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The Effect Of Ginger Herbal Drinks On Hyperemesis Gravidarum In Pregnant Women In The First Trimester

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ABSTRACT

Emesis and hyperemesis gravidarum are common conditions experienced by women during the first trimester of pregnancy and may negatively affect physical health, psychological well-being, and quality of life. Ginger herbal drinks have long been used as a non-pharmacological therapy to alleviate nausea and vomiting in pregnancy; however, a comprehensive literature-based evaluation is required to assess their effectiveness, safety, and applicability in clinical practice. This literature review aimed to analyse the effect of ginger herbal drinks on emesis and hyperemesis gravidarum among women in the first trimester of pregnancy. This study employed a narrative literature review design guided by the PRISMA framework. Articles were systematically searched using Google Scholar and PubMed databases with combinations of the keywords ginger/jahe and emesis gravidarum/hyperemesis gravidarum. Articles were selected based on predefined inclusion and exclusion criteria. A total of 29 eligible articles were included and synthesised thematically, with a publication period ranging from 2018-2025. The thematic synthesis identified four main themes: forms and variations of ginger herbal drink administration, effectiveness of ginger in reducing emesis and hyperemesis gravidarum, comparison of ginger with other non-pharmacological and pharmacological therapies, and safety, mechanisms of action, and acceptability of ginger consumption during pregnancy. The findings consistently demonstrated that ginger herbal drinks significantly reduced the frequency and severity of nausea and vomiting in women during the first trimester. Ginger showed comparable effectiveness to vitamin B6, with good safety profiles and high acceptability among pregnant women. Ginger herbal drinks are effective, safe, and easy-to-implement non-pharmacological interventions for reducing emesis and hyperemesis gravidarum in women during the first trimester of pregnancy. Ginger may be recommended as an initial therapeutic option in midwifery practice, particularly for mild to moderate cases.

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B. Acquisition of data;
C. Analysis and interpretation of data;
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INTRODUCTION

Pregnancy is a physiological process accompanied by various biological, hormonal, and psychological changes in women. One of the most common complaints experienced

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in early pregnancy, particularly in the first trimester, is emesis gravidarum, characterized by nausea and vomiting. This condition generally begins at 4–6 weeks of gestation, peaks between 8 and 12 weeks, and usually resolves after 20 weeks (Deruelle et al., 2022; Tan et al., 2018). Although often considered a physiological complaint, emesis gravidarum can reduce a pregnant woman's comfort, nutritional intake, and quality of life.

In some pregnant women, emesis gravidarum can progress to hyperemesis gravidarum, a condition of more severe, persistent nausea and vomiting accompanied by complications such as dehydration, electrolyte imbalance, weight loss, and metabolic disorders (Deruelle et al., 2022). Epidemiological studies show that hyperemesis gravidarum can significantly impact the physical, psychological, and social functioning of pregnant women, potentially even increasing the risk of pregnancy complications if not managed appropriately (Ashebir et al., 2022). Therefore, managing emesis and hyperemesis gravidarum is an essential part of obstetric care, especially in the first trimester.

Various approaches have been used to treat emesis gravidarum, both pharmacological and non-pharmacological. Pharmacological therapies such as vitamin B6 and other antiemetics have proven effective, but their use in pregnancy often raises concerns regarding side effects and long-term safety for the mother and fetus (Sharifzadeh et al., 2018). This situation encourages the use of non-pharmacological therapies as alternatives or complementary therapies, especially those based on natural ingredients and with a good level of safety.

Ginger (Zingiber officinale) is an herbal plant that has long been used to treat digestive disorders, including nausea and vomiting. Ginger contains bioactive compounds such as gingerol and shogaol, which are known to have antiemetic effects through inhibition of serotonin receptors and increased gastrointestinal motility (Sridharan & Sivaramakrishnan, 2020). In daily practice, ginger is generally consumed by pregnant women in the form of herbal drinks, such as infusions, decoctions, or ginger tea, which are considered more easily tolerated than other forms.

Several national and international studies have reported that consuming herbal ginger drinks can reduce the frequency and intensity of nausea and vomiting in pregnant women in the first trimester (Faridah et al., 2020; Indrayani et al., 2018). Controlled clinical trials have shown that ginger's effectiveness is comparable to vitamin B6 and superior to placebo (Sharifzadeh et al., 2018). Furthermore, meta-analyses and clinical guidelines rank ginger as one of the non-pharmacological interventions with the most consistent scientific evidence for managing nausea and vomiting of pregnancy (Deruelle et al., 2022; Sridharan & Sivaramakrishnan, 2020).

