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Women's motivation, perception and experience of complementary and alternative medicine in pregnancy: A meta-synthesis

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ABSTRACT

Background: complementary and Alternative Medicine use during pregnancy is popular in many countries, including Australia. There is currently little evidence to support this practice, which raises the question of women's motivation for use of these therapies and the experiences they encounter.
Objective: this study aims to explore the perceptions, motivations and experiences of pregnant women with regard to their use of Complementary and Alternative Medicine during pregnancy.
Methods: a systemic review and meta-synthesis of the available research was conducted. Five databases were explored – CINAHL Plus, Medline, PubMed, AMED and Web of Science using the search terms complementary and alternative medicine; pregnancy; and pregnant. Articles included in this meta-synthesis were screened using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses tool.
Findings: ten initial themes were drawn from the six studies. These ten themes were summarised by three cluster themes. The results suggest that women are using Complementary and Alternative Medicine in their pregnancy as a means of supporting their sense of self-determination, to pursue a natural and safe childbirth, and because they experience a close affiliation with the philosophical underpinnings of Complementary and Alternative Medicine as an alternative to the biomedical model.
Conclusion: these findings are important to practitioners, policy makers, governing bodies and researchers, providing insight into the motivations for Complementary and Alternative Medicine use by women in pregnancy.

Introduction

Statement of significance

Issue
There is a lack of knowledge of women's motivation and experience of using Complementary and Alternative Medicine (CAM) in pregnancy with limited disclosure of CAM use by women to midwives.

What is already known
CAM use in pregnancy is widespread. Some qualitative studies have explored reasons why woman are using CAM however no integrated results have been provided.

What this paper adds
Identifies themes for women's perception of CAM, their motivation for using, and their experience of, these therapies in pregnancy. These themes provide a new perspective to current debates regarding the regulation, education and funding given to research on CAM use in pregnancy.

Background

Complementary and Alternative Medicine (CAM) is defined by the National Centre for Complementary and Integrative Health (NCCIH) as a health care approach outside of mainstream Western or conventional medicine. The term 'complementary' relates to medicine that is used together with mainstream medicine, whereas, the term 'alternative' refers to medicine that is used in place of mainstream medicine (NCCIH, 2017). CAM use during pregnancy is popular in many countries, with nutritional supplements, herbal medicine, relaxation

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therapies and aromatherapy being the most common modalities used (Hall et al., 2011). There is however little evidence to support these practices in pregnancy, which raises the question of potential risks and possible benefits (Kalder et al., 2011).

CAM use in pregnancy is common around the world. Recent surveys have found that in America 69% of women are using CAM, in the United Kingdom 57%, and in Germany 51% (Kalder et al., 2011; Strouss et al., 2014; Hall and Jolly, 2013). Similarly there is widespread use by pregnant women in Australia. In Skouteris et al. (2008) conducted a survey (n=321) in Australia that found 73% of women they surveyed were using CAM while 37% consulted a CAM practitioner through their pregnancy. CAM practitioners include acupuncturists, naturopaths and homeopaths among others. (NCCIH, 2017). The use in Australia appears to be on the increase as a 2013 survey (n=1,835) found that 52% of women used CAM in pregnancy. This excluded commonly used vitamins and minerals. Nearly half of the women consulted a CAM practitioner during pregnancy (Frawley et al., 2013.).

