

# Use of medicinal herbs in the treatment of nausea and vomiting in pregnancy: A systematic review

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## ABSTRACT

**Introduction:** Nausea and vomiting are the most common complaints during pregnancy. Due to the limited effect and dangerous side effects of antiemetic use, herbal medicine has been welcomed by pregnant women as the most active and complementary extract of pomace. The contradictory results in this area led the researcher to conduct a systematic study of the effects of medicinal plants on nausea and vomiting during pregnancy. **Method:** In this structured review, all studies conducted at home and abroad during the period 2018–2008 were analyzed using keywords from internal and external databases and data were analyzed using meta-analysis [Random Effect Model]. Selected articles were collected according to the inclusion criteria and finally examined more closely. **Findings:** After searching the databases and extracting numerous articles with titles and abstracts, 360 articles were reviewed and finally, 15 articles were selected. The types of herbs used to prevent and treat pregnancy-related nausea were ginger, chamomile, mint, pomegranate, and cardamom, respectively. **Conclusion:** These interventions have been studied in a wide range of pregnant women, while maternal age, multiparous age, gestational age and time to onset of nausea have significant effects on response to treatment and severity of nausea, also concerning it is not easy to judge the efficacy of different types of herbs on pregnancy-related nausea and generalize the results easily. And it has side effects on the fetus.

**Keywords:** Nausea and Vomiting, Pregnancy, Medicinal plants, Meta-analysis

## Introduction

Nausea and vomiting are the most common complaints during pregnancy, accounting for approximately 70-80% of pregnant women [1-3]. This complication usually starts from 4-8 weeks after menstruation, most severe at week 9 and then begins to decrease and in most cases heals up to week 14 and may persist in 2% of people during pregnancy [4,5].

Although mild to moderate, in most cases this disorder can cause a loss of peace for the mother and her family. Maternal mortality due to this complication is very rare, with a

prevalence of about 0.5% and is one of the most common causes of hospitalization in the first weeks of pregnancy [4]. Although nausea and vomiting are considered pregnancy complications but pregnancy outcomes are often good, Abortion and low birth weight are reduced by pregnant mothers [6].

Because pregnancy nausea and vomiting gradually decline and improve in most women, delay in treatment is usually symptomatic [7]. The treatment of nausea and vomiting depends on the severity of its symptoms and can be changed by diet. There are various treatment options available for admission and even TPN [6]. The use of vitamin B6, antihistamines or H1 receptor antagonists [dimerinehydramine, dimenhydrins], the dopamine blocker [metoclopramide] and corticosteroids, have been used as the last step in the treatment of severe cases [8].

Because of the fear of teratogenic effects, pregnant women are reluctant to take drugs during pregnancy. Following the thalidomide tragedy and multiple malformations, the restrictions on drug use in pregnancy were taken seriously. However, the wise use of the drug is often necessary and wise [9].

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On the one hand, the widespread use of industrial vomiting drugs is associated with side effects such as complications, additional pyramidal effects of hypertension, headache, and so on [10]. Due to the limited effect and dangerous side effects of these drugs, the trend towards non-chemical and non-industrial treatments has increased. One of the basic and low-risk measures in this field is the use of herbal medicine as the active ingredient of complementary and alternative pomegranates, which has attracted much attention during the past decade, according to WHO statistics. 80% of the world population uses herbal remedies for treatment [11].

Consider factors such as the involvement of the public in deciding the type of treatment, avoiding the toxicity of drugs, lack of health insurance, high cost of drugs, and most importantly an interest in using prevention strategies to increase women [12]. Although clinical trials of new drugs provide information on their serious side effects, these reports are inadequate and may not accurately reflect population experiences [13]. Given this importance, the researcher intends to systematically review the literature and use of the author's experiences and the views of experts on the effects of medicinal plants on nausea and vomiting.

