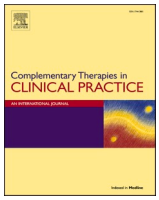
Complementary Therapies in Clinical Practice 61 (2025) 102028

Contents lists available at ScienceDirect

Complementary Therapies in Clinical Practice

journal homepage: www.elsevier.com/locate/ctcp



Japanese midwives' education, and use of complementary therapies in practice: A qualitative study

Lyndall Mollart [a,*], Chie Taniguchi [b], Mieko Omura [a], Atsuko Campbell [c], Allison Cummins [a]

[a] School of Nursing and Midwifery, College of Health, Medicine and Wellbeing, The University of Newcastle, University Drive, Callaghan, NSW, 2308, Australia
[b] School of Nursing, Faculty of Health and Social Services, Kanagawa University of Health Services, 1-10-1 Heisei-cho, Yokosuka-shi, Kanagawa Prefecture, 238-8522, Japan
[c] Maternity Services, Chelsea and Westminster Hospital NHS Foundation Trust, West Middlesex Hospital Twickenham Rd, Isleworth, TW7 6AF, United Kingdom

ARTICLE INFO

Keywords:
Complementary therapies
Education
Midwifery
Professional practice

ABSTRACT

Background and purpose: Globally, women are the highest users of complementary therapies, often during the perinatal period [pregnancy, childbirth, and postnatal time]. Midwives who provide care to women throughout the perinatal period need to have evidence-based knowledge of complementary therapies. There is a lack of research on why midwives are interested in learning about complementary therapies. The purpose of this research is to explore the experiences of Japanese midwives in undertaking professional development in complementary therapies. The study explored what the midwives learnt, how they used these therapies in their practice, and what strategies can help midwives implement these complementary therapies.
Materials and methods: A qualitative study was undertaken using semi-structured interviews with 15 Japanese midwives who had completed a certificate in complementary therapy. Content analysis was used to analyse the data.
Results: Two themes were identified as reasons midwives undertook professional development in complementary therapies: supporting women during the perinatal period with complementary therapies, and factors that influence midwives to learn complementary therapies as a new skill. Strategies to address challenges in implementing complementary therapy into practice were identified as follows: Needing a supportive working environment and encouraging midwives to increase their knowledge and skills about complementary therapies.
Conclusion: Midwives in Japan undertook professional development in complementary therapy training as a new skill to support women in the perinatal period. Further research is warranted to assist midwives in implementing complementary therapies in practice by raising awareness of its evidence-based values among medical colleagues.

1. Introduction

Globally and specifically in Japan, the highest users of complementary therapies are women [1–3]. Defining complementary therapies can be challenging as more therapies or practices become mainstream or are accepted as part of cultural practices. Complementary therapies have been categorised as natural products, mind-body practices, and other complementary health approaches [4]. Common examples include acupressure, meditation, massage, and the use of essential oils (also known as aromatherapy). Recently, conventional and complementary approaches have been combined in a coordinated approach, termed integrative medicine. In Japan, integrative medicine is perceived as a combination of conventional medicine, traditional medicine, and complementary and/or alternative medicine to improve patients' quality of life, depending on their needs [5].

Women in the perinatal period [pregnancy, childbirth, and postnatal time] are high users of complementary therapies in many countries, including Australia [6,7], Iraq [8], Palestine [9], USA [10], and Japan [5]. Watanabe et al. (2023) conducted a quantitative study of 394 Japanese pregnant women and found that 90 % used complementary

* Corresponding author. School of Nursing and Midwifery, University Drive, Callaghan, NSW, 2308, Australia.
E-mail addresses: Lyndall.mollart@newcastle.edu.au (L. Mollart), taniguchi.m7b@kuhs.ac.jp (C. Taniguchi), Mieko.Omura@newcastle.edu.au (M. Omura), atsukosatocampbell@gmail.com (A. Campbell), Allison.Cummins@newcastle.edu.au (A. Cummins).

https://doi.org/10.1016/j.ctcp.2025.102028
Received 30 March 2025; Received in revised form 25 October 2025; Accepted 28 October 2025
Available online 30 October 2025

therapies for self-care. The most used complementary therapies were traditional Chinese massage, moxibustion, and acupuncture. Women in the perinatal period perceive that the use of complementary therapies will provide them with self-determination, increased autonomy in their healthcare decision-making, and a higher chance for natural and safe childbirth [5,11].

Internationally, the primary care providers for women during the perinatal period are midwives [12]. Midwives need to have evidence-based knowledge to provide information to women on the safety of the use of complementary therapies during the perinatal period [13]. Unfortunately, there is a paucity of contemporary studies investigating specifically midwives' level of knowledge and education/-training relating to complementary therapies [14].

In 2020, the Japan Academy of Midwifery released an evidence-based clinical guideline that provides recommendations on the use of specific complementary therapies during pregnancy [15]. According to these Japanese midwifery guidelines, specific complementary therapies can be included or recommended as part of midwifery care, such as acupuncture, acupressure, and reflexology [16]. Only one published study has interviewed Japanese nurses and midwives about the use of complementary therapies [17]. The authors found that complementary therapies, such as massage and aromatherapy, improved staff job satisfaction by providing a deeper level of care for women and children than standard care alone. Midwives wanted to enhance their skills and perceived complementary therapies as a helpful tool for midwifery with increased autonomy [17]. There is a paucity of current published literature on Japanese midwives and complementary therapies, investigating why they undertake professional development in complementary therapies as an additional skill, which therapies they learn, and how they use these therapies in practice.

This study explored why Japanese midwives pursued professional development in complementary therapies, the modalities they studied, and how they have incorporated these therapies into their practice. This study also explored the strategies that Japanese midwives suggest to help midwives integrate complementary therapies into their practice.