Frawley et al.'s (2013) study found that women based their decisions for CAM use on nonprofessional sources of information, such as advice from friends and family. Many sources suggest that women do not disclose their use of CAM to their midwife or obstetrician (Hall et al., 2011; Strouss et al., 2014; Hall and Jolly, 2013; Nordeng et al., 2011; Steel and Adams, 2011.) It is concerning that women continue to use CAM without a midwife's awareness or input. Lack of communication about CAM use with health professionals is problematic as it may increase the risks, and also undermine the therapeutic relationship (Hall et al., 2015). Pairman et al. (2015) remind midwives of the importance of communication and trust sharing to develop the therapeutic relationship between midwives and women. Another potential risk of not sharing this information could include a negative interaction with prescribed medication or other vitamins and minerals (Hall et al. 2011). Nordeng et al. (2011) found that 15 women in their study used interacting herbs and conventional drugs concurrently within the same trimester. This lack of disclosure and recording in notes may also prevent the acquisition of knowledge for the maternity health system about CAM therapies and their possible impact, or lack of, on outcomes. With the exception of a few individual therapies, there is a notable lack of research into the safety and efficacy of CAM in pregnancy (Kalder et al. 2011; Strouss et al., 2014).

Some qualitative studies explored the reasons why so many women are drawn to using CAM during their pregnancy, however no integrated results have been provided. Integrating results into a meta-synthesis can deepen the understanding of a phenomenon in health, and bring fresh insights to support practical work and decision making in maternity care (Korhonen et al., 2013; Walsh and Downe, 2005). A meta-synthesis generates evidence that in this case, broadens health professional's capacity to understand women's experiences in order to provide optimal care during their maternity experience.

Objective

This study aims to explore the perceptions, motivations, experiences and decision-making of pregnant women with regard to their use of CAM during their pregnancy by systemically reviewing and synthesising results of qualitative research studies.

Methods

To achieve this objective, a systemic review and meta-synthesis of the available research was conducted. Meta-synthesis is a relatively new methodology that combines the findings of numerous qualitative research studies to improve our understanding of a particular topic (Smith and Lavender, 2011). It is similar to the more commonly known method of meta-analysis, however a meta-analysis involves the synthesis of quantitative findings with statistical combining, data aggregation and analysis of results (Finfgeld, 2003). Where meta-analysis generally combines the results of relatively homogenous studies using quantitative statistical methods, meta-synthesis seeks to integrate the findings from qualitative studies using diverse approaches to create a new interpretation of the findings (Korhonen et al., 2013).

Meta-synthesis is defined as an interpretive synthesis of qualitative data, including phenomenologies, ethnographies, grounded theories, and other integrated and coherent descriptions or explanations of phenomena, events or cases (Bondas and Hall, 2007). Meta-synthesis is research of research. It is more than a summary of research findings. It involves analysis and theory-generating synthesis that remain faithful to the interpretations in each study. It provides a new, integrated and more complete interpretation of findings (Walsh and Downe, 2005; Korhonen et al., 2013). Bondas and Hall (2007) state that meta-synthesis gives greater meaning to a set of studies.

Search strategy and selection criteria

Five databases were explored – CINAHL Plus, Medline, PubMed, Allied and Complementary Medicine Database (AMED) and Web of Science using the search terms; complementary and alternative medicine, pregnancy, and pregnant. Individual therapies were not included in the final search. Initially the first author was interested in herbal medicine, however numerous searches of the above databases resulted in limited qualitative literature on women's motivation, perception and experience of this modality. Therefore, it was broadened to look at CAM more generally. The CAM studies included had a large range and variety of modalities in each of them. Table 1 identifies the different modalities used by women. Studies of women's experience of using CAM during their pregnancy were included in the meta-synthesis if they were published in a peer reviewed English language journal and used a qualitative research method (alone or mixed-method). A constructionist approach was taken, meaning that all types of qualitative research were included in the synthesis. Cut off dates were not used as the authors wanted to be comprehensive as possible in their search. Grey literature was not used to ensure only peer reviewed work was sourced for quality assurance.

Seven hundred and seventy articles were identified. It was not noted how many were duplicated in the original 770 articles. Articles were culled according to the inclusion criteria firstly based on title, followed by review of abstracts. This was performed by the first author with collaboration and advice from the second. A PRISMA (Preferred Reporting Items for Systemic Reviews) flow chart (Fig. 1) shows the results of the varying stages of inclusion and exclusion of articles (Moher et al., 2009).

