-based tool that supports collaborative systematic reviews - https://www.rayyan.ai/). The first author screened all the titles/abstracts and the other two authors each screened 20%, with any disagreements resolved through discussion. The papers identified for full text review were each read by two members of the review team, and all three authors agreed which articles would be included. The initial database searches were undertaken from July - September 2021. Alerts were set up with the databases to assure notification of recent publications related to the search terms.

A quality appraisal tool developed by Walsh and Downe was used to assess the quality of the studies [56,57]. The assessment tool includes reviewing the article against 11 questions [57], and then assigning a grade from A to D (Table 3). Studies that scored C or higher were included in the final analysis.

The study characteristics including the aims/research question, methodology, sample size, participant characteristics, data collection

Table 2
Search terms and inclusion/exclusion criteria mapped to PEO framework.

Criteria	Inclusion criteria	Exclusion criteria	Search terms
Study population	Midwives, certified-nurse midwives, certified professional midwives, lay midwives and traditional birth attendants at out of hospital birth	Student midwives, labor and delivery nurses, nurses, doulas, midwives working in hospital settings, doctors, obstetricians, physicians	Midwif* OR Midwiv* OR Preceptor* OR apprentice* OR "traditional birth attendant" OR "lay midwif* "
Exposure in context	Home birth Free-standing birth centre	Alongside birth centre, midwife-led unit in a hospital, hospital delivery room	"Birth centre" OR "free-standing birth centre" OR "birth center" OR "home birth" OR "midwife-led unit" OR "out-of-hospital" OR "birth at home"
Date	1980 to present	Before 1980	
Study type	Qualitative studies, mixed-methods studies	Purely quantitative based studies, clinical case studies, reviews, theses, opinion pieces, grey literature.	Qualitative or interview* or "focus group" or ethnograph* or phenomenology* or narrative* or "grounded theory"
Language	English, German, French and articles that can be translated with software.	Those that cannot be translated with software.	

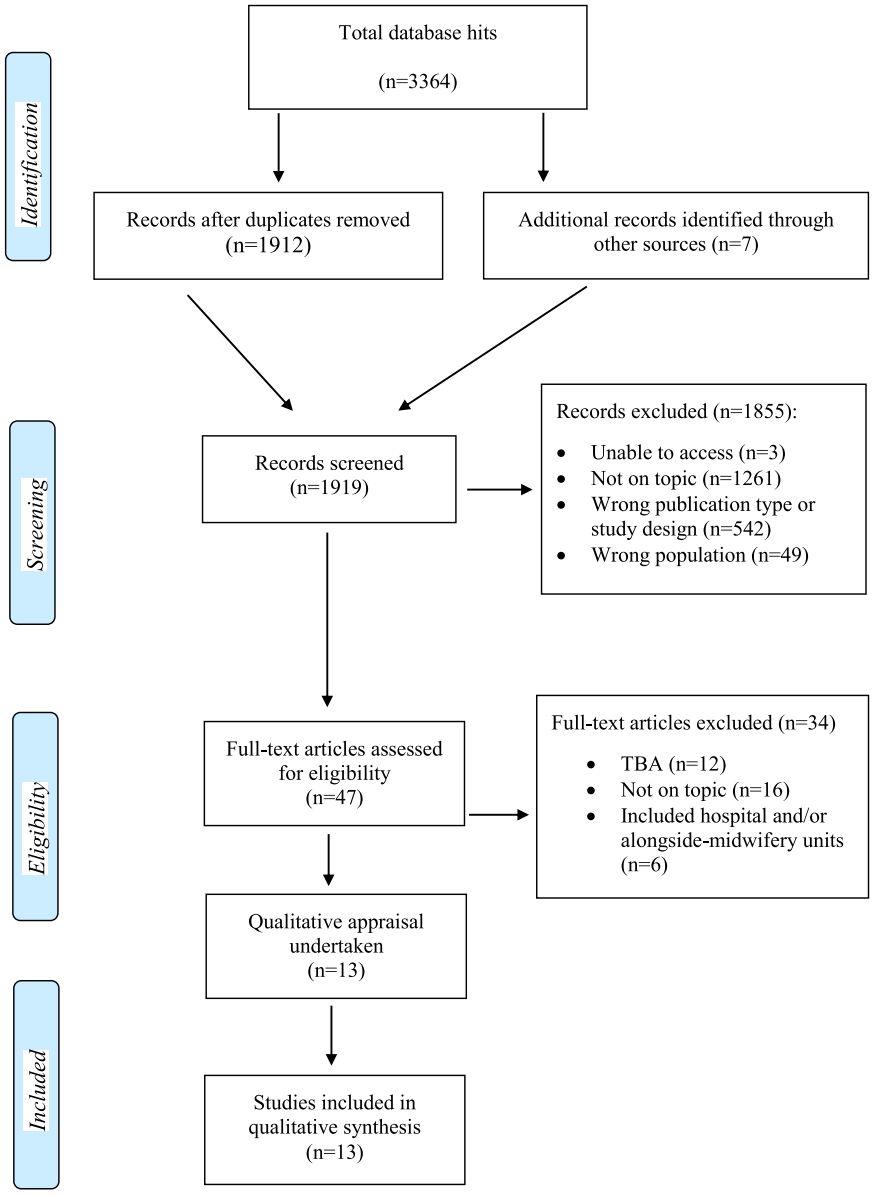

Fig. 1. PRISMA Flow Diagram.

Table 3
Scoring criteria for quality appraisal [57].