2. Materials and Methods

A qualitative descriptive approach was employed to explore midwives' experiences. A qualitative descriptive methodology is drawn from a naturalistic inquiry with a less theoretical approach [18]. Data is collected via individual or group interviews, such as focus groups, with a purposeful sample [18]. In this study, a purposive sample of Japanese midwives who have completed a certificate in at least one complementary therapy course was recruited. A purposeful sampling approach was employed because it offered participants who are "information rich" to provide their views and perspectives on the study aims under investigation [19]. A sample size of four to eight focus groups is recommended to obtain data saturation. [20]. The consolidated criteria for reporting qualitative research (COREQ) checklist was used in structuring this section, and the findings [21].

2.1. Ethical considerations

The study involved interviewing both Japanese and Australian midwives. Ethics approval was granted by the University of Newcastle, Australia (Human Research Ethics Committee: H-2023-0387), and by the Kanagawa University of Health Services, Japan (KUHS 23-31-010). All eligible midwives completed the online consent form (QuestionPRo™) in either English or Japanese after receiving the participant information sheet (PIS) and before the interviews and focus group sessions were conducted. The PIS explained the purpose of the study, confidentiality of data, and the protection of participant privacy. To maintain anonymity, participants were identified by a numbered code and the session attended. Any information that would lead to their identification was removed. For this paper, only data from Japanese midwives will be presented, as the volume of collected data is substantial.

2.2. Recruitment

The eligibility criteria included Japanese midwives who had completed at least one complementary therapy course and were currently working in, or had worked in, a maternity setting within the past 12 months. Japanese midwives were invited to participate in the study via the Japan Midwives Reflexology Association (JMRA). The JMRA holds a database of Japanese midwives who have completed a certificate in reflexology, maternity reflexology, acupressure, or other complementary therapies. A JMRA executive staff member emailed the Japanese participant information sheet to midwife members of the JMRA. A snowballing technique was also employed, with Japanese midwives sharing the study information with their midwifery colleagues via social media or email.

Midwives interested in participating in the study contacted one of the research team members (ACa). After confirming eligibility, a face-to-face or Zoom™ session was arranged for an individual interview or focus group at a time suitable for the participant while the interviewers were visiting Japan.

2.3. Data collection

The interview and five focus groups were conducted in Japan between December 1st and 5th 2023, with the chief investigator (LM) and a research team member who acted as translator and is a native-speaking Japanese midwife (ACa). The semi-structured interviews/focus group sessions were conducted either face-to-face or via Zoom™ with eligible Japanese midwives. A total of one interview and five focus group sessions were conducted. One individual interview and one focus group with two participants were conducted via Zoom™ at the participants' request due to their availability and preference for a specific day and time. The other four focus group sessions were conducted face-to-face at two locations: two sessions with two participants each (Chiba) and two sessions with four participants each (Osaka).

The reason for choosing these locations was based on the availability and ability of participants and researchers to travel to a suitable location for all. The reason for having only two to four participants in each focus group was to allow time for English-Japanese-English translation of each question and its responses within the 1-h time limit. At the beginning of each session, the chief investigator (LM) confirmed the study purpose, the participant's consent, and reiterated the use of code numbers to replace names for confidentiality. All sessions were audio-recorded via Zoom™ to obtain a written transcript for translation and data analysis. Field notes were taken by the translator (ACa) as a secondary data source.

Semi-structured interviews are a powerful method of producing knowledge and understanding human situations and behaviours [22]. The semi-structured interviews and focus groups included questions to guide the discussion. Participants were asked what complementary therapies course they had attended and why. Participants were also asked about their clinical expertise and experience with complementary therapies. The participants were then asked to share any suggestions or strategies that might help other midwives implement complementary therapies into practice. Microsoft® Word was used for transcribing [23], and Microsoft® Excel for back-translation [24].

2.4. Data analysis

Two research team members (LM, ACa) transcribed the interview/focus group recordings, focusing on the English-language content, while two Japanese-speaking research team members (CT, ACa) transcribed the Japanese-language content. A Japanese-speaking research team member (MO) conducted the backward translation from Japanese to

English. The back-translation was compared with the recorded version by the two Japanese native-speaking team members (CT, ACa). The backward translation step verified the accuracy and appropriateness of the translation, as well as its cultural context [25]. Ambiguities and discrepancies in words and meanings were discussed and resolved among the three bilingual translators to confirm the accuracy and the appropriateness of the translation, both the forward and backward translation [26]. The translation process was challenging because some Japanese words lacked English equivalents. For translation, the greater the cultural difference, the more challenging the translation procedure [27].

The final English transcripts were analysed using content analysis. Content analysis is more than a counting procedure, as the aim is to connect the results to the context or environment under study [28]. A manifest content analysis was conducted to discover what has been said [28] by the Japanese midwives. With manifest analysis, the surface structure of what has been said is analysed. The stages include: decontextualisation (identify keywords/meaning units), recontextualization (include text and compare with original data), categorisation (identify homogeneous groups/themes-triangulation by investigators), and compilation (draw realistic conclusions - member check) to use the participants' words to stay close to the text [28]. Two authors (LM, CT) first read through the midwives' comments and reflected on them using margin notes, highlighting keywords to generate initial codes/meaning units to remain close to the data and language drawn directly from the data [29]. The codes were then brought together through a stage of categorisation (themes and sub-themes) by the authors to draw realistic conclusions [28]. Themes were then generated from the data itself, and the key findings were counted from the data gathered [28]. In the final reporting of the themes, words from the transcriptions were used to remain true to the data and achieve trustworthiness.