However, studies on ginger still show variation in administration method, study design, and reported outcomes, necessitating a comprehensive literature review to synthesize the available scientific evidence. Therefore, this literature review aims to analyze the effect of herbal ginger drinks on emesis and hyperemesis gravidarum in pregnant women in the first trimester, reviewing the administration method, effectiveness, comparison with other therapies, and safety and acceptability of ginger based on published research findings.

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METHODS

Research Type

This study is a literature review using a narrative approach, systematically structured using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The purpose of this literature review is to examine and synthesize research findings addressing the effects of ginger herbal drinks on emesis and hyperemesis gravidarum in pregnant women in the first trimester.

Literature Search Strategy

The search for articles was conducted through two electronic databases: Google Scholar and PubMed. The search was conducted using a combination of keywords tailored to the research topic and the Boolean operators AND and OR.

The keywords used in the literature search included:

- "ginger" OR "jahe" OR "Zingiber officinale"
- "emesis gravidarum" OR "hyperemesis gravidarum"

This keyword combination was used to obtain articles relevant to ginger interventions and the incidence of emesis or hyperemesis gravidarum in pregnant women in the first trimester. The search was conducted without any limitations on research design, but focused on research articles relevant to the objectives of the literature review.

Inclusion and Exclusion Criteria

Articles obtained from the search results were then selected based on the following inclusion and exclusion criteria:

Inclusion Criteria

1. Research articles discussing emesis gravidarum or hyperemesis gravidarum.
2. Research subjects were pregnant women, specifically in the first trimester.
3. Articles involving ginger (Zingiber officinale) as an intervention, comparator, or factor related to emesis gravidarum.
4. Articles in Indonesian or English.
5. Articles available in abstract or full-text form.

Exclusion Criteria

1. Articles irrelevant to the research topic.
2. Articles not involving pregnancy or emesis gravidarum.
3. Articles not mentioning the link between ginger and emesis gravidarum.
4. Duplicate articles.

Literature Selection Process

The article selection process was carried out in stages according to the PRISMA process, which includes identification, screening, eligibility, and inclusion.

During the identification stage, 35 articles were obtained from two databases. Subsequently, a screening process was conducted by removing duplicate articles, leaving 34 articles. During the eligibility stage, articles were selected based on their compliance with the inclusion and exclusion criteria, with 5 articles excluded due to irrelevance. A total of 29 articles met the criteria and were used in the literature review.

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Literature Quality Assessment

The quality of the literature was assessed descriptively based on the suitability of the research objectives, research design, data collection methods, and the clarity of the results and conclusions presented in each article. The articles used were deemed capable of providing relevant information and supporting a narrative synthesis regarding the effect of ginger herbal drinks on emesis and hyperemesis gravidarum in pregnant women in the first trimester.

Data Analysis Techniques

Data analysis was conducted using narrative synthesis, which involved grouping and comparing research findings from selected articles. The analysis focused on the method of ginger administration, its effectiveness in reducing emesis gravidarum, and the concordance of results across studies. The results of the analysis are presented in narrative form and summary tables to facilitate interpretation of the findings.

Quality Assessment

Literature selection in this study was conducted using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method. The article selection process was carried out in stages, including identification, screening, eligibility, and inclusion. The literature selection flow is shown in Figure 1 (PRISMA Flow Diagram).

RESULTS AND DISCUSSION

Result

Based on the results of the literature search and selection using the PRISMA approach, 29 articles were identified that met the inclusion criteria and were relevant to the research topic. These articles came from various research designs and discussed the use of ginger as a non-pharmacological intervention in managing emesis and hyperemesis gravidarum in pregnant women in the first trimester. All selected articles were then analyzed and summarized to describe the study characteristics, methods used, and key reported findings. A summary of the characteristics of the reviewed articles is presented in Table 1 as a basis for the thematic synthesis and further discussion.