Grade	Description
A	No, or few flaws. The study credibility, transferability, dependability, and confirmability are high;
B	Some flaws, unlikely to affect the credibility, transferability, dependability and/or confirmability of the study;
C	Some flaws that may affect the credibility, transferability, dependability and/or confirmability of the study;
D	Significant flaws that are very likely to affect the credibility, transferability, dependability and/or confirmability of the study.

methods, and key findings/themes of each included study were entered into a pre-defined data extraction sheet. (See Table 4).

Determining how the studies are related

The articles were entered into MaxQDA data analysis software. The review team grouped studies according to birthplace (home or FSBC) and began with reading the most recently published study. Data synthesis was guided by Noblit and Hare's approach to meta-ethnography and the recommendations of eMERGe [50,51]. With this approach, there is a distinction made between first (participant quotes), second (author interpretations) and third (interpretations of the review team) order constructs when coding. This involved reading the papers several times and, when possible, coding the information using in vivo labels, assuring that the data were grounded in the texts [51]. The research team subsequently decided which form of translation could be utilized.

The translation of studies into one another entails finding the concepts, metaphors, and themes in the second order constructs and translating these iteratively into the concepts, metaphors, and themes of the other studies [51,58]. Translations can be reciprocal (identifying what was similar) or refutational (identifying contradicting or disconfirming data) [50]. Since the accounts were not in opposition to another, a reciprocal translation was undertaken [51]. After completing the translation of the studies, a line-of-argument synthesis was generated [50,51]. In a line of argument synthesis, the third order constructs are synthesized to provide an overarching conceptual description of the key issues [50].

Table 4
Study characteristics and quality appraisal rating for all included studies (n = 13).

Author Year	Aim	Country *Type of unit single/ multi-centre*	Study design	Sample	Birthplace characteristics	Data collection methods	Data analysis methods	Main conclusions	QA GRADE
Walsh 2006[63]	Explore practices around the birth process in a FSBC	UK FSBC Single centre	Ethnography	15 midwives 30 women 10 MCAs	FSBC in the Midlands, UK	Participant observation, interviews and field notes	Thematic analysis	At the FSBC, women were able to redefine and connect with an alternative understanding of safety. Within this setting, the 'becoming mother' dynamic is nurtured and facilitated by the matrescent skills of the staff.	A
Lindgren et al. 2011[40]	Explore how midwives at home births protect the perineum from injuries	Sweden Home births N/A	Unspecified qualitative	20 midwives	Homes throughout Sweden	Open-ended interviews	Qualitative content analysis using an inductive method	Midwives have a strong influence on the environment at homebirth, creating an atmosphere of trust where the woman can follow her instincts to give birth. Women have less fear, which contributes to less perineal tears.	B
Blix 2011[64]	Explore midwifery practices in home birth settings in Norway	Norway Home births N/A	Grounded theory	12 midwives in all 4 regions of Norway	Homes throughout Norway	Unspecified interviews, 1:1 and in groups of 2 or 3.	Grounded theory coding (open coding, selective coding, theoretical coding)	The midwife creates a non-disturbing environment for birth, which facilitates a physiological birth without interventions. The woman is able to "go within herself" during labour, facilitating women to access their intuition.	C
Stone 2012[12]	Investigate the ideas, attitudes, and actual work of midwives working in a free-standing birth centre	Germany FSBC Single centre	Grounded theory	All the midwives at the FSBC (n = 5)	FSBC in a large city	Participant observation, semi-structured interviews and field notes	Line-by-line coding (interviews); domain analysis, seeking emergent themes (participant observation)	Midwives need to expand their skillset when they commence work at a FSBC. Midwives in FSBCs are well-trained and have knowledge of female physiology and anatomy. They understand the language of medical discourse and the language of the birthing body. The midwives integrated technology and	B

(*continued on next page*)

Table 4 (*continued*)

Author Year	Aim	Country *Type of unit single/ multi-centre*	Study design	Sample	Birthplace characteristics	Data collection methods	Data analysis methods	Main conclusions	QA GRADE
								the medical discourse that was a part of their training into their work, without encumbering birthing women.	
Igarashi et al. 2014[60]	Explore the birth environment (home and midwifery home) that independent midwives consider important, identify the process by which they organise the birth environment	Japan Midwifery homes (usually the home of the midwife, similar to FSBC) and home births N/A	Descriptive interview study (qualitative)	14 midwives working in midwifery homes; 6 midwives assisting at home births	Midwifery homes (usually the home of the midwife) and women's homes	Semi-structured interviews	Constant comparative approach, grounded theory approach (using Kinoshita's revised grounded theory approach)	Midwives create an environment whereby women have autonomy and can move freely. Trusting relationships between midwives and women contribute to safety.	B
Sjöblom et al. 2015[34]	Describe the lived experience of being a midwife in the Nordic countries	Sweden, Denmark, Norway, Finland, Iceland Home births N/A	Descriptive phenomenological method (Husserl)	23 Nordic midwives	Homes in 5 Nordic countries	Open question at the beginning of the interview followed by clarifying questions	Data analysis based on Dahlberg et al. (2008)	The place where a midwife works has a strong effect on her and her care. At homebirth, midwives support the well-being of women. Birth is a spiritual experience.	B
Aune et al. 2017[39]	Seeks to gain a deeper understanding of how midwives promote a normal birth in a home birth setting in Norway	Norway Home births N/A	Unspecified qualitative	9 midwives	Homes in Norway	In-depth interviews	Analysed using systematic text condensation	Midwives have faith in the normal birth process. They support women to use their intuition to give birth. Home is a safe environment for birth, where midwives and women know each other.	B
Coddington et al. 2017[9]	Examine midwives' experiences of transitioning from providing hospital-based midwifery to home- birth midwifery care	Australia Home births N/A	Qualitative descriptive study	9 midwives; 4 midwifery managers	Homes in the USA	In-depth, semi-structured telephone interviews	Thematic analysis	Midwives are affected by the place they work. Midwives, when exposed to homebirth, are comfortable offering this service. Midwives improve their skills through providing homebirth.	A
Ahl et al. 2018[59]	Describe Swedish midwives' experiences of working with home birth	Sweden Home births N/A	Unspecified qualitative study	8 midwives	Homes in Sweden	Two semi-structured focus group interviews	Content analysis according to Lundman and Hällgren-Graneheim	Midwives can use all of their midwifery skills at homebirth, where they can deepen their professional knowledge. However, midwives are	B

