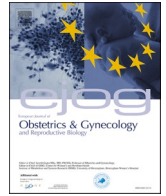


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# European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: [www.journals.elsevier.com/european-journal-of-obstetrics-and-gynecology-and-reproductive-biology](http://www.journals.elsevier.com/european-journal-of-obstetrics-and-gynecology-and-reproductive-biology)

Full length article

## The role of traditional complementary physical interventions in obstetrics – A scientific review commissioned by the European board and college of obstetrics and gynaecology (EBCOG)

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## ARTICLE INFO

## Keywords:

Pregnancy  
Acupuncture-acupressure  
Complementary medicine  
Traditional Chinese Medicine  
Miscarriage, spontaneous  
Gastrointestinal disorders  
Respiratory disorders  
Urinary problems  
Breech presentation  
Labour, augmentation/induction  
Labour, analgesia  
Galactagogues

## ABSTRACT

Because of the fear of the use of pharmacological agents, many pregnant women are opting to use alternative management modalities either as primary management or to compliment standard contemporary medical practices. The traditional complementary physical interventions of acupuncture, acupressure, and electrostimulation have a long tradition of use in traditional Chinese medical practice and are advocated for the management of antenatal conditions such as spontaneous miscarriages, gastrointestinal, respiratory, and urinary problems. They have also been advocated as useful to help the process of labour in promoting a cephalic delivery, induction/augmentation of labour and pain relief. Postpartum these modalities have been said to help the secretion and production of milk. While a number of studies, some randomized controlled, have suggested a potential role for these traditional complementary physical interventions, systematic reviews have generally failed to show a definite conclusive beneficial role and all reviews generally suggest the need for further controlled research in the field. Since no adverse effects appear to be associated with the use of these modalities in pregnancy, such modalities of management can be considered but only as an adjuvant to standard pharmacological management after a full clinical assessment has ruled out underlying pathology.

## Introduction

Complementary medicine refers to the use of alternative healing practices as adjuvant forms to conventional management. Alternative healing practices can involve a wide variety of therapeutic or preventive health care systems that aim to provide physical and mental wellbeing without resorting to pharmacological intervention. These non-conventional alternative management forms can involve a wide range of options including the use of natural-based substances such as herbal therapy, naturopathy, and aromatherapy, and the use of physical methods such as acupressure/acupuncture, and magnetic field therapy. An EBCOG position statement on the use of herbal medicine during pregnancy has been previously published [1].

There is no doubt that more and more patients worldwide are resorting to traditional complementary and alternative medicine (TCAM). The use of TCAM in Europe range from < 10 % in Eastern European countries to as high as 35.4 % in France. Higher rates of use > 50 % are reported from East Asian countries. Women are generally more

likely to resort to TCAM than their male counterparts [2]. It also appears that while professional medical healthcare providers remain skeptical about the inclusion of TCAM in their therapeutic armamentarium, the overall prevalence of TCAM acceptance and actual usage by obstetrics and gynaecology specialists was reportedly 62 % (95 % CI, 36–82 %) and 68 % (95 % CI, 63–73 %) respectively [3]. This increasing demand for adopting TCAM emphasizes the need for evidence-based guidance relating to the actual efficacy of these management modalities in obstetrical and gynaecological practices. The present statement reviews the role of the physical TCAM modalities in modern obstetric practice.

A systematic review of Australian-relevant published guidelines has confirmed that there is a general lack of guidance regarding correct TCAM use during pregnancy, and when these recommendations are made, the information is often inconsistent leading to potential variation in care. Many of the issues addressed in these guidelines relate to supplementation with nutrients and herbal medication. Very few guidelines provided clear information and advice regarding the use of the physical forms of TCAM such as acupressure/acupuncture [4].

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TCAM practitioners do not recommend the use of acupuncture at specific acupoints throughout pregnancy (all acupoints below the umbilicus and L.1–4 Hegu, SP-6 Sanyinjia, BL-60 Kunlun, and BL-66 Zhiyin), and also recommend that the upper abdominal acupoints should be avoided in the second-third trimester. Physical TCAM modalities in obstetric practice have been advocated as useful for a number of obstetric conditions [5].