2.4.1. Trustworthiness

To strengthen the study's validity, the investigators would usually contact participants and present the results to achieve agreement [28]; however, due to the time lag between data collection and analysis, this approach was not feasible. At the end of each interview and focus group session, LM summarised the participants' comments and received feedback on the accuracy of their contributions.

For dependability or quality control, the authors met to verify any discrepancies in the transcription from the recordings, reviewed coding decisions, and resolved any ambiguities in meaning by adding the closest English words to the participant's comments. The authors compared the developed themes and sub-themes with the original transcripts, field notes, and margin comments to ensure accuracy and dependability. One author (AC) objectively validated coding and overall theme validity, and all authors agreed with the final theming.

Transferability refers to the degree to which the results apply to other settings or groups, and to the sample size, with the diversity of participants determining how generalised the results will be [28]. The authors attempted to recruit as many Japanese midwives as possible who met the eligibility criteria from a wide range of settings and therapies to improve transferability. Sometimes it is impossible or difficult to replicate qualitative studies because the data arise from a specific context or culture [28].

Credibility refers to how the data and analysis process were carried out, and to ensure that no relevant data was excluded [28]. Credibility can be increased by obtaining agreement from investors and/or by an expert panel. For credibility, we gained agreement from the five authors who are experts in various fields. Four female authors (LM, Aca, CT and AC) are experienced researchers and midwives, of whom two (LM and ACa) are experts in complementary therapies. Two female authors (OM, AC) are experts in international research, with one author (OM) having experience in Japanese-Australian international research.

3. Results

A total of 15 Japanese midwives were invited, and all participants completed the online consent form and subsequently participated in the study.

3.1. Demographics

All midwives interviewed were aged between 35 and 60 years and female. This female sample is representative of Japanese midwives, as Japanese regulation prescribes that only women can be midwives [30]. The midwives were from five areas in Honshu, the main island of Japan: metropolitan/city (Tokyo and Osaka, n = 5), suburban (Chiba, n = 4), and regional (Gunma and Gifu, n = 6). As some participants reside in small rural towns, limited demographics are included to ensure anonymity. All participating midwives identified the complementary therapy/therapies professional development courses they have completed: reflexology (n = 14), acupressure (n = 11), massage (n = 1), baby massage (n = 3), maternity yoga (n = 2), aromatherapy (n = 4), moxibustion (n = 4), and pelvic health/adjustment (n = 1) (Table 1).

The Japanese midwives worked in a variety of healthcare settings, including private practice (n = 1), local maternity clinics (n = 2), private clinics and postnatal home visits (n = 1), hospitals (n = 10), and a community-based postnatal home visiting program (n = 1). Of the 10 midwives working in the hospitals, seven worked at an inpatient maternity area, and three worked in the postnatal outpatient area, including feeding support (n = 1) or gynaecology clinics (n = 2). Three midwives previously worked in all maternity areas in a hospital, but one moved to a paediatric outpatient setting and the other two moved to work in a Children's Ward.

Most of the midwives who completed a complementary therapy course/certificate used these new skill/skills in their practice for women with several minor discomforts and conditions particular to the perinatal period, with one midwife commenting:

> "for emotional support, slow labour, help with breastfeeding, during the first few weeks after birth to help with bowel motions and low appetite, swelling, postnatal tiredness." S2 MW2

One midwife described using complementary therapies to improve labour contractions and help reduce breast engorgement, whilst another midwife explained the advantage of working with mothers and babies and using aromatherapy massage.

> "back massages [for women] can help with swelling in the legs, stiff shoulders, relaxing the entire back, and even for those who are unable to produce breast milk." S1 MW1

Table 1
Participants' education in complementary therapies.

Participant	Complementary therapies – professional development courses completed
MW1	aromatherapy
MW2	reflexology
MW3	reflexology
MW4	acupressure, aromatherapy, reflexology
MW5	acupressure, #pelvic health, reflexology
MW6	reflexology
MW7	acupressure, creative healing (massage), reflexology
MW8	acupressure, baby massage, reflexology
MW9	acupressure, maternity yoga, reflexology
MW10	acupressure, baby massage, reflexology
MW11	acupressure, reflexology
MW12	acupressure, aromatherapy, moxibustion, reflexology
MW13	acupressure, baby massage, moxibustion, reflexology
MW14	acupressure, baby massage, maternity yoga, moxibustion, reflexology
MW15	acupressure, aromatherapy, moxibustion, reflexology

Using the Japanese toco pelvic belt for pregnant and postnatal support.

The same midwife went on to explain:

"Lavender and orange are easy to get, so if someone is interested and says they would like it, I might recommend them. If asked. I have a simple baby massage handout that I provide as an option to anyone who has questions." S1 MW1

3.2. Themes and sub-themes

Themes that emerged from interviews and focus groups were 'Midwives' professional development and education' and 'Strategies to address the challenges in implementing complementary therapies into practice' (Fig. 1). Each sub-theme is explained with quotes from participants.

3.2.1. Midwives' professional development and education

The midwives were asked why they had undertaken professional development education in complementary therapies. Two sub-themes emerged: 1) Supporting women during the perinatal period with complementary therapies, and 2) Factors that influence midwives to learn complementary therapies – a new skill (Fig. 1).