(*continued on next page*)

Table 4 (*continued*)

Author Year	Aim	Country *Type of unit single/ multi-centre*	Study design	Sample	Birthplace characteristics	Data collection methods	Data analysis methods	Main conclusions	QA GRADE
								discouraged from this work because they are not supported by the healthcare system.	
Skeide 2019[61]	Explore the techniques midwives and women use in homebirth practices in order to make homebirth work? Which homebirth bodies emerge from those midwifery attendance techniques?	Germany Home births N/A	Ethnographic praxiographic fieldwork	10 midwives; 10 women	Homes in Germany	Participant observation, interviews, and field notes	Analysis according to feminist STS research including Mol, Pols, Moser, Driessen, Vogel, Krebbekx and M'Charek	Obstetrics and midwifery are not two different fields, but rather 'deeply entangled.' Midwives and pregnant women learn to co-respond to each other, so that, at birth, the midwife is a guide, whereby women and midwives do birth together.	B
Faulk et al. 2021[65]	How do US birth centre midwives decide to transfer labouring women to the hospital for prolonged second stage of labour?	USA FSBCs N/A	Unspecified qualitative portion of a mixed methods study	21 midwives	FSBC	Participant observation, semi-structured ethnographic interviews, and field notes	Ethnographic methods of analysis (Lock, Nguyen)	Experienced midwives working at FSBC perform multifactorial and multisensorial assessments during labour. The second stage of labour, generally defined as beginning when the cervix is 10 cm dilated, could better be defined through a woman's active pushing.	C
Rocca-Ihenaco et al. 2021[13]	Describe the philosophy, organizational culture, and practices within FMU models of care and to identify the key components of a well-functioning FMU	UK FSBC N/A	In-depth, ethnographic study	23 FBSC midwives; 6 MCAs; 1 Administrator; 2 hospital midwives; 1 obstetrician; 5 student midwives; 7 stakeholders; 37 service users (including 18 women)	FSBC	Participant observation, interviews and field notes	Thematic analysis	The FMU offers a relationship model of care, which contributes to the wellness of the staff and service users. Sense of trust, safety, meaning and motivation developed from the relationships.	A
Stone et al. 2022[62]	Decribe how midwives and their clients create risk and safety in a FSBC	Germany FSBC N/A	Ethnographic study	17 midwives 29 women	FSBC	Participant observation, semi-structured interviews, and field notes	Thematic analysis (Braun & Clarke) and ethnographic analysis (Spradley)	Pregnant women, in part through their obstetric antenatal care, are perceived as risk-incarnate. Through the midwifery technique of abdominal palpation, women begin to perceive themselves and	B+

(*continued on next page*)

Table 4 (*continued*)

Author Year	Aim	Country *Type of unit single/ multi-centre*	Study design	Sample	Birthplace characteristics	Data collection methods	Data analysis methods	Main conclusions	QA GRADE
								their pregnancy differently, building a stronger bond with their unborn and the midwife. The woman-unborn-midwife relationship is a significant aspect of safe care in FSBC.	

The lead and second author coded 5 studies independently and then met to discuss and agree on the initial codes. The first author then continued to code the remaining scripts. Further interpretive work was then undertaken to synthesise the coded data into sub-themes. The final themes and sub-themes were reviewed, refined, and agreed upon by the first two authors.

Findings

The original database search yielded 3364 abstracts. Seven papers were also identified via additional search methods. One thousand nine hundred and 19 articles were screened against inclusion/exclusion criteria, 47 were reviewed as full-texts and 13 included in the final review, as was shown in Fig. 1, and study characteristics and quality appraisal ratings of each study are detailed in Table 4.

Overall, these studies included the views of 184 midwives and 95 service users (including 76 women, 15 partners, four birth supporters). Four studies included interviews and/or observations of pregnant/labouring women, and one study included interviews with fathers. All the studies included interviews with midwives. Five studies had an ethnographic component at FSBCs and/or home birth. All the included studies were undertaken in HICs (Australia (n = 1), USA (n = 1), Sweden (n = 2), Norway (n = 2), Nordic countries (including Denmark, Iceland, Norway, Sweden, and Finland) (n = 1), Germany (n = 3), Japan (n = 1), and UK (n = 2). Six studies were undertaken with midwives offering home births, five studies were undertaken with midwives working in FSBCs, and two studies included midwives in both settings. Most studies were published after 2011 (n = 12), except for one study which was published in 2006. The methodological designs that were utilized included qualitative descriptive, phenomenological method based on Husserl, grounded theory, and ethnography.

