# Is it safe for breastfeeding women to take herbal medicines?

Prepared by UK Medicines Information ([UKMi](http://www.ukmi.nhs.uk/ukmi/about/default.asp?pageRef=1)) pharmacists for NHS healthcare professionals

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## Background

The prevalence of herbal medicine use by women in the United Kingdom (UK) during lactation is unknown. A survey conducted in Norway among 600 women found that, of the women who had previously breastfed a child, 37.3% had used herbal medicines to increase milk production (1). In Western Australia, a survey of women who had breastfed in the last 12 months found that 59.9% of the 304 responders took at least one herb during breastfeeding for medicinal purposes and in 60% the reason for use was breastfeeding-related. Less than a third of users had informed their GP they were planning to take the herbal medicine (2).

Similarly, an Italian web-based survey conducted over six years showed that 52.6% of the 388 responders included in the analysis had used complementary medicines (including herbal or phytotherapeutic preparations) during breastfeeding. Of these women, 65% had no scientific information about the possible risks of complementary medicines, but 73% considered them to be as safe as/ safer than conventional medicines (3). A publication reporting an increase in phone calls on the use of herbal galactagogues to an Australian pregnancy and lactation counselling service between 2001 and 2014 from 0% to 23% of all calls suggested that members of the public, but also some healthcare professionals, are increasingly seeking information surrounding their use (4).

It is likely that many women in the UK are using herbal medicines during lactation, probably for reasons such as post-partum depression, to increase/decrease milk supply and to relieve physical discomfort associated with breastfeeding. Further research is required to determine the extent of use and the safety and efficacy of herbs in common usage by breastfeeding mothers.

## Answer

Scientific information on the safety of herbal medicines during lactation is scarce and a literature search revealed no rigorous trials in this area. The amounts of pharmacologically active components of herbal medicines that pass into breast milk are largely unknown. Whether or not many herbal medicines pass into breast milk is unknown. Furthermore, contamination of herbal medicines with substances such as conventional medicines, pesticides and heavy metals cannot be ruled out. The safety of many herbal medicines has not been established in breastfeeding women and it is recommended that a doctor or pharmacist is contacted before using a herbal medicine during breastfeeding (5).

There is a scarcity of reports in the literature concerning breastfed infants who have experienced adverse effects associated with herbs ingested by their mothers, but the assumption must not be made that herbal medicines are unlikely to cause problems in breastfed infants. One published report suggested that a soup made of dong quai was the cause of hypertension in a mother and her three-week-old baby. The baby’s blood pressure returned to normal when breastfeeding was discontinued for a couple of days (6). Another report has been found of an exclusively breastfed 9 day old term male infant who presented with a one day history of lethargy, decreased milk intake, anaemia and jaundice (7). The lactating mother, who was asymptomatic, had started drinking tea made from arnica flowers 48 hours before the onset of symptoms. Exchange transfusions were used to lower the infant’s bilirubin and correct the anaemia. The mother stopped drinking the tea and resumed breastfeeding, and no further haemolysis or other problems were noted in the infant (7).

A few herbs have the potential to harm infants exposed to them via breast milk. Among these are herbs containing pyrrolizidine alkaloids (PAs), some of which can be hepatotoxic if taken orally (8). Studies analysing the contents of herbal teas have confirmed the presence of PAs (9, 10), and it has been concluded that they could be harmful in breast feeding and pregnant women if consumed long term (10). Some sources advise against the use of herbs containing anthranoids (other than senna) (8,11). Anthranoids have laxative effects and are partially excreted into breast milk (8).

It is recommended that the following herbs are avoided by breastfeeding mothers. This list is not exhaustive:

Aloe (oral) (12), blue cohosh (13), borage (13), buckthorn (12), comfrey (13), goldenseal (14), Indian snakeroot, kava, male fern, European mistletoe, pennyroyal oil, podophyllum, rhubarb root, skullcap and uva ursi (12).

Herbs with sedative constituents such as valerian are usually avoided during breastfeeding due to the potential risks of lethargy and poor weight gain in the infant and concerns over potential risks of sudden infant death syndrome (15). It is not known whether valerian transfers into human milk (13), but the current advice is to avoid it in breastfeeding women (12,13), and, if necessary, to use medicines for which more information is available on safety in breastfeeding (13).

Examples of herbal medicines that might be of particular interest to breastfeeding women are given below with a brief discussion of the safety concerns associated with them:

### Herbs for physical discomfort related to breastfeeding

Comfrey is a PA-containing herb sometimes used by breastfeeding mothers on their nipples to prevent dry, cracked skin. According to one US source, it has been associated with hepatic venoocclusive disease in infants and should be avoided (16). A further source advises against the use of comfrey and other members of the Boraginaceae family in breastfeeding mothers when administered topically, orally or in any form (13).