3.2.1.1. Supporting women during the perinatal period with complementary therapies. Midwives identified that they wanted to learn complementary therapies to enable them to support women in having the best experience possible during the perinatal period, as explained by one midwife:

"I wanted to offer support for women, and it is something easy to use than the care currently offered." S5 MW8

Another midwife described how she used complementary therapies to reduce interventions in labour and promote normal physiological birth:

"I use [complementary therapies] to look after women in labour to promote progress in labour and the woman's comfort … to make it easier and better." S3 MW4

Some midwives reflected on their midwifery practice and midwifery philosophy of keeping the woman at the centre of the care, with one midwife explaining:

"I thought it [complementary therapies] would be very useful for women in clinical practice and for care, so I thought I would like to learn. I thought it would be useful for childbirth and care." S6 MW12

Also, they learned a complementary therapy to support women in the transition to parenthood:

"I thought if I learned baby massage, it would be useful for helping mothers to relieve stress and to communicate with their babies …. reflexology will be very beneficial during childbirth and the postpartum period, as well as during pregnancy. I became very interested in it …. " S6 MW13

One midwife discussed the benefits of knowing and practicing complementary therapies:

"… the feeling that you care for them is very comforting and calming for the mother, and has a great psychological benefit, so I think it would be good to incorporate this into midwifery care." S4 MW6

Some of the midwives explained that they chose to undertake education in complementary therapies to relieve the minor discomforts of pregnancy as an alternative, as many medications are restricted during pregnancy:

"… pregnant women have restrictions on what they can and can't use, such as medicine. I think aromatherapy is a good alternative to medicine … so I think that using aromatherapy to resolve minor problems is very effective." S1 MW1

Six midwives believed that being able to use complementary therapies provided them with different options to assist women during the perinatal period. One midwife explained:

"I thought …, it [baby massage] would be useful for helping mothers to relieve stress and to communicate with their babies. I suppose it is more like gaining "BUKI" [a tool] as a midwife." S6 MW13

One midwife reiterated with the following comment that learning complementary therapies could assist with supporting physiological processes and has the potential to reduce interventions during birth:

"I wanted to learn something I can do with my own hands, to enable women to give birth more smoothly and to move toward a positive direction …." S5 MW10

Midwives discussed the influence of colleagues as an incentive to undertake professional development in complementary therapies, which led to the next theme.

3.2.1.2. Factors that influence midwives to learn complementary therapies- a new skill. One factor acknowledged by eight midwives was that

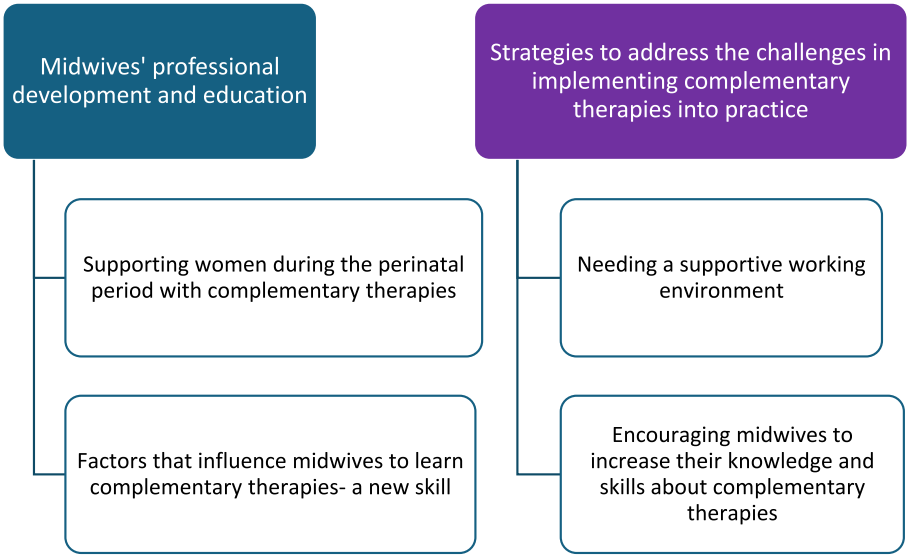


Fig. 1. Themes and sub-themes.

colleagues influenced their interest in learning more about complementary therapies. As clarified by one midwife:

> "The reason why I learned it was because a friend invited me, and I didn't know about reflexology until then. There was an article posted in a midwife magazine … and my friend told me that there was such an alternative therapy, and that's what really got me going." S4 MW7

The influence of friends encouraged midwives to learn new skills in complementary therapies, as one midwife discussed here:

> "… I think it was probably word of mouth, or information was spreading among friends, and I was asked to join as the training course was about to start, so I thought it would be a good opportunity to go." S6 MW14

Another factor mentioned by four midwives was that their personal experiences with complementary therapy influenced their decision to pursue professional development education in that field. Two midwives explained:

> "I also had it [reflexology] done on me, and it felt really good, so I thought I wanted to be able to do it, and that's what got me started." S2 MW2

> " I went there and got it [reflexology] done, not only did my body feel good, but it also made me feel more positive in terms of feelings, so I felt like I wanted to continue, and so I continued." S4 MW6

3.2.2. Strategies to address the challenges in implementing complementary therapy into practice

The midwives identified two major challenges: not being able to offer women complementary therapies, as few midwives are trained in complementary therapies, and a lack of support from hospital management and medical staff due to limited knowledge of complementary therapies and supporting evidence. Midwives were asked to suggest strategies to address challenges they experienced when implementing complementary therapies in maternity settings.

From their suggestions, the following two themes were constructed: 1) Need for a supportive working environment, and 2) Need for more midwives and others to learn about complementary therapies.