Table 1.
Journal Literature Review

No.	Penulis	Judul	Metode	Hasil
1	(Indrayani dkk., 2018)	Efektifitas Pemberian Wedang Jahe Terhadap Frekuensi Mual Dan Muntah Pada Ibu Hamil Trimester I Di Kabupaten Bengkulu Utara Tahun 2017	Quasi-eksperimen (one group pretest-posttest)	Terjadi penurunan signifikan frekuensi mual dan muntah setelah pemberian wedang jahe
2	(Faridah dkk., 2020)	Pengaruh Minuman Jahe terhadap Penurunan Frekuensi Emesis Gravidarum pada Ibu Hamil Trimester I di Wilayah Puskesmas Lubuk Buaya Padang	Pra-eksperimen	Minuman jahe efektif menurunkan frekuensi emesis gravidarum

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No.	Penulis	Judul	Metode	Hasil
3	(Sari dkk., 2026)	Pengaruh Pemberian Minuman Serbuk Jahe Merah Terhadap Frekuensi Emesis Gravidarum Pada Ibu Hamil Trimester Pertama	Pre-eksperimental	Emesis menurun dari kategori sedang menjadi ringan
4	(Purwanti, 2022)	LITERATURE REVIEW: PENGARUH SEDUHAN JAHE (ZINGIBER OFFICINALE) TERHADAP EMESIS GRAVIDARUM: Literature Review: The Effect Of Ginger (Zingiber Officinale) Towards Emesis Gravidarum	Literature review	Jahe terbukti efektif menurunkan emesis gravidarum trimester pertama
5	(Azizah dkk., 2022)	The effect of ginger decoction on emesis gravidarum among trimester I pregnant women	Quasi-eksperimen (kelompok kontrol)	Rebusan jahe menurunkan emesis signifikan
6	(Fatwa, 2020)	Pengaruh Rebusan Jahe Terhadap Keluhan Mual Muntah Ibu Hamil	Studi intervensi	Rebusan jahe mengurangi keluhan mual muntah ibu hamil
7	(Rikawani, 2025)	Pengaruh Pemberian Aroma Therapy Lemon Dan Minuman Jahe Terhadap Ibu Hamil Tm 1 Dengan Emesis Gravidarum Di PMB M	Quasi-eksperimen	Minuman jahe lebih efektif dibanding aromaterapi lemon
8	(Khairiah dkk., 2024)	Effectiveness of Ginger and Honey in Massage Acupressure Point P6 (Nei Guan) to Emesis Gravidarum in First Trimester Pregnant Women in Indonesia 2024 Authors	Quasi-eksperimen	Kombinasi jahe dan madu dengan akupresur P6 efektif menurunkan emesis
9	(Tasripin, 2024)	The Effectiveness of Giving Ginger Drink in Reducing Emesis Gravidarum in Pregnant Women (Case Study)	Studi kasus	Konsumsi minuman jahe menurunkan mual dan muntah
10	(Nurmasyithah dkk., 2025)	The Effectiveness of Ginger, Lemon, and Honey Decoction in Reducing Nausea and Vomiting in Pregnant Women with Emesis Gravidarum: A Quasi-Experimental Study	Quasi-eksperimen	Kombinasi jahe, lemon, dan madu menurunkan frekuensi mual muntah
11	(Rahmawati dkk., 2018)	Hot ginger and Hot Lime drinks to decrease Emesis Gravidarum	Quasi-eksperimen	Minuman jahe lebih efektif dibanding jeruk nipis
12	(Mudrikatin, 2024)	The Effectiveness of Red Ginger To First Trimester In Pregnant Women With Emesis Gravidarum	Pre-eksperimental	Jahe merah efektif menurunkan emesis gravidarum
13	(Asih dkk., 2024)	Efektifitas Pemberian Aromaterapi Papermint dan Konsumsi Minuman Zingiber Officinale Var Rubrum Rhizoma Terhadap Ibu Hamil dengan Emesis Gravidarum di PMB A Tahun 2024	Quasi-eksperimen	Minuman jahe lebih efektif dibanding aromaterapi peppermint
14	(Rufaridah dkk., 2019)	Pengaruh Seduhan Zingiber Offcinale (Jahe) terhadap Penurunan Emesis Gravidarum	Pra-eksperimen	Seduhan jahe menurunkan emesis gravidarum secara signifikan
15	(Ramadhanti & Lubis, 2021)	Ginger (Zingiber Officinale) and Mint Leaves (Mentha Piperrita L) Alleviate Emesis Gravidarum	Quasi-eksperimen	Jahe lebih efektif dibanding daun mint
16	(Sulistyowati, 2021)	Efektivitas Pemberian Rebusan Jahe Dan Madu Terhadap Mual Muntah Pada Ibu Hamil Trimester I Di Puskesmas Karanganyar Ii Kabupaten Demak	Pre-eksperimental	Rebusan jahe dan madu menurunkan mual muntah