The three main themes that were identified in the data were '*Building trustworthy connections*,' '*Midwife as instrument*,' and '*Creating an environment conducive to birth*.' The themes and subthemes, and how they

Table 5
Themes/subthemes linked to individual studies.

Themes	Building trustworthy connections			Midwife as instrument		Creating an environment conducive to birth	
Subthemes	Learning new skills through observation and collaboration	Bonding through "techniques"	Cultivating new meanings	Multifactorial and multisensorial assessment	Interpreting the signs	A supportive environment	Clearing away distractions
Walsh 2006[63]		X	X	X	X	X	X
Lindgren et al. 2011[40]		X	X	X	X	X	X
Blix 2011[64]		X			X	X	X
Stone 2012 [12]	X		X	X	X	X	
Igarashi et al. 2014[60]	X	X	X		X	X	X
Sjöblom et al. 2015[34]		X		X	X	X	X
Aune et al. 2017[39]	X			X		X	
Coddington et al. 2017[9]			X		X		
Ahl et al. 2018[59]	X	X	X			X	X
Skeide 2019[61]	X	X		X	X	X	X
Faulk et al. 2021[65]	X	X			X	X	X
Rocca-Ihenaco et al. 2021[13]			X	X	X		
Stone et al. 2022[62]	X	X		X	X	X	X

map to the individual studies is presented in Table 5.

Building trustworthy connections

The first theme, '*building trustworthy connections*,' is concerned with building trust between midwives, fostered through collaboration and the development of new skills, as well as building trust between midwives and women through care. This theme has three subthemes: '*Learning new skills through midwife collaboration*,' '*Bonding through techniques*' and '*Cultivating new meanings*.'.

Learning new skills through observation and collaboration

When the midwives in these studies began to work in FSBCs or at home birth, they often went through a period where they had to observe their co-workers, as well as developing additional skills via collaboration [9, 12, 13, 59, 60]. Collaboration with other midwives was experienced as constructive:

> *Being able to collaborate when asking for a second opinion from colleagues and receiving feedback from other staff, women and their birth supporters also contributed to a sense of connection and coherence* [13].

In Coddington et al.'s study [9], a new midwife observed the primary midwife at between two and five births, whereas insights from Stone's study reported a more protracted period of learning and observation [12]. The midwives benefitted from working together and listening to recommendations from their colleagues, as a midwife in Igarashi et al.'s study explained:

> *It makes a big difference hearing various opinions (from having a support midwife present). (Midwife 2, working in home births)* [60].

The exchange of knowledge between midwives, the opportunity for skill acquisition through observation, and reflection on their work, whether in pairs or in a team, was reported to build trust and create safety in the services they offered [9, 13, 40, 60].

Bonding through skills and techniques

In nine studies, midwives were reported to have built trust with the women and families through conversations, listening and responding to women, and appropriate and consensual physical touch [12, 13, 34, 39, 40, 59, 61–63]. Midwives were reported to utilize skills during pregnancy and labour to build a relationship with the pregnant woman and family [60–62], as well as between the woman and her unborn baby and the midwife and the unborn baby [12, 59, 61, 62]. These skills included the Leopold manoeuvres [61,62], positioning the woman optimally or letting her intuitively choose her position [39, 40, 60], the use of water/bath [13, 40, 61], and knowing when to guide pushing or let the woman intuitively push in the final phase of labour [9, 12, 13, 39, 40, 61]. Below is an example of how a midwife used the Leopold manoeuvres to build relationships with clients in a German FSBC:

> *And you can take her hands and show her: This is how it works. Trust yourself and reach into your belly. … This is so important. …Then they can sense the baby in a new way, and it changes their perception. (Midwife interview, Beatrice)* [62].

The Leopold manoeuvres are a technique to palpate the abdomen in pregnancy. A skilled practitioner is able to feel the position of the unborn baby, determine the gestational week of the pregnancy, and feel the movements of the unborn baby [62]. In addition to this, a midwife in Skeide's study described how palpating the abdomen can be more than just a diagnostic procedure:

> *If you attend women in the beginning, you can hardly approach them. … As the pregnancy progresses and the woman gets more open, because she knows you better, the easier it gets to feel how the child lies in the belly. The more you get the feeling that women open themselves up to you and allow you to approach* [61].

In this case, the technique deepened the relationship between the midwife and the woman. Stone described in her field notes how a pregnant woman (Berit) responded with wonder and familiarity to the interaction between her, her unborn baby and the midwife (Mathilde):

> *Mathilde rests (her hands) on Berit's belly, waiting, chatting all the while in a friendly manner. After a few minutes, Mathilde and Berit look at each other, eyes suddenly wide open. "Hello! There you are!" Mathilde says. She and Berit share a laugh together. "I think he knows you," Berit says. "It always takes longer for him to respond when the other midwives do this" (Field Notes, record 4)* [62].

The use of these techniques allowed the midwives and women to understand labour in a new way, as will be shown in the next subtheme.

Cultivating new meanings

In these studies, the participants' experiences of pregnancy and labour revealed how reciprocal interactions led to new ways of perceiving and interpreting situations, thus incorporating clinical concepts of anatomy and physiology of labour and birth into interactions, without letting these dominate. In eight studies, it was noted that midwives were conscious of how verbal communication, including choice of wording, and physical touch could affect women and families [12, 13, 39, 40, 60, 62–64]. A midwife in Ahl et al.'s study said:

> *When you have a medical focus on the birth you don't become a good midwife: you don't get to know the baby and the mother and what's happening between them during contractions and what effect they have* [59].