Quality appraisal

The quality of a meta-synthesis is influenced by the quality of the included papers (Walsh and Downe, 2005). Therefore, it was important to assess the quality of the studies derived from the search before synthesis. The Qualitative Checklist tool from the Critical Appraisal Skills Programme (CASP, 2016) was used. CASP is a simple tool that asks ten questions about the quality of the research. The questions cover three broad issues to consider when appraising qualitative studies. These are: are the results valid, what are the results and are they helpful (CASP, 2016)? The first and second author performed the quality check independently and then discussed their findings. Agreement was reached with discussion.

Synthesis

Once the studies to be included were selected, they were re-read by the first author. The method of synthesis was informed by the methods used by Smith and Lavender (2011) and Chen and Yey (2014). Only data from the qualitative components of the 2 mixed method studies

Table 1
Characteristics of included studies following CASP tool.

#	Study	Participants	Country of Origin	Theoretical Perspective	Design/Methodology	Modalities used
1	Warriner et al., 2014	10 women	United Kingdom	Not identified	Questionnaire followed up by interview, audio recorded, face to face	Not listed in detail – refers to CAM in general
2	Nordeng et al., 2011	600 women interviewed	Norway	Not identified	Mixed qualitative and quantitative method using a structured questionnaire, plus review of medical record	Herbal and homeopathic medicine
3	Mitchell, 2014; Mitchell & McClean, 2014; Mitchell 2016 (alternate publication in 3 different articles)	14 women who had used 21 different CAM modalities between them	United Kingdom	Personal reflexivity	Narrative methodology, in-depth face to face interviews, 2–3 times	Included yoga, hypnobirthing, homeopathy, herbal medicine, acupuncture, osteopathy, chiropractor, body work.
4	Ali-Shtayeh and Jamous, 2015	372 women	Palestine	Not identified	Interviewed – semi structured questionnaire. Mixed method	Herbal medicine
5	Holst et al., 2009	6 women	United Kingdom	Not identified	Focus Groups Colaizzi's method of content analysis	Herbal Medicine
6	Steel et al., 2014	1,835 women	Australia	Not identified	Mixed method, cross-sectional survey	Not directly listed, mentions acupuncture, massage therapies, chiropractor & naturopathy

were used in the meta-synthesis. Themes and concepts for each study were fully understood which involved reading the studies several times and discussing understanding with colleagues. Themes were identified from the individual studies – both through the quotes supplied by women in the papers, as well as the original author's analysis and interpretation. Initial themes were grouped into cluster themes, each of which represented an interpretive rendering of all studies. Fig. 2 shows the themes and cluster themes derived.

Findings

Included studies

The first author conducted the search for studies in April 2016. Forty nine articles were screened by the first author, leaving 13 articles that related to the specific topic of women's motivation, perception and experience of CAM in pregnancy. Seven studies were excluded as they were quantitative only and did not meet the criteria. One study was reported in three papers and this was integrated into one for the purpose of this meta-synthesis. Six studies were included in the meta-synthesis. Table 1 presents the characteristics of included studies. Studies were conducted in four countries using a variety of designs including mixed methods, grounded theory and narrative methodology.

Findings

Ten initial themes were drawn from the six studies. This was via a process of content analysis, where words were distilled into fewer content-related categories (Elo and Kyngas, 2008). The six studies were read repeatedly by the first author and words and statements were listed, chosen for significance and repetition. These themes were reinforced by all authors conducting their own review. The ten themes were summarised by the following three overarching cluster themes: Self-determination, Natural and Safe leads to highly desired Natural and Safe Childbirth, and Close Affiliation with CAM and Concerns about the Biomedical Model (See Table 2). Each of the cluster themes is discussed below and qualitative data from the six studies is used to highlight the themes. Quotes used are from the participants directly.

Self-determination

Choice, control, active participation and autonomy were the initial themes found throughout the studies that formed the cluster theme of self-determination. Steel et al. (2014) found that women felt that CAM offered more control over their health and body as did Warriner et al. (2014, p 139):

> "Something you have control over, something that you have decided to do for your health rather than something that you've just been instructed to do."