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No.	Penulis	Judul	Metode	Hasil
17	(Rahmawati, 2018)	The Effect Of Giving Hot Ginger Drink And Hot Lime Drink Toward Emesis Gravidae	Quasi-eksperimen	Minuman jahe lebih efektif dibanding jeruk nipis
18	(Kundaryanti dkk., 2024)	Effectiveness Of Ginger Drink On Emesis Gravidarum In First Trimester Pregnant Women	Quasi-eksperimen	Minuman jahe menurunkan skor emesis
19	(Retni & Damansyah, 2023)	The Effect Of Giving Ginger Aromatherapy On Reducing Hyperemesis Gravidarum In First-Trimester Pregnant Women In The Work Area Limboto Health Center	Quasi-eksperimen	Aromaterapi jahe menurunkan hiperemesis gravidarum
20	(Abidah dkk., 2022)	The effect of ginger herbal drink on hyperemesis gravidarum in the first trimester pregnant women	Quasi-eksperimen	Minuman herbal jahe efektif menurunkan hiperemesis
21	(HENUKH, 2019)	Pengaruh minuman sari jahe dalam mengurangi emesis gravidarum pada ibu hamil di puskesmas alak	Quasi-eksperimen	Sari jahe menurunkan emesis gravidarum
22	(Arresta & Keswara, 2025)	Pengaruh Pemberian Aroma Terapi Ginger Terhadap Penurunan Emesis Gravidarum Pada Ibu Hamil Trimester I di TPMB BD Hj Ririn Restati Ningrum, S.St., M.Ap Kecamatan Bululawang Kabupaten Malang	Quasi-eksperimen	Aromaterapi jahe menurunkan emesis
23	(Yosali dkk., 2023)	The Effectiveness of Warm Ginger Therapy in Overcoming Emesis Gravidarum In Pregnant Women	Quasi-eksperimen	Jahe hangat efektif menurunkan emesis
24	(Maisaroh dkk., 2024)	The Effect Of Ginger Infusion On Nausea And Vomiting In First Trimester Pregnant Women	Quasi-eksperimen	Infus jahe menurunkan mual muntah
25	(Sharifzadeh dkk., 2018)	A comparison between the effects of ginger, pyridoxine (vitamin B6) and placebo for the treatment of the first trimester nausea and vomiting of pregnancy (NVP)	RCT triple blind	Jahe setara vitamin B6 dan lebih efektif dibanding plasebo
26	(Sridharan & Sivaramakrishnan, 2020)	Interventions for treating nausea and vomiting in pregnancy: a network meta-analysis and trial sequential analysis of randomized clinical trials	Meta-analisis	Jahe memiliki bukti efektivitas paling kuat
27	(Deruelle dkk., 2022)	Expert consensus from the College of French Gynecologists and Obstetricians: Management of nausea and vomiting of pregnancy and hyperemesis gravidarum	Konsensus ahli	Jahe direkomendasikan pada NVP ringan–sedang
28	(Tan dkk., 2018)	Nausea and vomiting of pregnancy: effects on quality of life and day-to-day function	Observasional prospektif	Jahe sering digunakan dan meningkatkan kualitas hidup
29	(Ashebir dkk., 2022)	Determinants of hyperemesis gravidarum among pregnant women attending health care service in public hospitals of Southern Ethiopia	Case–control	Tidak konsumsi jahe meningkatkan risiko hiperemesis

Based on a review of 29 articles, several key themes emerged related to the effect of ginger herbal drinks on emesis and hyperemesis gravidarum in pregnant women in the first trimester. The thematic synthesis focused on the type of ginger intervention, its effectiveness in reducing emesis gravidarum, and its comparison with other therapies.

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Discussion

Forms and Variations in Administering Ginger Herbal Drinks to Pregnant Women in the First Trimester

Based on the synthesis of the reviewed articles, one key theme that emerged was the variety of ways ginger is administered as a non-pharmacological therapy in pregnant women in the first trimester. The literature shows that ginger is not administered in a single form, but rather in various dosage forms, generally taken orally. This variety of forms is important because it directly relates to convenience of consumption, maternal acceptance, and adherence to interventions, particularly for nausea and vomiting, which are predominant in the first trimester (Indrayani et al., 2018; Tan et al., 2018).