One report has been published of a 17-day-old infant with a generalised urticaria whose mother had applied water boiled with stinging nettle onto her nipples twice a day (before and after each breastfeed) for two days in order to heal her nipple cracks. Serum total immunoglobulin E (IgE) and specific IgE levels for stinging nettle were high in both the infant and the mother. The rashes disappeared completely by the second day without treatment. A skin prick test with the water boiled with stinging nettle was positive for the infant with significant induration, but not for the mother (17).

Other herbs that have been applied topically for breast problems during lactation include cabbage leaf, green tea and jasmine flowers. Existing evidence suggests that there are no safety problems associated with appropriate, topical and short-term use of cabbage leaves for breast engorgement (12), but insufficient information is available on the safety of green tea and jasmine when used topically during lactation (12).

In any case of topical treatment, washing the breast before breastfeeding is recommended (18).

### Herbs to increase milk production

Herbal medicines reported to be commonly used as galactagogues, i.e. to increase milk production include oats, alfalfa, fennel, blessed thistle, fenugreek (19), and anise (12, 20). Other well-known galactagogues are milk thistle, chasteberry (8), goat’s rue, shatavari (*asparagus racemosus*), caraway seed, dill and borage (21). Borage may contain PAs (12) and should be avoided by breastfeeding mothers.

**Fenugreek:** A small study assessed mothers who received at least 3 cups of herbal tea containing fenugreek (n=22) daily against placebo apple tea (n=22) and a control group (n=20) who were not advised any special recommendations. Infants in the fenugreek tea group regained their birth weight earlier than those in the control and placebo groups (6.7 ± 3.2 days in the fenugreek group versus 7.3 ± 2.7 days in the placebo group versus 9.9 ± 3.5 days in the control group, p<0.05). The mothers did not report any adverse effects in themselves or the neonates (22). Similarly, no adverse effects were seen in mothers or infants in a double-blind, placebo-controlled study in which 26 mothers of premature infants (≤31 weeks gestation) received fenugreek (three 575mg capsules, three times a day) or placebo for 21 days. In this study, milk volume and maternal prolactin levels were found not to differ statistically significantly between the active and placebo groups (23). The two studies described above were included in a recent network metaanalysis of studies that investigated the efficacy of fenugreek as a galactagogue in breastfeeding mothers. The outcome was total volume of milk (per day and per feed) and in the final analysis of four studies, fenugreek was found to increase breast milk production more effectively than placebo (weighted mean difference (WMD) 11.12 (CI 95% 6.77, 15.46; p<0.001) Studies involved in the final analysis did not report any relevant safety data (24).

Clearly, safety information from studies is limited, but the existing evidence indicates that fenugreek is probably compatible with breastfeeding (13). Nevertheless, a case has been reported in which gastrointestinal bleeding occurred in a premature (30 weeks) baby, whose mother had received fenugreek (11). Acute liver injury has been reported in a woman who took fenugreek for 6-8 weeks to increase milk production in the second and third months postpartum. The patient was managed conservatively, fenugreek was stopped and her liver function returned to normal. There was no re-challenge (25).

Although the proportion of a fenugreek dose that passes into human milk is unknown, passage does occur and the infant’s urine may smell like maple syrup (15). This could be confused with maple syrup urine disease. The mother may also experience a maple-like smell of urine, breast milk and perspiration (26). Colic, abdominal discomfort and diarrhoea have been reported in babies whose mothers took fenugreek (27) and fenugreek has demonstrated anticoagulant and hypoglycaemic properties (13). Since fenugreek is from the Fabaceae plant family which includes peanuts, chickpeas, green peas and soybeans, people who are allergic to members of the Fabaceae plant family may also react to fenugreek (12). Breastfeeding mothers should seek further advice from a healthcare professional if they have a history of asthma, allergic reactions or diabetes or take antihypertensives, anticoagulants or antiplatelets.

**Blessed thistle:** Blessed thistle, though reported to have low toxicity, can cause allergic reactions and gastrointestinal upset (13,18), and may have abortifacient properties (13). It is not known whether blessed thistle passes into breast milk (15).

**Milk thistle:** Milk thistle contains flavonolignans, which may act on oestrogen receptors (ER2) by limiting the endogenous receptors' antagonism of milk production (26). A small, non-randomised, unblinded study compared 25 women who received micronised milk thistle (420mg daily) for 63 days against 25 placebo-controlled women. At 63 days, the authors reported an 86% increase in daily milk production in the treated group versus 32% increase in the placebo group (p<0.01) (28). The proportions of water, fat, carbohydrate and protein in the milk were unchanged (29). Further, large-scale, randomised, blinded studies would be useful to confirm these findings (28). In a separate investigation that preceded the study, five healthy, lactating volunteers who had discontinued breastfeeding their 9-month-old babies received micronised milk thistle 600mg three times a day. At five days, silymarin flavonolignans were undetectable (i.e. <1ng/ml) on HPLC analysis of their milk (28).

