

Why is raspberry leaf and its use in pregnancy so confusing? A narrative review of traditional and contemporary understandings

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Keywords raspberry leaf, pregnancy, herbal medicine, partus preparator, uterine tonic.

For referencing Rakatau S, Casteleijn D. Why is raspberry leaf and its use in pregnancy so confusing? A narrative review of traditional and contemporary understandings. The Australian Journal of Herbal and Naturopathic Medicine. 2026;38(2):xxx.

DOI <https://doi.org/10.33235/ajhnm.38.2.xxx>

Submitted 5 February 2026, Accepted 19 March 2026

Abstract

Labour Augmentation occurs in 15% of all birthing mothers in Australia, while necessary in certain clinical contexts, it can result in negative birthing outcomes for mother and child. Raspberry leaf (*Rubus idaeus*), traditionally well regarded as a partus preparator and uterine tonic, remains one of the most commonly used herbal medicine in pregnancy. However, misunderstandings regarding its therapeutic actions have resulted in confusion and potentially unsafe prescriptions. This review summarises the available evidence regarding the use of raspberry leaf to support uterine tone and function throughout pregnancy. Highlighting its potential role to decrease the need for labour augmentation and the risks associated, when used safely.

Augmentation of labour is defined by the World Health Organisation as the process of stimulating the uterus, through means such as intravenous oxytocin and/or artificial rupture of amniotic membranes, after the onset of spontaneous labour to enhance contractions in cases where labour may not be progressing as expected.¹ In 2023 the Australian Institute of Health and Welfare,² reported that labour was augmented in 15% of all birthing women and as many as 38% of all first-time mothers. Additional data indicates that 22% of first time mothers required instrumental vaginal birth assistance, involving the use of forceps or vacuum extraction cup.³ This is typically employed to accelerate birth in the presence of suspected or anticipated fetal compromise, in cases where bearing down of the mother is contraindicated or during a delay in the second stage of labour.⁴ Although these interventions are necessary in certain clinical contexts, their use may increase the risk of complications and negatively impact the childbirth experience.^{1,5} A meta-analysis found association between the use of oxytocin for augmentation and adverse perinatal outcomes including low Apgar scores.⁶ Similarly, instrumental birth assistance has been associated with increased risk of injury to mother^{4,7} and newborn.^{7,8}

Raspberry leaf (*Rubus idaeus*) has a long tradition of use in western European cultures.⁹ In an article published in the Lancet in 1941 herbal specialists are quoted as saying “if the infusion be taken freely before and during confinement, parturition is easy and speedy”.¹⁰ In Australia it is reportedly one of the most commonly used herbal medicines in pregnancy¹¹; with 37–38% of pregnant women reporting their use^{12,13} and 73% noting familiarity.¹³

However, there are also potential misunderstandings about the safe use of raspberry leaf in pregnancy. This could be related to apparent discrepancies between its traditional applications and evidence relating to its mechanisms of action which can appear to be contradictory.^{14,15} Constituent studies, conducted in 1941, looked at the effects of specific constituents on muscle tissue with variable results. One study found contractions were diminished in force and frequency,¹⁵ another finding that if the muscle was relaxed, contractions were induced.¹⁰ When studied as the whole leaf and tested on uterine muscle in 1970, it was suggested that raspberry leaf would prevent or reduce the risk of uncoordinated uterine contractions through modulating uterine activity.¹⁶ Further complicating the discourse, animal

studies have reported differing effects depending on the preparation used. An alcohol extract of raspberry leaf has been shown to produce muscle relaxant effects,¹⁷ whereas aqueous extracts produced muscle contraction, however, it was stated that the dose required to induce such uterine muscle contraction was unlikely to be achieved through general consumption.¹⁸ Additional complexities arise from references to the traditional use of raspberry leaf in the treatment of morning sickness,^{19,20,21} as morning sickness generally peaks at around nine weeks gestation,²² these references could indicate early commencement of raspberry leaf during pregnancy.