3.2.2.1. Needing a supportive working environment. There was a belief that a supportive working environment is fundamental to implementing complementary therapies into midwives' practice, including management support. Some midwives voiced the importance of having midwifery and medical obstetric colleagues who have an understanding of complementary therapies and the supportive research:

> "Understanding from the top down. So first of all, the management team need to understand and be supportive, including doctors." S3 MW4

> "I was fortunate that the obstetricians at the university hospital where I previously worked were very supportive and interested in complementary therapies, and that I had a good environment where any midwife interested … could learn." S3 MW5

Some midwives discussed that a strategy in providing factual information on complementary therapies to their colleagues is encouraging:

> "… promote [complementary therapies] with colleagues first, and then educate colleagues … introduce what it is, mention it is quite easy and you can use within a short time.'' S3 MW4

> "I think that if it [complementary therapies] … can properly be explained - the effects, doctors, and the doctors understand it properly, then it could be used, …." S2MW3

3.2.2.2. Encouraging midwives to increase their knowledge and skills about complementary therapies. Midwives recognised the need for more midwifery colleagues to learn complementary therapies, so all midwives have the knowledge and skill to provide this support to women, and thus, "it would be easier to offer it and provide it." (S1 MW1). Two midwives explained:

> "If I'm the only person who can do reflexology, I think it might be the factor to make it difficult [to provide this support] if it is only myself. I think it's very important that there is an atmosphere in the hospital where everyone wants to use it and do it … also I want my colleagues to understand." S3 MW5

> "I think the more staff who have that understanding, have the same knowledge and are well aware of the benefits, the more opportunities there will be to do it [complementary therapy]." S5 MW10

The midwives identified some strategies to increase interest in their midwifery colleagues, with two midwives suggesting information sessions and practical experiences:

> "Hold a study group … and have them try some simple things so that they can understand that this feels good and is a good thing, it's something that can be done easily, even in a short amount of time, for example, even during labour." S3 MW5

> "… get colleagues to actually experience it [a complementary therapy], for instance, so that they will know, not just knowledge, what it feels like, and also be effective in such a way." S3 MW4

A strategy suggested is to focus on midwives working in independent maternity homes and private practice, as it is easier to implement complementary therapies in these environments than in hospitals. It was suggested that complementary therapies might be best utilised where women plan a natural birth, with the potential to reduce medical intervention:

> "There are a lot of places that prioritise medical care, so I think it would be easier to use in places like [independent maternity homes] that do natural childbirth." S2 MW3

> "If you really wanted to do it, you could probably do it as a practicing midwife if you opened your own practice and started doing it [a complementary therapy]. You could also go to the mother's house and do it as a visiting midwife …." S4 MW6

4. Discussion

This study found that Japanese midwives were interested in learning complementary therapies for various reasons, including their desire to support women during the perinatal period. Midwives described the value and usefulness of complementary therapies, especially during pregnancy when medications were restricted due to safety concerns. Midwives reported that complementary therapies provided helpful techniques for women for natural childbirth and have the potential to reduce medical or obstetrical interventions. The midwives also reported that complementary therapies added another skill to the midwifery suite of skills. These findings are supported by studies undertaken with midwives in other countries such as Australia [31,32], Iran [33], Canada [34], Africa [35], and Indonesia [36,37].

The midwives in this study were required to undergo postgraduate professional development education to learn about complementary therapies. Although complementary therapies have become increasingly popular amongst women of childbearing age, few universities around the world offer complementary therapy familiarisation courses in undergraduate nursing and midwifery programs [38,39]. Studies have found that midwives, nurses, and students rate the amount of teaching relating to complementary therapies in the undergraduate program as sparse or inadequate [14,40]. Midwives and students have reported

lacking confidence in their level of knowledge to discuss complementary therapies with pregnant women, and want to gain more knowledge about complementary therapies [14,41]. Yet, there is little research on undergraduate midwifery programs that provide education on complementary therapies; therefore, further research is warranted on this topic. For the past 20 years, there has been a strong global call for institutions of higher education to introduce mandatory, evidence-based complementary therapy courses in undergraduate and postgraduate midwifery curricula, with little action [13,42]. As Mollart [14] states, "There are no other health-related therapies used by women consumers with such frequency where clinicians are not expected to have baseline knowledge and understanding" (p.5). Complementary therapy education should be incorporated into undergraduate nursing and midwifery programs in Japan and other countries.

The midwives in this study wanted to support women by using complementary therapies. These findings align with the philosophy of midwifery as being woman-centred and providing care around the needs of the woman through a trusting partnership [43]. Midwives' practice supports physiological normal birth and uses interventions only when required [44]. These sentiments were reiterated in our study, which found that midwives used complementary therapies to support labour progress and to relieve the minor discomforts of pregnancy symptoms, to avoid potentially harmful medications to the growing fetus.

The scope of practice for a midwife is to provide care for women without complications in pregnancy [12]; however, midwives have to work collaboratively with their medical and obstetrical colleagues when required. The findings from this study indicated a need for interprofessional education on complementary therapies, with respondents reporting that their medical colleagues did not support the use of these therapies. The challenge of introducing complementary therapies into practice is that midwives and obstetricians lack evidence-based knowledge of them. There are numerous randomised controlled trials and systematic reviews that include studies reporting positive outcomes from the use of complementary therapies, such as acupressure, reflexology, and aromatherapy, during pregnancy, labour, and the postnatal period. A Cochrane systematic review reported that acupuncture and acupressure help manage labour pain, with acupressure potentially reducing pain intensity and the need for caesarean sections [45]. Reflexology has been reported to reduce anxiety in pregnancy, and reduce labour pain intensity and duration [46–49], and aromatherapy studies report positive results on reducing physiological and psychological stress during pregnancy and childbirth [50–52]. However, many midwives and medical colleagues have not been exposed to complementary therapies. Interprofessional education may increase awareness of the value of evidence-based complementary therapies in supporting women during the perinatal period. Further research is needed on the enablers and barriers that prevent midwives from implementing complementary therapies in their practice.

4.1. Strengths and limitations

The strength of this study lies in the sample of 15 Japanese midwives, drawn from diverse settings, including urban, regional, and rural areas. However, we acknowledge that the sample did not include participants from other Japanese islands, which is a limitation. Future studies from other islands would be worthwhile for gaining a national perspective on Japanese midwives' experiences and viewpoints.