Mitchell and McClean (2014) discussed a philosophy of active participation and preparation during pregnancy for labour that was identified by many women:

> "all of it was motivated by my desire to have a homebirth and to have myself emotionally and physically prepared as possible." (p107.)

> "It felt like I had done everything that I could, everything in my power." (p 112.)

The authors of the articles described women's feelings of vulnerability in pregnancy. When women did not display self-determination, this vulnerability appeared to increase within the maternity health care setting. The potential for risk became an increasing possibility to women. Using CAM offered a sense of security (Mitchell and McClean, 2014) which led indirectly to the next theme.

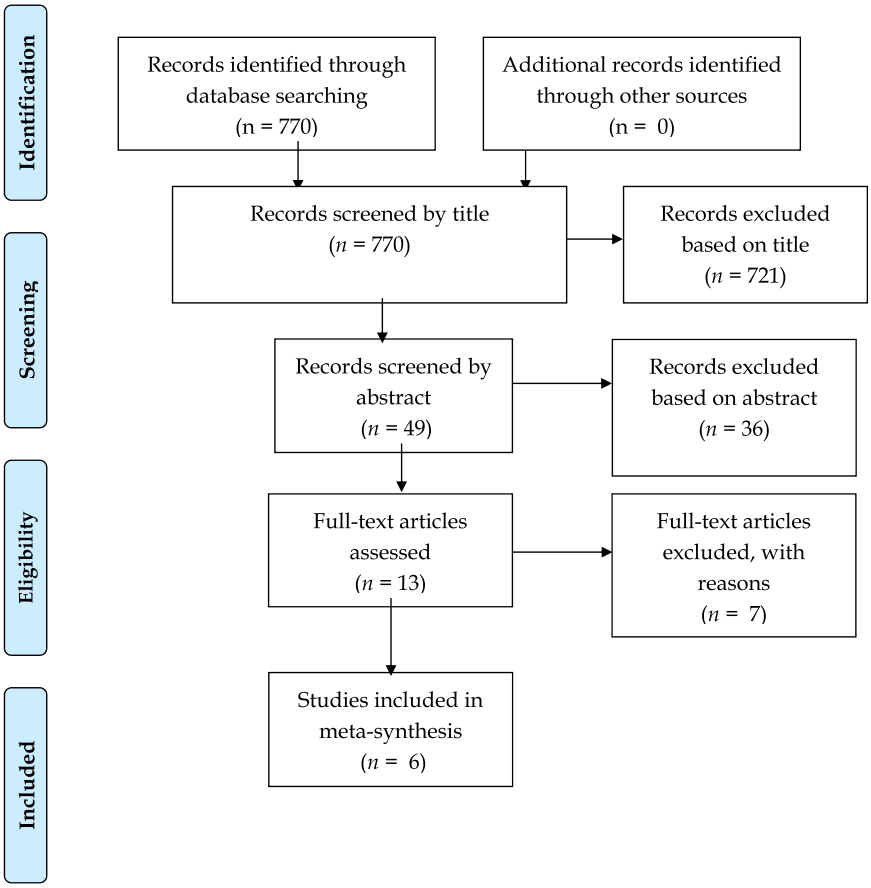

Fig. 1. PRISMA Flow Diagram.

Initial themes	Relevant Studies	Cluster Themes
Choice	1	*Self-determination*
Control	1, 3, 6	
Active Participation	1, 3	
Autonomy	1	
Natural equals safe	1, 3, 5	*Natural & safe leads to highly desired natural & safe childbirth*
Wellbeing	1 ,3	
Clear desire for natural birth	3	
Previous experience	2, 3, 4, 5	*Close affiliation with CAM & concerns re biomedical model*
More time with CAM practitioner – improved therapeutic relationship	3, 6	
Distrust in Institution	3, 5	

Fig. 2. Themes and cluster themes from the 6 studies included.