## Method of analysis

In this structured review, all studies conducted at home and abroad during the years 2002 to 2018 using keywords such as nausea and vomiting, pregnancy, medicinal herbs, and meta-analysis from national databases including Magiran, Med lib-SID, Iran medex as well as Latin databases such as CINHALL-Pub med Scopus were evaluated and data were analyzed using meta-analysis [random effect model]; And data were collected from selected articles. All articles were reviewed irrespective of the place and place of publication and how they were performed. After reviewing and aggregating all the searched articles, duplicate and unrelated articles were removed. Subsequently, the articles included in this study were evaluated according to inclusion criteria, including intervention studies that examined a variety of medicinal plants as a strategy for the prevention and treatment of nausea. Exclusion criteria include case report and poster data as well as descriptive and review conferences and articles. The study had several limitations; the restriction of databases to extract full-text articles restricted access to a large part of the articles despite their title relevance, English language, and intervention. Another limitation was that most of the articles on acupuncture were psychological interventions and electrical stimulation, and there may be articles on different types of pregnancy nausea that cannot be reviewed due to a lack of full text or the English language. All ethical requirements regarding the proper use of the extracted articles and the rules for their publication have been complied with.

## Findings

After searching the databases and extracting a large number of titles and abstracts, 360 articles were reviewed, of which 220

were removed because they did not intervene to deal with pregnancy-related nausea.

140 articles were examined in more detail, 125 of which did not specifically address strategies for dealing with pregnancy-related nausea. Finally, 15 articles were included in this review. Finally, the types of herbs used as a strategy to prevent and treat pregnancy-related nausea were ginger, chamomile, mint, pomegranate, and cardamom, respectively, and are discussed below.

## Discussion

It was said that the types of herbs used as a way of preventing and treating pregnancy-related nausea were ginger, chamomile, mint, pomegranate, and cardamom, respectively. In the following, we will analyze the articles to their impact. The following table shows some details of these studies [Table 1].

**Table 1 - Some details of the studies under study**

plant	Outcome criteria	Effectiveness
Ginger	VAS[	Taking one gram capsule daily with ginger root powder can reduce the number of nausea and vomiting in pregnancy.
Chamomile	Nausea and vomiting checklist	It reduces the severity of nausea and the frequency of pregnancy, the number of times.
Mint and pomegranate	Nausea and Vomiting in pregnancy Questionnaire ]PUQE 24[	There was a decrease in nausea but no significant effect on the duration of nausea and vomiting frequency.
cardamom	VAS[	Cardamom inhaled aromatherapy helped standard nausea and vomiting help reduce the severity of nausea but failed to reduce the number of nausea and vomiting.

## Ginger:

Ginger is one of the herbal remedies that is effective in treating nausea and vomiting and does not cause any particular side effects and is used in the manufacture of anesthetics in the German Pharmacopoeia. The major pharmacological activity of ginger, which is scientifically known as ginger bird afinsel, is its active ingredients, including gingerols and shagaols. Ginger products exert an anti-vomiting effect through several mechanisms, such as gingerol and shagules, which reduce gastric contractions but increase gastrointestinal [GI] activity as well as anti-serotonin effects. And the devastating effects against free radicals affecting AJ in the study by Ebrahimi et al. [14] the only side effect of ginger reported by some patients was a heart attack that was not statistically significant in either group. Clinical trials have provided conflicting results on the effects of ginger on nausea caused by medical chemistry, which is difficult to judge for its efficacy, as Hossein Khani [15] has shown. Anti-nausea of this plant affects the severity of nausea only in the first trimester of pregnancy and Nazari et al. [16] have shown that

ginger root intake can reduce the severity and duration of nausea and vomiting, such as vitamin B6 and ondansetron, while in the Orange et al., treatment with fresh ginger root was significantly higher than vitamin B6 [94% vs 54%].

Also in the study by Vutyavanich et al. [17] reduced the incidence of nausea and vomiting in ginger recipients compared with placebo, but there was no significant difference between the effects of ginger and vitamin B6 in reducing pregnancy nausea and vomiting. In a study by Smith et al. [18], ginger capsules also reduced the severity of nausea and vomiting in pregnancy.

However, in addition to the therapeutic benefits of ginger, studies have pointed to the side effects of its use in the study of Firooz Bakht et al. [19], 10.2% of ginger recipients were diagnosed with gastrointestinal problems. After taking ginger capsules, Spirmatoc [20, 21] also reported 9.4% of gastric pain recipients due to ginger use. In the study of Spiramote et al. [22], in 6% of ginger biscuits users, complications such as gastric pain and dizziness were reported.