An identified limitation of the sample was that most midwives interviewed were trained in reflexology; however, many had also completed a course or obtained a certificate in other complementary therapies. There was only one midwife from private practice; therefore, future research should include more midwives from private practice to benefit from a broader perspective.

5. Conclusion

This is the first study to explore Japanese midwives' interest in complementary therapies, their professional development education on these therapies, and the reasons why they undertook this education. The midwives identified the value of complementary therapies, including supporting the pregnant woman with minor discomforts like back pain and swollen feet. The midwives also believed that complementary therapies benefited new mothers by helping them with their babies and promoting calmness and a sense of connection.

The participating midwives identified the challenges of and possible strategies for implementing complementary therapies in practice. One strategy suggested to help midwives integrate complementary therapies into their practice is for hospital organisations to provide a supportive working environment with widespread staff engagement and encourage more midwives to use complementary therapies during the perinatal period. To increase the number of midwives who can use complementary therapies, the inclusion of evidence-supported complementary therapies in undergraduate midwifery programs is warranted. Another strategy proposed was the integration of evidence-informed education for doctors and midwives on complementary therapies.

CRediT authorship contribution statement

Lyndall Mollart: Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Chie Taniguchi:** Writing – review & editing, Writing – original draft, Validation, Formal analysis, Conceptualization. **Mieko Omura:** Writing – review & editing, Validation, Methodology, Formal analysis. **Atsuko Campbell:** Writing – review & editing, Validation, Methodology, Investigation, Data curation. **Allison Cummins:** Writing – review & editing, Writing – original draft, Validation, Methodology.

Funding

This work was supported by the University of Newcastle Building Our Leaders: Development and Empowerment (BOLDE) grant, Newcastle, Australia.

Declaration of interest

None.

Acknowledgments

We thank the Japanese midwives who kindly agreed to take time to be interviewed.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ctcp.2025.102028.

References

[1] J. Misawa, R. Ichikawa, A. Shibuya, Y. Maeda, T. Hishiki, Y. Kondo, Social determinants affecting the use of complementary and alternative medicine in Japan: an analysis using the conceptual framework of social determinants of health, PLoS One 13 (7) (2018) e0200578, https://doi.org/10.1371/journal.pone.0200578.

[2] Y. Motoo, K. Yukawa, I. Arai, K. Hisamura, K. Tsutani, Use of complementary and alternative medicine in Japan: a cross-sectional internet survey using the Japanese version of the international complementary and alternative medicine questionnaire, Japan Medical Association Journal 2 (1) (2019) 35–46, https://doi.org/10.31662/jmaj.2018-0044.