As research into the use of raspberry leaf has progressed, several studies have investigated safety during pregnancy and labour outcomes. A 1999 study found 57 women taking raspberry leaf were less likely to require artificial rupture of their membranes and less likely to have pre or post term labour than 51 women in the control group. One preterm labour was recorded, in the control group. Raspberry leaf was commenced as early as eight weeks gestation in 13% of participants. This small retrospective cohort study suggests that taking raspberry leaf from as early as eight weeks gestation is not associated with side effects or risks to mothers or babies.²³

In 2001, a double-blind placebo-controlled trial which included 192 low-risk nulliparous women, raspberry leaf was found to significantly reduce second stage labour (mean difference=9.59 minutes) while the length of gestation in both groups was the same, the need for forceps delivery reduced (19.3% versus 30.4%).²⁴ This is of potential value, as prolonged second stage of labour can be associated with less favourable outcomes for the mother,²⁵ lower Apgar scores and increased risks to newborns.²⁶ In addition, forceps delivery, an intervention which may be required during prolonged second stage of labour, has been associated with both long and short term injury risk to mother^{4,7} and newborn.^{7,8}

A study from 2024 included 97 participants, 44 women who used raspberry leaf during pregnancy and 47 who did not. This study found that those who used raspberry leaf during pregnancy were more likely to experience favourable birth outcomes. Most notably, augmentation of labour was required in only 2% of women taking raspberry leaf, compared with 68% among those who did not. Epidural use was also considerably lower (14% versus 55%), as were rates of instrumental birth (7% versus 36%). Vaginal birth was more common in the raspberry leaf cohort (75% versus 53%), with all stages of labour being shorter in the raspberry leaf group, with a reduced median duration of the first stage (7:45 versus 8:23), second stage (1:33 versus 2:45), and third stage (12:45 versus 13:15). Postpartum haemorrhage occurred less frequently (14% versus 28%). Additionally, a smaller proportion of newborns had an Apgar score of less than seven (9% versus 15%) Importantly, raspberry leaf use commenced as early as eight weeks' gestation, with no safety concerns identified.¹¹

A more recent qualitative study from 2026 found most women who took raspberry leaf during their pregnancy said the experience was positive contributing to a sense of self-determination,¹² reflecting previous research exploring reasons women used complementary and alternative medicine in their pregnancies.²⁷

Ruth Tricky, a retired registered nurse and medical herbalist,²⁸ explains that a herbal partus preparator acts to prepare a more effective labour through supporting uterine tone rather than causing contractions. Similarly, Bone and Mills²⁹ state that a tonic refers to a herb's ability to enhance the tone, vigour and overall function of an organ structure. In this context, raspberry leaf acts to optimise uterine function and prepare the body for a more effective labour, rather than stimulate contractions prematurely. Hoffman³⁰ supports this, saying that raspberry leaf has an affinity for the uterus and acts to strengthen the uterine and pelvic muscles and has been used to prevent miscarriage. In contrast, the medical definitions of tonic may refer to a state of sustained muscular contraction³¹ or to an agent that stimulates the functions of the body.³²

This difference in description may have contributed to inconsistencies in the literature regarding when or even if raspberry leaf should be used. Some sources caution against the use of raspberry leaf in pregnancy and labour entirely.³³ However, studies directly observing the outcomes of use have found no increased risk associated with use during pregnancy, with some participants starting as early as eight weeks gestation.^{11,23} Other sources recommend the use of raspberry leaf only to stimulate labour in post-term pregnancy. A survey of 3552 national midwifery association members found that 52% of midwives recommended raspberry leaf to bring on labour in post-date pregnancies. However, there is no evidence to support raspberry leaf's use to induce contractions post due date, other than the anecdotal use described by midwives based on their own experiences.³⁴ These discrepancies in understanding due to lack of quality evidence may result in raspberry leaf being prescribed at the wrong time, or even entirely avoided, not allowing for the full benefits in pregnancy and labour to be experienced.

By supporting uterine tone and function throughout pregnancy, raspberry leaf may help to improve childbirth through the decreased need for medical intervention, combined with a demonstrated lack of harm when used from eight weeks gestation.

These promising outcomes demonstrated the use of raspberry leaf during pregnancy clearly indicates a need for further research.

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