Table 2
Themes and cluster themes from the 6 studies included.

Initial themes	Relevant Studies	Cluster Themes
Choice	1	
Control	1, 3, 6	*Self-determination*
Active Participation	1, 3	
Autonomy	1	
Natural equals safe	1, 3, 5	
Wellbeing	1 ,3	*Natural & safe leads to highly desired natural & safe childbirth*
Clear desire for natural birth	3	
Previous experience	2, 3, 4, 5	
More time with CAM practitioner – improved therapeutic relationship	3, 6	*Close affiliation with CAM & concerns re biomedical model*
Distrust in Institution	3, 5	

Natural and safe leads to highly desired natural and safe childbirth

Several studies reported that women who were aiming for a natural birth were the most interested in CAM use in their pregnancy (Mitchell and McClean, 2014; Ali-Shtayeh and Jamous, 2015). They also worked on their own wellbeing with CAM in the hope to achieve better outcomes.

> "...I wanted to do everything in my power to experience a natural birth."

> "I was investing a lot into how I wanted my labour to be."(Mitchell and McClean, 2014, p 107.)

> "...doing everything possible."

> "It makes you feel better doing it, you are thinking if there is a chance that this could work you should try it." (Mitchell and McClean, 2014 p 112.)

Individual women in various studies identified that CAM had potential for adverse outcomes yet the majority perceived it as safe (Mitchell and McLean, 2014; Holst et al., 2009; Warriner et al., 2014). Women in Warriner et al.'s (2014) study suggest that 'natural' appeared to be synonymous with 'safe'. Ali-Shtayeh and Jamous (2015) interviews with women found that many avoided western medicine/pharmaceuticals mainly because they were concerned about the safety of the fetus and they felt CAM was safer.

> "...on the face of it, I don't think they'll (CAM) do any harm." (Warriner at, 2014, p 4.)

> "It is just that herbal remedies have been around for sort of much, much longer. They have been used for thousands of years and you kind of feel that they must be safer, they haven't been tampered within the same way as medicines." (Holst et al. 2009, p 227).

Nordeng et al.'s (2011) interviews with women supported the idea that previous positive (safe) personal experience with CAM was an important determinant for using these therapies in pregnancy. This previous and tested experience develops into the third theme, having already established an affiliation with CAM.

Close affiliation with CAM and CAM practitioners

Previous experience and more time with CAM practitioners found throughout the studies that created this cluster theme of a 'close affiliation with CAM'.

Steel et al. (2014) identified that women found talking to a CAM practitioner was positive. This was evident numerous times in other studies:

> "I felt nurtured. I felt I could trust her, I felt like she knew me as a person and she felt like a friend as well. I felt really understood. I felt a definite connection in term of understanding me as a person my emotions and feelings." (Mitchell, 2014, p 279.)

> "We built up this relationship and we would talk about how she would help me with the birth and how I felt about the birth. She was just so encouraging with going along with how I felt as I was so scared." (Mitchell, 2016, p 4.)

Conversely there were many references to women expressing negative feelings about their interaction with midwives in comparison to CAM practitioners:

> "The midwives they were often running late when it was my turn. They are like, blood pressure is ok, no sugar in your urine, right OK, is there anything else and you know they just want to hear no or fine and then you are out again. There were often times when I just wanted to talk to someone but never felt I could because there was just so much time pressure on them." (Mitchell, 2016, p 277.)

> "I did actually feel a real lack from the midwifery team in the sense that I wasn't given any guidance on the experience of pregnancy and it was very routine." (Mitchell, 2014, p 279.)

> "I think that I had been expecting a bit more of a personal relationship with the midwife. I was surprised not to have. A little bit more time so that you do feel like you are an individual. It is a really special time so I think probably just 5 minutes of how are you really feeling and do you want to have a chat about anything." (Mitchell, 2016, p 5.)