[3] J. Adams, G. Andrews, J. Barnes, Women's use of complementary and alternative medicine in pregnancy: a critical review of the literature, in: J. Adams, G. Andrews, J. Barnes, A. Broom, M. Parker (Eds.), Traditional, Complementary and Integrative Medicine: an International Reader, Bloomsbury Publishing, Hampshire UK, 2017.
[4] NCCIH, Complementary, alternative, or integrative health: what's in a name?. www.nccih.nih.gov:NationalCenterforComplementaryandIntegratedHealth, 2021. (Accessed 24 July 2025). https://www.nccih.nih.gov/health/complementary-alternative-or-integrative-health-whats-in-a-name.
[5] A. Watanabe, S. Inoue, A. Okatsu, H. Eto, M. Oguro, Y. Kataoka, Complementary and alternative medicine use by pregnant women in Japan: a pilot survey, BMC Complementary Medicine and Therapies 23 (1) (2023) 298, https://doi.org/10.1186/s12906-023-04126-1.
[6] J. Frawley, J. Adams, A. Steel, A. Broom, C. Gallois, D. Sibbritt, Women's use and self-prescription of herbal medicine during pregnancy: an examination of 1,835 pregnant women, Womens Health Issues 25 (4) (2015) 396–402, https://doi.org/10.1016/j.whi.2015.03.001.
[7] L.A.J. Barnes, L. Barclay, K. McCaffery, P. Aslani, Factors influencing women's decision-making regarding complementary medicine product use in pregnancy and lactation, BMC Pregnancy Childbirth 19 (1) (2019) 280, https://doi.org/10.1186/s12884-019-2396-2.
[8] J.H. Hwang, Y.R. Kim, M. Ahmed, S. Choi, N.Q. Al-Hammadi, N.M. Widad, et al., Use of complementary and alternative medicine in pregnancy: a cross-sectional survey on Iraqi women, BMC Compl. Alternative Med. 16 (2016) 191, https://doi.org/10.1186/s12906-016-1167-0.
[9] Y. Quzmar, Z. Istiatieh, H. Nabulsi, S.H. Zyoud, S.W. Al-Jabi, The use of complementary and alternative medicine during pregnancy: a cross-sectional study from Palestine, BMC Complementary Medicine and Therapies 21 (1) (2021) 108, https://doi.org/10.1186/s12906-021-03280-8.
[10] S.C. Holden, P. Gardiner, G. Birdee, R.B. Davis, G.Y. Yeh, Complementary and alternative medicine use among women during pregnancy and childbearing years, Birth 42 (3) (2015) 261–269, https://doi.org/10.1111/birt.12177.
[11] R.L. Bowman, D.L. Davis, S. Ferguson, J. Taylor, Women's motivation, perception and experience of complementary and alternative medicine in pregnancy: a meta-synthesis, Midwifery 59 (2018) 81–87, https://doi.org/10.1016/j.midw.2017.11.007.
[12] International Confederation of Midwives, International Definition and Scope of Practice of the Midwife, The hague: icm [press release], in: International Definition and Scope of Practice of the Midwife, International Confederation of Midwives, 2019.
[13] L. Mollart, V. Skinner, J. Adams, M. Foureur, Midwives' personal use of complementary and alternative medicine (CAM) influences their recommendations to women experiencing a post-date pregnancy, Women Birth 31 (1) (2018) 44–51, https://doi.org/10.1016/j.wombi.2017.06.014.
[14] L. Mollart, V. Stulz, M. Foureur, Midwives knowledge and education/training in complementary and alternative medicine (CAM): a national survey, Compl. Ther. Clin. Pract. 45 (2021) 101473, https://doi.org/10.1016/j.ctcp.2021.101473.
[15] Japan Academy of Midwifery, Evidence-based guidelines for midwifery care. https://www.jyosan.jp/uploads/files/journal/210311-JJAM_2020Evidence-Based_Guidelines_Midwifery_Care_Final2.pdf, 2020.
[16] Y. Masuzawa, H. Eto, E. Shishido, K. Baba, M. Iida, Y. Kataoka, et al., Updated Japan academy of midwifery evidence-based guidelines for midwifery care during pregnancy, childbirth and postpartum in Japan: 2020 edition, Journal of Japan Academy of Midwifery 35 (1) (2021) 66–71, https://doi.org/10.3418/jjam.JJAM-2020-0034.
[17] A. Hiraoka, The benefits of using complementary therapies in midwifery practice, Kawasaki J. Med. Welf. 11 (1) (2005) 15–22. http://www.kawasaki-m.ac.jp/soc/mw/journal/en/2005-e11-1/02_hiraoka.pdf.
[18] H. Kim, J.S. Sefcik, C. Bradway, Characteristics of qualitative descriptive studies: a systematic review, Res. Nurs. Health 40 (1) (2017) 23–42, https://doi.org/10.1002/nur.21768.
[19] J.W. Creswell, Research Design: Qualitative, Quantitative and Mixed Methods Approaches, fourth ed., Sage Publications, Thousand Oaks, CA, 2014, p. 230.
[20] M. Hennink, B.N. Kaiser, Sample sizes for saturation in qualitative research: a systematic review of empirical tests, Soc. Sci. Med. 292 (2022) 114523, https://doi.org/10.1016/j.socscimed.2021.114523.
[21] A. Tong, P. Sainsbury, J. Craig, Conslidated criteria for reporting qualitative research (COREQ): a 32 item checklist for interviews and focus groups, Int. J. Qual. Health Care 19 (6) (2007) 349–357, https://doi.org/10.1093/intqhc/mzm042.
[22] S. Brinkmann, S. Kvale, in: T.S.Q.R. Kit (Ed.), Doing Interviews, second ed., Sage Publications Ltd, London UK, 2018 13 Oct 2018.
[23] Microsoft, Microsoft Word. Version 2025 ed: Microsoft corporation. https://www.microsoft.com, 2025.
[24] Microsoft, Microsoft excel. Version 2025 ed: Microsoft corporation. https://www.microsoft.com, 2025.
[25] N.A. Yunus, T. olde Hartman, P. Lucassen, C. Barton, G. Russell, A. Altun, et al., Reporting of the translation process in qualitative health research: a neglected importance, Int. J. Qual. Methods 21 (2022) 16094069221145282, https://doi.org/10.1177/16094069221145282.
[26] V.D. Sousa, W. Rojjanasrirat, Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: a clear and user-friendly guideline, J. Eval. Clin. Pract. 17 (2) (2011) 268–274, https://doi.org/10.1111/j.1365-2753.2010.01434.x.
[27] U. Ozolins, S. Hale, X. Cheng, A. Hyatt, P. Schofield, Translation and back-translation methodology in health research - a critique, Expert Rev. Pharmacoecon. Outcomes Res. 20 (1) (2020) 69–77, https://doi.org/10.1080/14737167.2020.1734453.
[28] M. Bengtsson, How to plan and perform a qualitative study using content analysis, NursingPlus Open 2 (2016) 8–14, https://doi.org/10.1016/j.npls.2016.01.001.
[29] M. Sandelowski, Whatever happened to qualitative description? Res. Nurs. Health 23 (4) (2000) 334–340, https://doi.org/10.1002/1098-240X(200008)23:4%3C334::AID-NUR9%3E3.0.CO;2-G.