Such results may be due to the small statistical population, the limitation of the number of samples and the lack of utilization of the desired product, as the characteristics of previous studies may be affected by the results. For example, in each study, the effect of ginger on a wide range of pregnant women was examined, while maternal age, multipolarity, gestational age, and the onset of nausea respond to treatment.

However, by comparing the results and generalizing the results, it is recommended that further research be done in the future on the effects of ginger and its adverse effects on the fetus, which will certainly be different. Based on the results of the study, it can be stated that daily consumption of one gram of capsules containing ginger root powder can reduce the number of nausea and vomiting in pregnancy. Therefore, by providing appropriate educational facilities and programs on how to use this capsule, patients can improve their condition and reduce the complications of pregnancy.

## Chamomile

Chamomile is one of the prominent medicinal herbs of chicory and has a special place in ancient medical and medicinal texts as well as in Iranian and Islamic medicine and has been mentioned for its therapeutic properties including nervous, gastrointestinal and respiratory diseases. Various species of this plant and its essential oils are identified and used in pharmacy. Modares et al. [23] found that chamomile oral capsules were more effective in reducing pregnancy-related nausea and vomiting than ginger and placebo, whereas in the study of chamomile, ginger and vitamin B6, They had the same effect on pregnancy-induced nausea.

## Mint

Peppermint is commonly used as a flavoring in food, tea, toothpaste, washing solutions, and medications. The menthol in peppermint acts as a gastric relaxant which reduces nausea and vomiting by relaxing the stomach muscles and gastric wall

anesthesia. Peppermint also has a calming effect. Aromatherapy with mint also has a psychological effect and reduces nausea and vomiting. In a study by Haddadi et al. [24], ice containing peppermint extract was used as a noninvasive, simple, inexpensive, and no side effect drug adjunct to improve nausea in breast cancer patients. Ice cold causes vasoconstriction in the peripheral parts of the digestive tract [esophagus and stomach] and reduces the entry of chemotherapeutic agents into these areas, stimulating the gastrointestinal tract and reducing nausea and vomiting. In the study, Abdolhosseini et al. [25] were able to reduce pregnant women with pomegranate syrup and peppermint nausea compared with the control group who only used B6 tablets, although there was a no significant difference between the control and intervention groups in terms of duration of nausea, vomiting, and yawning.

## cardamom

The scientific name for cardamom is "Elettaria cardamomum". The main chemical components of cardamom include cineole, limonene, **Terpinyl acetate**, sabinene limonene, and linalool. Cardamom is a family of ginger and is known as the spice queen. Unlike most anti-nausea medications that affect the central nervous system, the anti-nausea effects of cardamom are due to its topical effects on the gastrointestinal wall. Cardamom is commonly used to relieve dyspepsia, cough, and itching, prevent and treat gastrointestinal disorders, sore throat, lung congestion, and oral infections. One of its uses is to relieve nausea and vomiting. Cardamom inhalation aromatherapy can help standard anti-nausea and vomiting medications to reduce the severity of pregnancy-related nausea. In this study, study samples from pregnant women consumed 500 mg of cardamom powder capsules three and a half hours before meals, in a study by Azgoli et al. [26]. The results showed that the number of nausea, vomiting, and vomiting times were significantly lower in the cardamom powder group than in the placebo group.

## Conclusion

Concerns among pregnant women and their families about abnormal fetal behavior following drug use, especially in the first months of pregnancy, have led to a greater tendency to use herbal remedies. The use of herbal remedies in the treatment of diseases, in addition to ease of access, has fewer side effects than chemical drugs. Therefore, it can be improved by providing appropriate training facilities and programs on how to use these herbs. Researchers have also examined these interventions = a wide range of pregnant women, while maternal age, multiparous age, gestational age, and time to onset of nausea are strongly influenced by therapeutic response and severity of nausea, also given the results of this study, it is not easy to judge the efficacy of various herbs on pregnancy-related nausea and generalize the results with ease.

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