Midwives reported that the terminology used to convey the unborn baby during pregnancy and labour can create trust or fear for women [12, 59, 62]. One midwife in Aune et al.'s study remarked that telling a woman that her baby is big can alarm her. She said:

> *'It's a big baby'. This is not always perceived as very positive. The women get terrified. A big baby, that is not very good. There is nothing positive about giving birth to a big baby* [39]. *(Midwife Karin)*

In Stone's study, the midwives often referred to the unborn baby in terms of its position in the womb, the progress of the fetal head in relation to the birth canal, and the fetal heart rate. After explaining the unborn baby to the woman in these terms, the midwife made the baby whole again, as was discussed in Stone's field notes:

> *The midwives' frequent medical checks during birth reduced the baby to a 'head' and 'heartbeats' – yet (the baby) was always made whole again through dialogue with the birthing woman and her partner. In this way… the parents' dialogue transformed the baby into a whole being with a future. Several babies, were referred to by name* [12].

Using the techniques described in the previous subtheme, women began to understand their bodies and pregnancies differently. Through language that personalized the labour experience, along with the use of intimate touch, midwives believed that women gained confidence in themselves and in their unborn baby [12, 13, 39, 40, 60–63, 65]. These reflections were also provided by women, as reflected in Stone et al.'s field notes following a conversation with a woman:

> *When the midwife here at the birth centre touched my belly for the first time, felt the baby and showed me just how he was lying inside my uterus and how he could move, I suddenly realized something. I could comprehend more; the back is here, the legs here. That gave me the feeling of being closer. (Field Notes, record 16)* [62].

In four studies, midwives revealed how they began to describe labour in a different way [12, 39, 61, 65]. Aune et al. gave an example from one

of the midwives in their study who complained about how contractions were described in a birth protocol:

> *I have seen protocols where they have considered the effectiveness of the contractions as poor or medium. I think this is a bit strange. There has been only medium and poor contractions, but she has given birth! Has it actually been poor contractions? (Midwife Karin)* [39]

In some of the studies, the changes in language and perception appear to have affected a change in care [12, 39, 61, 65]. For example, Faulk et al., in their study, gave examples of midwives using other ways to define when the second stage of labour began. One midwife stated:

> *Where in the first part of my career, it was definitely expected that a primipara should not have a longer than 2-hour second stage and a multip should not have more than a one-hour long second stage, and that was how I practised for the first half of my career regardless of the setting. … And then I learned that we can define it not by our objective assessment of the client being 10 cm, but by her own subjective assessment of when she feels an urge to push* [65].

This approach to communication needed an adjustment period, as a midwife in Rocca et al.'s study explained after starting to work at the FSBC:

> *My first impression is, I felt, to be honest, a little bit out of my depth because I was so used to high-risk care. Although this is what I wanted to do, I did not have a lot of experience talking to women in the kind of ways that the midwives did here. So I felt that I had to learn a lot…* [13] *(BC1-MW-F-INT)*

Midwife as instrument

The second theme is '*midwife as instrument*'. Two subthemes are presented that describe the skilled care that midwives utilized to facilitate a physiological birth. The first subtheme, '*multifactorial and multisensorial assessment*', describes how midwives use their senses to inform their care, often integrating this within the framework of clinical anatomy and physiology that they learned in their studies. The second subtheme, '*interpreting the signs*', highlights how midwives used women's vocalizations and physical urges to follow the birthing process and support a physiological birth.

Multifactorial and multisensorial assessment

The title of this subtheme is from the work of Faulk, with this phrase used to reflect how midwives assessed the labouring woman they were working with [65]. Midwives in ten studies spoke of how they used guidelines when they worked outside the hospital, as well as relying on the clinical knowledge of anatomy and physiology that they had gained through their education and professional work in various settings [9, 12, 40, 59–65]. Within these frameworks, the midwives described where a woman was in labour from a clinical anatomical and physiological point of view, while at the same time using their senses to assess and guide the woman. A midwife in Lindgren et al.'s study explained:

> *I was so aware of the perineum, I could almost feel the tension in my own body. The woman was on her hands and knees and she was really affected by the transition phase. I could see that she wasn't comfortable; she was more or less trying to escape from the situation. I suggested that she should lie on her side and started talking about completely different things as I wanted to move the focus away from the urge to push. She started laughing and relaxed until her baby started coming without any pushing at all* [40].

In seven studies, midwives gave examples of how they integrated the subjective, sensed observations of the woman they were caring for [12, 59–63, 65]. This was reflected in Skeide's field notes:

> *Sitting in the tub, Lisa breathes quite fast during her contractions, that have obviously become stronger. … And when the contraction is over (the midwife) asks: "That contraction surprised you, didn't it?" Lisa: "These were the first explosive pains, I think. But I have the feeling that it does not fit yet." Anna: "Then you still have one or two contractions to get used to it. Your baby needs to be patient…."After three more contractions, the baby's head is visible between Anna's labia, also in the pauses between contractions.* [61]

Utilizing different sources of knowledge was a way that the midwives guided the women, while continuing to work within the scope of their theoretical understanding and the skills and knowledge they had accumulated through their professional training and practice of midwifery. The midwives in six studies explained this ability as synthesizing their observations of the woman in labour with their theoretical knowledge [12, 60–63, 65]. From Igarashi et al.:

> *Just as they are fully dilated and about to enter the delivery stage, they naturally start rocking or moving. Sometimes they move up and down like this, as though they're trying to get something through a pipe* [60]. *(Midwife 1, working in home births)*

However, one study found that multifactorial and multisensorial assessment is at times not possible when the midwife is not able to connect well with the woman she is caring for. Even at a birth centre, this can sometimes be the case, as described in the following example from a midwife in Stone et al.'s study:

> *I didn't have a good connection with her or her baby, and she didn't have a good connection with her baby. When that's the case, all you have to go on to know if everything is okay are the fetal heartbeats. And when you're in a situation like that, everything seems potentially suspicious. You start to think about transfer* [62]. *(Conversational midwife interview, Miriam)*

These insights highlighted the significance of the use of relationship oriented, multisensorial assessments, a skill that augmented theoretical knowledge according to the midwives in these studies.