Possible adverse effects of milk thistle include allergic reactions, mild laxative effects (8,29), nausea, and the potential for drug interactions as silymarin inhibits cytochrome P450, beta-glucuronidase and P-glycoprotein (29). The available evidence for the safety of milk thistle during lactation is limited (12,30).

**Shatavari (asparagus racemosus):** The effects of shatavari (asparagus racemosus) on lactation have been investigated in three clinical studies (31-33). In the first, a randomised, placebo-controlled study involving 64 mothers (n=32 in each group) who had reported lactational deficiency, a galactagogue containing asparagus racemosus as the ‘active ingredient’ did not increase milk production or prolactin hormone levels. No significant side effects were reported in this study (31). In the second, non-blinded study, a definite increase in milk production was reported by 11 of the 15 women involved (31,32). The third study, a double-blind, randomised, placebo-controlled, parallel group study involving 60 lactating mothers (n=30 in each group) showed an increase in mean prolactin hormone level three times higher in the mothers in the research group than those in the control group (32.87 ± 6.48 versus 9.56 ± 4.57, p<0.05). The average percentage increase in the weight of babies was 16.13 ± 3.65 versus 5.68 ± 2.57 in the control group (p<0.05) Side-effects were not reported in this study (33). No data are available describing the relative infant dose of shatavari after breast milk consumption (34).

### Xiong-gui-tiao-xue-yin: A small study in 82 women indicated that the use of the traditional Japanese herbal medicine Xiong-gui-tiao-xue-yin (an extract of 13 herbs) in the postpartum period stimulates lactation. The herbal medicine treated group (n=41) had higher plasma prolactin concentrations on days 1 and 6 postpartum compared to the group treated with ergometrine 0.375mg/day (n=41). The herbal group also produced statistically significantly greater quantities of milk (measured by baby weight) on days 4 to 6 compared to the ergometrine group. Although no adverse effects were reported in the mothers, no data were provided on the wellbeing of the infants (35).

### Others: Any herbs that might have hormonal effects, e.g. chasteberry (also known as agnus castus) should be avoided during lactation. Chasteberry can suppress the release of prolactin in women with hyperprolactinaemia (12,18).

Similarly, alfalfa (12) and fennel (13) have oestrogenic properties. Theoretically, therefore, these herbs could inhibit breast milk production. Neurotoxicity (hypotonia, lethargy, vomiting, weak cry and poor sucking) has been reported in two breastfed infants whose mothers drank a herbal tea that included fennel, liquorice, goat's rue and anise (36).

Overall, there is not enough available information to support the medicinal use of, anise, chasteberry, alfalfa, fennel, borage, blessed thistle, milk thistle, goat’s rue, dill, caraway or asparagus in nursing mothers (12,26,31). The use of galactagogues (mainly non-herbal) has been reviewed in the [UKMi Q&A ‘Drug treatment of inadequate lactation](https://www.sps.nhs.uk/articles/drug-treatment-of-inadequate-lactation/)’ (37).

### Herbs which decrease milk supply

Sage is thought to reduce a lactating mother's milk supply (12). Some recommend using it during the process of weaning (18,38). Chasteberry constituents can inhibit prolactin release (12), and milk production (18). Other herbs reported to decrease milk supply include peppermint (18,38), spearmint, parsley (18,38), chickweed, black walnut, stinging nettles, yarrow, Herb Robert, lemon balm, oregano, periwinkle herb, and sorrel (38). For all these herbs, there is insufficient evidence of safety in lactation, particularly when used in amounts that are greater than would be found in foods (12,30). In the case of periwinkle, one source indicates that it is unsafe when taken orally, so use should be avoided during lactation (12).

### Management of post-natal depression

The management of depression with complementary medicines, including St John’s Wort, valerian and gingko biloba has been reviewed in the [UKMi Q&A ‘Management of depression in breastfeeding mothers – Are St John’s Wort and other complementary therapies safe?’](https://www.sps.nhs.uk/articles/management-of-depression-in-breastfeeding-mothers-d-are-st-johnos-wort-and-other-complementary-therapies-safe/) (39).

### Other commonly used herbs

**Black cohosh:** No data are available on the transfer of black cohosh into breast milk (13).In addition, black cohosh could have oestrogenic and/or antioestrogenic activity (40). Since black cohosh might negatively affect breast milk production due to its oestrogenic effects (13), it should be avoided during lactation until further information is available (12).