Previous studies have found that women are the highest consumers of CAM in the general population and that many continue their use during pregnancy (Hall et al., 2011). This meta-synthesis also found that women who had used CAM before felt comfortable in using the therapy again in their pregnancy:

> "I have been using herbs my whole life." (Holst et al., 2009, p 227.)

> "...felt confident that it would be ok because my body is used to them." (Mitchell and McClean, 2014, p 109.)

> "I'd used complementary therapies before I resorted to drugs from the doctor." (Warriner et al., 2014, p 141.)

The final stage of analysis was to combine the meta-synthesis findings. The unique findings highlighted in this meta-synthesis, and their contribution to the literature, is summarised as follows. Women who use CAM in pregnancy tend to be motivated by a desire for self–determination that ensures choice, control, active participation and autonomy in their maternal journey. They also tend to be aiming for a natural and safe childbirth and see the use of CAM as part of their work towards this by improving their wellbeing and holding the notion that natural aligns with safe. These women tend to have a close affiliation with CAM and appreciate the relationship they were able to establish with their CAM practitioner. This was due to a combination of previous experience and more time available with the CAM practitioner to improve the therapeutic relationship.

Discussion

By using a meta-synthesis, an integrated perspective on the perceptions, motivations and experiences of pregnant women with regard to their use of CAM during pregnancy was established. The results provided a core concept that women are using CAM in pregnancy as a means of supporting their sense of self-determination, to pursue a natural and safe childbirth, and because they experience a close affiliation with the philosophical underpinnings of CAM and valued the time spent with CAM practitioners.

These insights can help midwives to better engage with women around the use of CAM through providing a better understanding of their motivations and experiences. They also suggest that CAM use in

pregnancy has some potential to provide non-pharmaceutical clinical benefits. For example, the importance of and the right to self-determination for women is well documented in midwifery literature (Pairman et al., 2015; Fahy et al., 2008; Griffith et al., 2010; King et al., 2013; Foster and Lasser, 2011; Australian College of Midwives, 2016). Control in decision making has been demonstrated to improve birth satisfaction (Warriner et al. 2014). Self-determination can also have a positive impact on both the mother's emotional health as well as her physical health. This has the potential to impact both the mother and her infant (Fahy et al., 2008: Lane, 2008). The International Confederation of Midwives (ICM, 2016) has identified the importance of autonomy and self-determination for women. It lists the concepts in its 'Bill of Rights for Women and Midwives':

> #6. Every woman has a right to participate actively in decisions about her healthcare and be offered informed consent (ICM, 2016).

Brodie and Leap, in the text edited by Fahy et al. (2008) take this even further stating that the promotion of maternal self-determination is directly related to the effective establishment of the mother-baby relationship.

Thus, it appears reasonable to surmise that where the use of CAM is providing a heightened sense of self determination, it may also be contributing to more satisfaction for women (assuming that the modalities are causing no harm). This would however, require further examination, including consideration of how the same benefits may be achieved in the context of non-CAM models of care. It would also be useful to identify other opportunities in maternity care that women can exercise this self-determination.

Rebecca Shiller (human rights advocator) has found in her work with childbearing women that women talk about safety and control with remarkable similarity when making decisions in their healthcare (Shiller, 2016). It is not surprising then that safety was a theme that arose after self-determination / control. It is interesting that the women studied often assumed that natural was safe. The National Centre for Complementary and Integrative Health (NCCIH, 2017) remind the public that natural does not always mean safe. Their website advises pregnant and lactating women in particular to be discussing with their health care practitioner the use of CAM. Conversely, Florence Nightingale said that it was an important requirement of a hospital to do the sick no harm (Nightingale, 1863). Her warning reminds us that there has been a long history of conventional medicine being reported to cause the public harm. Stenglin and Fourer (2013) also remind us that all women need to feel safe in birth and the effect on the sympathetic nervous system (and progress of labour) if she does not.