Interpreting the signs

In this subtheme, midwives based their knowledge and actions on their sensory experience and interpretations of labouring women's individual expressions and gestures, forgoing examinations. The midwives in seven studies explained how they were able to make assessments concerning what stage the women were in during labour based solely on the women's physiological and/or psychological responses [34, 40, 59, 60, 62, 63, 65]. A midwife in Ahl et al.'s Swedish study said:

> *At a home birth the signs from the birthing woman control how we proceed our work, which isn't always the case in hospital where there are many more signals to interpret and other factors control our actions* [59].

Another midwife in Ahl et al.'s study said:

> *(I) have to use other parts of myself when I don't have all the technology…* [59]

A further example of a midwife using signs to guide her work was provided in Faulk et al.'s USA study:

> *We don't do a lot of vaginal exams. I don't necessarily need to say "wait hold on, let me check you and make sure you're 10 (cm dilated) and now we can start pushing and we're calling you a second stage." … Sometimes you're just in the flow and it's very organic and everything is progressing; I might not do any vaginal exams at all. You just start hearing the grunting and her body is just doing it* [65].

In a few of the studies, midwives made decisions based on what they interpreted, as opposed to enacting the usual procedures [34, 62, 63]. In Stone et al.'s study, the researcher experienced a woman, Annika, who did not seem to be in labour when she arrived at the birth centre, since

she had "*hardly any contractions*" [62]. The following is an excerpt from Stone's conversation with the midwife, Daniela:

> *When Daniela came into the kitchen, I asked her what she would do. Would she send Annika home? Absolutely not, she told me… Daniela explained that she is sure that she will find her way into labour —develop a dynamic and that the contractions will increase* [62]. *(Field notes, record 19)*

Because the midwives created an environment that was free from distractions and supported women to find the flow of their labour, they were able to use knowledge to interpret the intricacies of labour that would otherwise go unnoticed.

Creating an environment conducive to birth

This theme describes how the midwives regulated the birth space, both at home birth and at FSBCs, and how they created an environment that was conducive to the well-being they perceived as essential for labour and birth. Two subthemes are presented. The first, *a supportive environment*, describes the significance of creating an environment that is positive for the midwife, the labouring woman, and her family. The second subtheme, *clearing away distractions,* is concerned with how midwives regulate the birthing space, including who enters and leaves the space, as well as the level of noise and disturbance allowed.

A supportive environment

The first subtheme, *a supportive environment*, illustrates how midwives perceived that their own well-being, as well as that of the women they cared for, was influenced positively at home birth and FSBC birth. Controlling and adjusting the environment, assuring that it was safe and that the midwives could *"use their full potential as midwives"* [34] was mentioned in nine studies [12, 13, 34, 39, 59–63]. A midwife in Igarashi et al.'s Japanese study remarked:

> *I think the atmosphere of the place, the kind of air, is really important… It's not that easy creating an environment where mothers can relax, but it's, you know, the time flowing there, those kind of things, affect the mother's comfort. (Midwife 14, working at midwifery homes)* [60]

Midwives in five studies had also experienced women demonstrating more courage and strength, as well as less fear, when the environment had been personalized to their needs [39, 40, 60, 62, 63]. Individualized support was described as "*important and empowering*" [59]. A midwife in Lindgren et al.'s Swedish study said:

> *Fear causes tears. When the woman is frightened her pelvic floor tightens and is more likely to tear. At home she usually finds the courage to resist the urge to push* [40].

Midwives in seven studies considered that they created an environment where women had autonomy and were listened to [13, 34, 39, 40, 60–62]. This was reflected by a participant from Rocca et al.'s UK study who stated:

> *Now I feel more satisfied because I now realise, the woman is actually, she'll actually be the leader, because it's about her, it's about her pregnancy. But the fact that I am able to support that, that gives me satisfaction. (BC13-MW-F-INT)*[13]

Participants were reported to believe that when women are in an environment where they have trust and intimacy, this impacts women's physiological, neurological, and physical responses [9, 12, 13, 34, 39, 64]. Creating a "nest" that is protective for a newborn "*is a complex weave of physical, psychological, cultural and social dimensions of safety*" [63]. A midwife in Aune et al.'s study explained the hormonal connection in the following way:

> *It is known that adrenaline is the antagonist to oxytocin. Oxytocin is the birth hormone. You have to eliminate adrenaline. And how do you do that? Confidence and control. It is very simple actually* [39]. *(Midwife Hilde)*

Midwives also believed that when the women had a supportive environment for labour and birth, they had powerful experiences [12, 39, 40, 59–63]. Ahl reflected that this is because "*childbirth (is) unique, existential and life-changing for the birthing woman, with a potential for personal growth*" [59]. One of the participants from Stone's ethnographic study undertaken in a birth centre in Germany said:

> *I am still amazed. I still always find it beautiful to observe…When they do everything for themselves. How introverted they become. Like a cocoon. That closes, yes, and does the work itself. Works and works until a butterfly flies out… So, the woman is, a brief moment before the baby is born, she is or at the same time the baby is born, poof, the cocoon is open. And then you have the woman again and you have the baby again. But you have a different woman* [12]. *(Midwife 1)*

Clearing away distractions

This theme reports data from all 13 studies to illustrate how the midwives organized their activities and behaved to create a calm, undisturbed birth space for the women and themselves. Midwives in seven studies emphasized that labouring women should not be disturbed [12, 34, 39, 59–61, 64]. In addition to this, midwives also felt that they benefitted from not being distracted or disturbed, so that they could create "*an environment to concentrate on the birth"* [9, 12, 13, 34, 39, 40, 59–61, 63, 65]. This was often a comment made by midwives who had experience working in hospital maternity units, as is reflected in the following quote from a midwife in Ahl et al.'s study:

> *If you pass three, four rooms and have several encounters in one evening (in a hospital delivery room), how can you relate to this woman and her baby that's being born right now? Your insight, the tool you work with, is interfered with. It's not only the woman who gets disturbed; I also get disturbed* [59].

In some of the studies, there were examples of people (e.g., partners, grandparents, children, colleagues) in the birth space being asked to amend their behaviour or leave the room if they were creating a disturbance [60, 61, 63, 64]. The disturbance did not just affect the labouring woman, but also the midwife, who was otherwise diverted from her connection to the labouring woman. A Norwegian midwife expressed this in Blix's study:

> *The woman's mother was there and she was very active and very nervous. …I took her to the living-room, sat down with her and managed to calm her down…And I asked her to drive home and get some sleep, and I promised to call her once the baby was born* [64]. *(Midwife 3)*

These insights indicate how control was not imposed on the woman or on her labour, but on her environment. Creating a space where the midwife was not distracted was as significant as a midwife knowing not to disturb a labouring woman.

Line of argument synthesis

The following is the line of argument synthesis that was developed after connecting the themes and subthemes in the synthesis. The line of argument synthesis describes how midwives used their senses, coupled with theoretical knowledge, to care for labouring women. The midwives became an instrument to perceive the labouring woman and the labour dynamic, beyond what they believed they could assess through technological means. The midwives' remained cognizant of the underlying clinical anatomical and physiological framework in which they had been trained, however this knowledge did not dominate their care. Rather it

acted as a deductive framework for perceiving changes in the labour dynamic. The midwives understood that the labour dynamic is not static, but rather in flux, and heavily influenced by the environment. For this reason, one of the midwives' core concerns lay in maintaining an environment conducive to birth physiology. Because the midwives also relied on their senses while caring for women, an environment that kept the midwives free from distractions while honouring the woman's need to focus on labour was paramount. The midwives thus integrated their knowledge from multiple perspectives—sensory perceptions, personal knowledge of the woman, and clinical knowledge of anatomy and physiology—to holistically comprehend the labouring woman and the course of the labour dynamic while cultivating deeply personal connections grounded in trust and embodied through participation-mutuality and co-responsivity.

Discussion

In this meta-ethnography, we identified 13 studies that provided qualitative descriptions of midwifery skills and knowledge at births in FSBCs and at home. In most midwifery training in HICs, students spend the majority of their practical training in birth assistance in hospital maternity units. This means that students of midwifery are left with little, if any, participatory experience in other birth settings. Preparing women to become midwives, as is true of all professional education, is as much a process of socialization and integration in the profession, as it is the acquisition of theoretical and practical knowledge [66]. Before the establishment of state-run midwifery institutions, a midwife's knowledge went beyond knowing only the medical history of the women in her care [66,67]. She learned village customs and became intimately familiar with the families, their kinship structures, and histories [66].

The shift from apprenticeship training to institution-based training in HICs removed the midwife from the community, thus depriving her of her social knowledge of the families in her care. Instead of learning midwifery skills in the community where she would eventually practice, she was required to study with physicians, who often had no experience of normal birth—leaving her unprepared to assist women at home [68]. Parallel to this development over time is the increase of women giving birth in hospitals and the rapid decline of home birth from the 1950–1970 s [42, 69, 70].

Since the 1970 s, home birth and birth centre birth has experienced a revitalization in many HICs. Since practical midwifery training is predominantly focused on care at births in hospitals, there is a need for a greater understanding of skill acquisition for home and FSBC birth. In this meta-ethnography, we identified key skills that are needed for midwives who work in these non-hospital settings. First, the relationship between the midwife and woman was the starting point out of which the birth environment emerged, creating an intersubjective space in which both brought their experiences, interpretations, and understandings of birth. Carlsson et al. discovered in their critical interpretive synthesis of place and space in relation to childbirth that, for women to feel safe, the "birthing space had to be created in a mutual relationship between the woman and midwife" [71]. Getting this relationship right is a core skill for birth in every setting, however it was highlighted as particularly significant in this analysis for home birth and FSBC birth.

The findings from our review emphasize that, at home birth and birth in FSBCs, the embodied dialogue between the midwife and the woman is nurtured in an environment with minimal disturbance. The midwife remains attuned to the labouring woman, attending to her needs without disturbing her. de Jonge et al. have suggested calling this "watchful attendance" [72]. A characteristic of midwives practicing watchful attendance is their "state of alertness," which differs from simple observation and monitoring in its profundity. In watchful attendance, information engendered through presence, closeness, and trust between the woman and the midwife aid the midwife to know when she needs to interpose in the labour process. Coddington et al. wrote that, "*At a homebirth, midwives were able to be fully present at all times which allowed them to be more aware of subtle changes in the labour that might indicate a potential complication developing*" [38]. Moreover, the midwife-woman relationship contributes to the mood in the birth space, which affects the well-being of all present, reflecting back on the labouring woman and midwives [73].