### Antenatal conditions

**Miscarriage:** Acupuncture is advocated for the management of threatened and habitual miscarriage as an attempt to ‘reinforce the pregnancy’. The treatment is applied at several acupoints singly or in combination possibly reinforced by moxa treatment [5]. At present, conventional medical management has little to offer women undergoing a threatened miscarriage or those who have had a series of miscarriages. Cochrane systematic reviews have as yet not shown a definite management role for the use of progestogens [6], anticoagulant therapies [7], or bed rest [8]. The 2021 NICE Guidelines provided for the off-label use of vaginal micronized progesterone 400 mg twice daily to women until 16 weeks gestation for women at risk of miscarriage. No reference was made in respect to the role of physical TCAM modalities in the management of these conditions [9]. There are very few randomized controlled trials (RCT) investigating the role of acupuncture in the management of threatened miscarriage. The available studies suggest that women with threatened miscarriage undergoing acupuncture or acupressure management showed statistically significant differences in pregnancy outcomes as reflected by pregnancy loss or pregnancy complications [10,11].

**Gastrointestinal disturbances:** Acupuncture treatment has long been advocated as efficacious for the management of gastrointestinal disorders, though the evidence level was low to moderate [12]. A large number of animal and clinical studies have suggested that physical TCAM modalities have an effect on gastrointestinal movement [13]. Nausea/vomiting are very common symptomatology experienced by women in early pregnancy. The condition may become severe leading to hyperemesis gravidarum with its potentially significant associated morbidity. Physical TCAM modalities reportedly useful for managing the symptomatology include acupressure wrist bands, acustimulation, and acupuncture. Acupressure is a noninvasive form of acupuncture that involves the application of constant pressure to specific points or areas, generally at the P6 Neiguan point located on the medial inner aspect of the forearm near the wrist. Alternatively auricular acupressure has also been advocated to be useful. Other alternative recommended for the management of nausea/vomiting includes upper abdominal acupoints and other distal acupoints [5].

A Cochrane database systematic review based on seven studies suggested that there may be some non-consistent evidence that P6 acupressure was effective in reducing nausea/vomiting symptomatology when compared to placebos [14]. One study comparing KI-21 Youmen (upper abdomen) acupressure with sham acupressure reported a statistically significant difference favouring KI-21 Youmen acupressure on day four of treatment [15]. A study investigating auricular acupressure applied by the woman by pressing on magnetic balls taped to the auricular acupressure point again failed to show any statistical differences in symptomatology outcomes [16]. A study comparing acustimulation using low-level nerve stimulation therapy at the P6 point with placebo suggested that there was improvement over time in the active treatment group [17]; while two studies investigating the role of P6 acupuncture showed no significant relief from nausea, dry retching and vomiting [18,19]. In respect to the management of heartburn, acupuncture management appeared to compare with no treatment, though women who had acupuncture reported improved ability to sleep and eat [20]. A single-blind randomized controlled trial showed that severity of constipation during pregnancy decreased significantly in the group managed acupressure at acupoint TH-6 Zhigou (dorsal part of the

wrist) compared to the control group receiving no intervention [21].

The Cochrane review concluded that there is insufficient strong high-quality evidence to support any particular intervention. Further research studies using clearly justified outcomes and approaches to measurement are necessary to fully appreciate the true role of physical TCAM in the management of nausea and vomiting in pregnancy. The 2021 NICE guidelines on routine antenatal care conclude that adjuvant acupressure helped relieve symptomatology in cases of moderate-to-severe nausea and vomiting, though this was not observed on mild-moderate cases. They recommend that acupressure could be considered as adjuvant treatment for women with moderate-to-severe nausea and vomiting. The guidelines offer no recommendation regarding the use of acupressure in the management of constipation [22]. Acupressure wrist bands are freely available at relatively low cost and acceptable to women. The only reported potential adverse outcomes associated with the use of the acupressure wrist band at the P6 Neiguan included easily reversible median nerve pressure effects such as pain, numbness, and soreness. The advantage of wristband acupressure over acupuncture or acustimulation at the P6 Neiguan or TH-6 acupoints is that the former can be easily applied in clinical practice without the need for trained skilled staff. In the face of the reported GI physiological effects related to physical TCAM modalities and the absence of associated significant adverse effects, it would be reasonable to promote these modalities of treatment to pregnant women wishing and willing to use alternative forms of managing their symptomatology. Women presenting with abdominal pain with/out vaginal bleeding need clinical assessment and investigations to exclude serious pathology requiring targeted management.