Within midwifery literature and culture there is a historical alignment with the natural physiology of childbirth maximising safety for women and children. This leads on to an affiliation of the two words 'natural' and 'safe'. Is there no wonder those other modalities that identify with the term 'natural' are deemed to be 'safe' by childbearing women? This appears to increase the need for further research into CAM use and its safety in pregnancy to ensure the wellbeing of women and their babies. It is useful to consider whether this means women feel that they do not get this sense of 'natural' and 'safe' from non-CAM maternity practitioners.

The evidence of women experiencing a close affiliation with CAM and CAM practitioners is a reminder to midwives to re-evaluate their partnership model. Midwifery purports to approach women holistically within a social model of care however women's comments about midwifery provided here are more reflective of the biomedical model. Walsh (2007) describes the biomedical model as being controlling and managing. CAM follows the values of respect and empowerment that take into account the whole person's physiology, psychosocial and spiritual aspects. This more social model celebrates differences rather than the homogenous biomedical method. In the biomedical model the practitioner is seen as the 'expert'. The biomedical model may hinder a woman's ability for self-determination. It can force her to be passive in her health care. In the more social CAM model the practitioner has an equal relationship with the woman. (Walsh, 2007; Lane, 2008.) It may be important for maternity services to adapt to provide what CAM is providing to women. This could start with providing midwives more time with women to develop their partnership model. Many of the quotes from the data mentioned this. The women felt rushed. This may not be a poor reflection on midwifery itself, it may be that services are not well resourced. The comments from the women in these studies is a reminder for the profession that the midwife are being 'with woman' rather than 'doing to' the woman.

The idea that the relationship between the midwife and the woman is a 'partnership' model is now an accepted part of midwifery practice appearing in leading midwifery educational texts (Pairman et al., 2015; Guilliland and Pairman, 1995). Interestingly this model is similar to CAMs model where both identify that for the optimum health care to be achieved it is important that the woman's individual situation is thoroughly discussed, understood and respected (Lane, 2008). This partnership further contributes to the women's sense of self-determination where she feels in complete control (Leap et al., 2011). The 'with woman' relationship includes a challenge to midwives to find ways to embrace uncertainty with women to communicate that we believe in their expertise (Fahy et al., 2008). The relationship requires maturity, self-awareness and the ability to share oneself in a way that can be challenging for midwives. It can take time for midwives to negotiate this partnership relationship and is particularly difficult in a fragmented model of care (Pairman et al., 2015; Homer et al., 2008). CAM models are reputed to provide longer consultations in a comfortable almost relaxing environment. Western, biomedical institutions may need to look at processes and time constraints on midwives that minimise and inhibit their ability to provide care that engages women.

Limitations of study

Due to the lack of relevant articles able to be synthesized, no articles were excluded on the basis of country of origin. There may have been discrepancies between cultures of women's motivation, perception and experience, however this was not evident to the first and second author in the six articles analysed. In the existing research on this topic there are no conclusive ideas on personality traits that may be associated with CAM use, only demographic traits. For example, it might be that women who choose CAM tend to be the type of people who seek 'alternative' approaches to everything. Also, CAM users that agree to be interviewed may not be representative of all CAM users. It should be noted that CAM users might be different in some aspect to other women so the results might not be generalisable to all women.

Conclusion

Insights into women's experience of CAM use in pregnancy enable midwives and obstetricians to understand the factors that influence the intentions of women to use CAM. The right to self-determination, a desire for a natural and safe birth and close affiliation to the CAM model appear to be the main factors. In conclusion, these findings are important to practitioners, policy makers, governing bodies and researchers providing a clearer understanding of the importance of CAM use to women in pregnancy. This may provide perspective to current debates regarding the regulation, education and funding given to research on CAM use, including individual modalities, in pregnancy.

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Disclosure of interests

The first author is a naturopath and midwife who is currently a PhD candidate interested in Raspberry Leaf and women's birth outcomes.

Conflict of Interest

None declared.

Details of ethics approval

As this is a review of qualitative literature no ethical approval was required.

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Clinical Trial Registry and Registration number

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