The close connection between the midwife and woman can also function as a considerable stress reducer, midwifery knowledge that was evidenced in the first order constructs in this review. When women experience stress, they tend to reach out for others [74]. Uvnäs-Moberg calls this "calm and connect", which benefits the production of oxytocin [75]. Deep connection between those present at birth initiates and supports the bio-behavioural oxytocin system, facilitating women's biological production of oxytocin, the hormone of love, which is essential for a physiological birth [76,77]. Hammond et al. wrote: "*The birth environment is not just an envelope of inert space within which the independent physical act of birth occurs. Like all space and place, the birth environment is partly created by the thoughts, feelings and responses of those that interact with it, making the midwife and childbearing woman active agents in its creation and maintenance*" [77].

Hence, it is a necessary skill of the midwife to create a reciprocal, co-responsive relationship with the women in her care, as this aids in the midwife's potential to synthesize her clinical knowledge of anatomy and physiology with sensory based knowledge [12, 61, 65, 78]. When this ensues, the midwife becomes an instrument [79,80]. Midwives and women, through touch and talk, learnt to enter into an embodied discourse, engendering profound knowledge of each other that could not be accomplished through technology, an analysis discussed by Davis-Floyd throughout her publications [26, 81, 82]. Developing meaningful, embodied relationships furthers well-being for midwives as well [49,83], giving them a solid base to facilitate a supportive birth environment. [84,85]. The relationship between the midwife and woman is the building block for a supportive environment and thus nourishes and promotes well-being for both [86,87].

Our review also highlighted how this new learning was embedded through a process of observation and socialisation. Coddington et al. described how midwives offering home birth services after having worked in the hospital began to "see birth in a new light" [38]. According to Lave and Wenger, who coined the term 'situated learning,' learning is social practice [42]. Lave and Wenger also developed the term 'legitimate peripheral participation' to explain that skills are specific to the particular community in which they are acquired. Finally, our findings resonate with those of White who found that learning through participation is more than just "learning by doing" [43]. It is a way of creating an identity in a social context while becoming a member of the profession that one is learning [42,43].

Implications for practice and research

The skills and knowledge discussed in this meta-ethnography should be central to the practice of midwifery in every setting, including hospitals. It is important to note that, in HICs, midwives finish their education with the clinical skills and knowledge to work in all settings. This synthesis suggests that, when midwives have autonomy in the birth setting, their relationship skills and connections to women are given space to emerge, supporting the practice of sensorial midwifery, an approach to midwifery care that they may not have experienced while training in hospital settings. Their knowledge of birth physiology expands as they gain experience supporting labour and birth without interventions.

Anthropologist Mary Douglas put forward in her seminal work "Natural Symbols" that "there can be no natural way of considering the body that does not involve at the same time a social dimension" [88]. In terms of birth, it would suggest that, rather than relying solely on natural forces in women to accomplish birth, the construction of a relationship between midwife and woman that alters and releases the labouring body from medicalized social and bodily control is

paramount. Further research is necessary to understand the construction of the birthing body during pregnancy for women preparing for home birth and FSBC birth with midwives.

Lastly, observation and collaboration between midwives in various birth settings can facilitate the skills, self-assurance, and resoluteness to practice the full scope of midwifery safely. Ensuring that student midwives gather sufficient, practical experience at home births and in FSBCs will aid them to seamlessly offer care in these settings after their qualification.

Strengths and limitations

A key strength of this paper is that it is the first meta-ethnography to focus on the skills and knowledge of midwives at home birth and FSBC births. Research examining midwifery skills in these settings is of utmost importance to better understand how low intervention, physiological birth can be successfully supported in all contexts, including hospital maternity units. Another strength of this meta-ethnography is the adherence of the authors to the eMERGe protocol, as well as the wide range of professional and academic experience that the team members brought to the project (e.g., psychology, social sciences, midwifery, midwifery education, and applied midwifery in various settings). Lastly, the included studies were of good quality, which adds to the credibility of the final synthesis.

A limitation of this review was the lack of studies that specifically had the aim to describe skills and knowledge of midwives at home birth and in FSBCs. Although this could be overcome through the meta-ethnographical process, more studies are needed that aim to describe practical midwifery in those settings, especially skills for emergencies. Another limitation, which is a limitation for all syntheses of this kind, is that many different interpretations are likely possible [52].

Conclusion

This systematic review utilizing ethnographic methods revealed that midwives need to cultivate a different skill set when caring for women in home or free-standing birth centre settings. These skills include midwives working within deductive anatomical and physiological understandings of birth while integrating their sensorial experiences of lived childbirth into the process. More research is needed to describe how these skills are learned and cultivated so that they can be integrated into student midwifery programmes.

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CRediT authorship contribution statement

Nancy Stone: Conceptualization, Funding acquisition, Data curation, Formal analysis, Funding acquisition, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Gill Thomson:** Conceptualization, Data curation, Formal analysis, Methodology, Supervision, Writing – review & editing. **Dorothea Tegethoff:** Conceptualization, Data curation, Funding acquisition, Data curation, Writing – review & editing.

Conflict of interest

None declared.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.wombi.2023.03.010.

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