[30] Japanese Government, Public Health Nurses, Midwives, and Nurses Act, Chapter 1 (2003) 3. Act 203, https://laws.e-gov.go.jp/law/323AC0000000203#Mp-Ch_1.
[31] K.M. Levett, C.A. Smith, A. Bensoussan, H.G. Dahlen, The complementary therapies for labour and birth study making sense of labour and birth - experiences of women, partners and midwives of a complementary medicine antenatal education course, Midwifery 40 (2016) 124–131, https://doi.org/10.1016/j.midw.2016.06.011.
[32] L. Mollart, J. Adams, M. Foureur, Pregnant women and health professional's perceptions of complementary alternative medicine, and participation in a randomised controlled trial of acupressure for labour onset, Compl. Ther. Clin. Pract. 24 (2016) 167–173, https://doi.org/10.1016/j.ctcp.2016.06.007.
[33] F. Abdollahi, J. Yazdani Charati, M.S. Lye, Midwives' perceptions of complementary and alternative medicines' during pregnancy, Compl. Ther. Med. 49 (2020) 102323, https://doi.org/10.1016/j.ctim.2020.102323.
[34] C. Oguaju, D. Dewey, G. Wolbring, G. Becker, S. Page, Experiences, opinions, and use of complementary and alternative medicine among Alberta midwives: les sages-femmes albertaines et les médecines complémentaires et alternatives: expérience, opinions et utilisation, Can. J. Midwifery Res. Pract. 17 (2) (2018) 18–35, https://doi.org/10.22374/cjmrp.v17i2.63.
[35] P. Peprah, M. Abalo, J. Nyonyo, R. Okwei, G. Amankwaa, Complementary and alternative medicine in midwifery: a qualitative exploration of perceptions and utilisation of CAM among trained midwives in rural Ghana, Evid. base Midwifery 15 (4) (2017) 135–142.
[36] Suryani L. Sumiaty, Usman N. Sundari, Traditional and complementary health care during pregnancy, labor, and postpartum in the Kaili ethnic culture, Enfermería Clínica 30 (2020) 597–601, https://doi.org/10.1016/j.enfcli.2019.07.169.
[37] L. Dariani, S. Khadijah, R. Mesalina, E. Susanti, J.S. Rustam, Factors related to the implementation of complementary midwifery services in Indonesia, Malaysian Journal of Nursing 15 (1) (2023) 58–67, https://doi.org/10.31674/mjn.2023.v15i01.007.
[38] M. Kavurmaci, M. Tan, Z. Kavurmaci, Nursing,midwifery, and dietetics students' attitudes to complementary and integrative medicine and their applications, Bakirkoy Tip Dergisi/Medical Journal of Bakirkoy 14 (3) (2018) 300–306, https://doi.org/10.5350/btdmjb.20170606124143.
[39] A.C. Gray, A. Steel, J. Adams, A critical integrative review of complementary medicine education research: key issues and empirical gaps, BMC Compl. Alternative Med. 19 (1) (2019) 73, https://doi.org/10.1186/s12906-019-2466-z.
[40] T.J. Gunnarsdottir, M.J.E. van der Heijden, M. Busch, T. Falkenberg, T. Hansen, M. van Dijk, et al., What are nursing students taught about complementary therapies and integrative nursing? A literature review, European Journal of Integrative Medicine 52 (2022) 102138, https://doi.org/10.1016/j.eujim.2022.102138.
[41] S.U. Yamaç, N. Terkes, Evaluation of the knowledge, attitudes and behaviors of midwives and nurses with regard to traditional and complementary treatment methods, International Journal of Traditional and Complementary Medicine Research 3 (1) (2022) 18–24, https://doi.org/10.53811/ijtcmr.1025246.
[42] I. Neri, M.C. Gemmi, A. Ricchi, E. Romei, Italian midwives attitude toward complementary and alternative medicine, Int. J. Nurs. Midwifery 9 (2) (2017) 17–21, https://doi.org/10.5897/IJNM2016.0219.
[43] International Confederation of Midwives, Philosophy and Models of Midwifery Care, ICM, Geneva, 8 July 2025 [press release], https://internationalmidwives.org/resources/philosophy-and-model-of-midwifery-care/.
[44] S. Miller, E. Abalos, M. Chamillard, A. Ciapponi, D. Colaci, D. Comandé, et al., Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide, Lancet 388 (10056) (2016) 2176–2192, https://doi.org/10.1016/S0140-6736(16)31472-6.
[45] C.A. Smith, C.T. Collins, K.M. Levett, M. Armour, H.G. Dahlen, A.L. Tan, et al., Acupuncture or acupressure for pain management during labour, Cochrane Database Syst. Rev. 2 (2) (2020) CD009232, https://doi.org/10.1002/14651858.CD009232.pub2.
[46] X. Liang, S. Wu, K. Li, H. Zhang, F. Yang, X. Wang, et al., The effects of reflexology on symptoms in pregnancy: a systematic review of randomized controlled trials, Heliyon 9 (8) (2023) e18442, https://doi.org/10.1016/j.heliyon.2023.e18442.
[47] Z. Abbaszadeh, J. Malakouti, M. Maghalian, M. Mirghafourvand, The effect of reflexology on the anxiety of pregnant women during labor: a systematic review and meta-analysis, Curr. Wom. Health Rev. 19 (3) (2023) 20–28, https://doi.org/10.2174/1573404818666220527095739.
[48] C.Y. Li, S.C. Chen, C.Y. Li, M.L. Gau, C.M. Huang, Randomised controlled trial of the effectiveness of using foot reflexology to improve quality of sleep amongst Taiwanese postpartum women, Midwifery 27 (2) (2011) 181–186, https://doi.org/10.1016/j.midw.2009.04.005.
[49] E. El-Ansary, Gamel W. Mostafa Ahmed, A. Yousif, Effect of reflexology on postpartum comfort and lactation after cesarean delivery among primiparous mothers, Egyptian Journal of Health Care 14 (2) (2023) 557–570, https://doi.org/10.21608/ejhc.2023.300281.

[50] M. Di Vito, M. Cacaci, C. Martini, L. Barbanti, F. Mondello, M. Sanguinetti, et al., Is aromatherapy effective in obstetrics? A systematic review and meta-analysis, Phytother Res. 35 (5) (2021) 2477–2486, https://doi.org/10.1002/ptr.6975.
[51] C.C. Liao, S.H. Lan, Y.Y. Yen, Y.P. Hsieh, S.J. Lan, Aromatherapy intervention on anxiety and pain during first stage labour in nulliparous women: a systematic review and meta-analysis, Journal of Obstetics and Gynaecology 41 (1) (2021) 21–31, https://doi.org/10.1080/01443615.2019.1673707.
[52] K. Rezaie-Keikhaie, M. Hastings-Tolsma, S. Bouya, F.S. Shad, M. Sari, M. Shoorvazi, et al., Effect of aromatherapy on post-partum complications: a systematic review, Compl. Ther. Clin. Pract. 35 (2019) 290–295, https://doi.org/10.1016/j.ctcp.2019.03.010.