**Respiratory disorders:** The physiological and anatomical changes accompanying pregnancy can result in the development a number of respiratory symptoms, such as shortness of breath that may inconvenience the mother. These changes may cause the women suffering from chronic asthma and chronic obstructive pulmonary disease (COPD) to become particularly distressed. Acupuncture with/out moxibustion, including acupressure at the P6 Neiguan point applied to the left wrist, has been advocated as a means of relieving the symptomatology of shortness of breath in pregnant women. Similarly TCAM modalities have been advocated in the management of cough during pregnancy [5]. TCAM modalities have been suggested as being potentially useful in the management of COPD but the evidence of effectiveness remains limited, though no harmful effects were reported [23,24]. A limited RCT study using acupuncture in the management of Stage 2–4 COPD has reported improved symptomatology when compared to placebo needling [25]. There is overall insufficient evidence to support the use of TCAM modalities in the management of respiratory conditions during pregnancy [26]. Since no adverse effects appear to be associated with the use of TCAM modalities in pregnancy, such modalities of management can be considered but only as an adjuvant to standard pharmacological management after a full clinical assessment has ruled out underlying pathology.

**Urinary symptoms:** The pregnancy-associated physiological changes predispose the woman to an increased risk of urinary tract infections (UTIs). The symptomatology related to these infections, frequency, urgency and dysuria, can be quite distressing and are difficult to manage effectively pharmacologically. Acupuncture, particularly at acupoint SP-9 Yinlingquan situated over the tibial nerve, has been advocated as particularly useful in reducing urinary related symptomatology [5]. Two RCT studies assessing the use of acupuncture to prevent recurrent UTIs have shown the modality to be potentially useful [27]. If TCAM modalities are considered in managing urinary problems during pregnancy, these should only be used as adjuvant to reduce symptomatology while standard management for UTIs in pregnancy is being applied [28].

### Intrapartum management

**Breech presentation:** TCAM modalities have been advocated during the latter part of pregnancy to ensure a cephalic presentation during

labour and delivery. A meta-analysis of 16 RCTs has suggested that moxibustion with/out acupuncture at BL67 Zhiyin acupoint reduced the incidence of breech presentation at term particularly in an Asian population. There appeared to be no increased rate of adverse effects from the procedure. The mechanism for this has not been determined but it is suggested that moxibustion at BL67 stimulates the production of prostaglandins and oestrogen promoting uterine activity leading to increased fetal movements [29]. One study confirmed that after moxibustion, the Caesarean section rate in third trimester breech presentation pregnancies was shown to be reduced [30].

**Management of labour:** During labour, TCAM modalities have been advocated as useful means of inducing the onset of labour and as forms of analgesia during labour. A Cochrane database systematic review based on 22 trials suggested that manual or electro-acupuncture was possibly associated with an improvement of cervical ripening as evidenced by an improved Bishop's score and a shorter intrapartum period. There were however no differences shown in delivery outcomes [31]. Acupuncture modalities have been very effectively used to alleviate painful stimuli. TCAM modalities have also been used to provide analgesia during labour and thus potentially reduce the use of pharmacological analgesia. A Cochrane database systematic review based on 28 trials however concluded that it remains uncertain whether acupuncture or acupressure was truly effective but there is no reason to deprive the facility for women who wish to use this analgesic method during labour [32]. These conclusions emulate those reached for the use of transcutaneous nerve stimulation (TENS) for pain relief in labour [33].

### Postpartum conditions

**Postpartum complications:** TCAM modalities have been suggested to help promote the secretion and excretion of milk. A systematic review based on nine studies suggested that acupuncture or acupressure at various acupoints may be useful to improve breast milk production and possibly further decrease any breast engorgement [33].

### Conclusion

Acupuncture and other TCAM modalities remain key components of traditional Chinese obstetric practice even though the physiological mode of action has not been elucidated. The true value of these modalities in managing obstetric problems often remains unclear, though a number of RCT studies have indicated a potential benefit. There remains a definite need for further high-quality research based on well designed RCT trials, together with studies attempting to identify the physiological effects of such modalities. It is important to emphasize that while TCAM modalities may be potentially useful in alleviating pregnancy symptomatology and managing obstetric situations, these modalities of management should be used to compliment and not replace standard antenatal care.

### Approval

This review was peer reviewed by Professor Basil Tarlatzis, Dr Sambit Mukhopadhyay, Professor Diogo Ayres-de-Campos and Dr Hajra Khattak.

The paper was approved by the Executive Board of the EBCOG on 24th September 2022.

### Declaration of Competing Interest

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

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