**Coenzyme Q10:** It is likely that coenzyme Q10 passes into breast milk (13). Because of the lack of safety data, it is recommended that coenzyme Q10 is avoided by breastfeeding mothers (12,13).

**Echinacea:** Tinctures of echinacea can contain high amounts of alcohol which would be contraindicated in nursing mothers (15). Although it is generally well tolerated, allergic reactions are possible with echinacea (15). It is not known whether echinacea transfers into breast milk or affects lactation (13). Due to a lack of safety data one source advises avoiding echinacea when breastfeeding (12). In general echinacea should be used with caution until there is further evidence to support its safety (41).  **Garlic:** Passage of garlic into breast milk may affect the smell and taste of breast milk and, ideally, large amounts should be avoided. There are anecdotal reports of colic in infants following exposure to garlic through breast milk (15).

**Ginseng (Panax):** Scientific evidence to support the use of ginseng (Panax) during breastfeeding is not available (30). As a result, one source suggests that use during breastfeeding is avoided (12). There is conflicting information as to whether ginseng has oestrogenic effects (1242). Oestrogens are known to suppress breast milk production.

**Turmeric:** There is insufficient information available on the safe use of medicinal quantities of turmeric during breastfeeding (1230). One source suggests that the risk of adverse effects is low but that use should be minimised if either the mother or infant are taking prescription medicines (13), Further information on adverse effects and interactions with turmeric is provided in the [UKMi Q&A 'Turmeric: potential adverse effects and interactions'](https://www.sps.nhs.uk/articles/turmeric-potential-adverse-effects-and-interactions/) (43).

### Practical Information

Although it is not currently recommended, if a breastfeeding woman does decide to take a herbal medicine, it should be with the knowledge of a healthcare professional (e.g. health visitor, doctor or pharmacist) and the product should come from a reputable source. It is also important to take into consideration why a woman wishes to take a herbal medicine as undiagnosed illness that remains untreated by conventional methods might result in harm to the individual.

As for conventional medicines taken during breastfeeding, the risk of adverse events is greater in premature or very young infants and in those with a concurrent illness.

## Summary

* It is generally advised that breastfeeding mothers avoid herbal medicines. This is due to the lack of information on whether or not various herbal medicines pass into breast milk, and of scientific safety data. Furthermore, contamination of herbal products with conventional medicines, pesticides or heavy metals cannot be ruled out.
* Herbs containing pyrrolizidine alkaloids (PAs) can be hepatotoxic and are therefore potentially harmful to any infants exposed to them via breast milk.
* Some sources advise against the use of plants containing anthranoids, which have laxative effects.
* Other herbal medicines have hormonal effects which would render them unsuitable for breastfeeding women.
* Herbal medicines that contain constituents with sedative properties should be avoided due to the potential adverse effects in the infant.
* If a herbal medicine is taken during breastfeeding, it should be with the knowledge of a healthcare professional (e.g. health visitor, GP, pharmacist) and the products should come from a reputable source.
* Healthcare professionals should take into consideration why a woman wishes to take a herbal medicine. Undiagnosed illness that remains untreated by conventional methods might result in harm to the individual.
* The risk of adverse events in a breastfed infant is higher for premature or very young infants and in those with a concurrent illness.

Limitations

There is a lack of published scientific information on the safety of herbal medicines in breast fed infants and on whether or not various herbal medicines pass into breast milk. The list of herbal medicines included in this review is not exhaustive; absence from this Q&A does not imply that a herbal medicine is safe to use in breastfeeding.

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## Quality Assurance

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### Search strategy

* Embase ([herbal medicine OR exp medicinal plant] AND [breast milk OR lactation OR breast feeding]
* Medline ([exp plants, medicinal OR exp drugs, Chinese herbal OR phytotherapy OR exp herbal medicine] AND [milk, human OR exp lactation OR exp breast feeding]
* PubMed ((breast feeding [MeSH Terms]) OR lactation[MeSH Terms] OR milk, human[MeSH Terms]) AND (plants, medicinal[MeSH Terms]) OR drugs, chinese herbal[MeSH Terms]) OR herbal medicine[MeSH Terms]) OR phytotherapy[MeSH Terms])) OR (("breast feeding" OR breastfeeding) OR lactation) AND herb). Filters: Publication date from
* NICE Evidence(“herbal medicines” AND breast)
* Micromedex (herbal medicine name)
* Natural Medicines Comprehensive Database (herbal medicine name)
* United Kingdom Drugs in Lactation Advisory Service (UKDILAS), Trent and West Midlands Medicines Information Service.
* Medication and Mothers’ Milk (online) (herbal medicine name)
* Drugs in Pregnancy and Lactation (online) (herbs) (herbal medicine name)
* Drugs during Pregnancy and Lactation, Third Edition (online)
* MHRA (herbal and lactation/breast)