Most studies report ginger being administered in the form of warm ginger herbal drinks, such as wedang jahe (ginger drink), ginger infusion, or ginger decoction. Research by (Faridah et al., 2020; Indrayani et al., 2018) showed that ginger served as a warm drink was easier for pregnant women experiencing nausea and vomiting to consume than in solid form. Similar findings were also reported by (Azizah et al., 2022) and several other studies that used boiled ginger as the primary intervention. The dominance of this beverage format suggests that ginger in liquid form is considered more practical and appropriate for the physiological conditions of pregnant women in the first trimester (Faridah et al., 2020; Indrayani et al., 2018).

In addition to regular ginger drinks, several studies have also used red ginger as the main ingredient, either in the form of a brew or a red ginger powder drink. Research by (Rahmawati et al., 2018; Sari et al., 2026) reported that red ginger was still administered as a drink, although the ingredients used were different from those of regular ginger. This shows that even though there are variations in the types of ginger, the presentation remains consistent as a herbal drink, thus facilitating adaptation to consumption by pregnant women (Rahmawati et al., 2018; Sari et al., 2026).

The literature also notes variations in combinations of ginger with other natural ingredients, such as honey, lemon, or lime, which are still served as drinks. Some studies report that the addition of other ingredients aims to improve the taste, aroma, and tolerability of ginger consumption, without diminishing its primary function as an antiemetic agent (Rahmawati et al., 2018). However, ginger remains the primary component of the intervention, while additional ingredients play a supporting role to increase consumption comfort.

In terms of dosage and frequency, the reviewed studies show a relatively consistent pattern. Ginger is generally administered once or twice daily, with the duration of administration ranging from three to seven days, although there is variation between studies. This consistent pattern suggests that herbal ginger drinks can be easily implemented in obstetric practice, without requiring complex procedures or difficult dosages to implement in the community (Azizah et al., 2022; Indrayani et al., 2018).

Clinical considerations in selecting the form of herbal ginger drinks are also highlighted in several articles. Drinks are considered more suitable because they don't require chewing or swallowing during severe nausea and provide a warming and aromatic

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effect that can help reduce gastrointestinal discomfort (Deruelle et al., 2022; Tan et al., 2018). Furthermore, the easy availability of ginger and the simple preparation method make herbal ginger drinks a realistic option for both primary healthcare and home use.

Based on a literature synthesis, herbal ginger drinks are the most dominant, applicable, and well-accepted form of ginger administration among pregnant women in the first trimester (Faridah et al., 2020; Indrayani et al., 2018; Sharifzadeh et al., 2018). The variety of beverage formats, including ginger tea, infusions, decoctions, and combinations with other natural ingredients, demonstrates the flexibility of ginger use in obstetric practice. These findings strengthen the position of herbal ginger drinks as a rational and easily implemented non-pharmacological intervention for managing emesis gravidarum in early pregnancy.

Effectiveness of Ginger Herbal Drinks in Reducing Emesis and Hyperemesis Gravidarum

Based on a synthesis of the reviewed articles, a second emerging theme is the effectiveness of ginger herbal drinks in reducing the frequency and intensity of emesis and hyperemesis gravidarum in pregnant women in the first trimester. Most studies indicate that administering ginger in the form of herbal drinks has a consistent positive impact on reducing nausea and vomiting in early pregnancy.

Several studies with pre-experimental and quasi-experimental designs have reported a significant reduction in the frequency of emesis gravidarum after administering ginger drinks. Research by (Faridah et al., 2020; Indrayani et al., 2018) showed that nausea and vomiting scores or frequency in pregnant women in the first trimester decreased significantly after routine ginger drink intervention. This finding is further supported by (Azizah et al., 2022), which used a quasi-experimental design with a control group and demonstrated a greater reduction in emesis in the group receiving ginger decoction.

The effectiveness of ginger herbal drinks has also been demonstrated in cases of more severe emesis. Several studies report that ginger drinks can reduce symptoms of hyperemesis gravidarum, although initial severity varies among respondents. Research by (Abidah et al., 2022; Retni & Damansyah, 2023) shows that administering ginger drinks or aromatherapy contributes to improving hyperemesis gravidarum, characterized by reduced vomiting frequency and increased tolerance of oral intake in pregnant women in the first trimester.

Furthermore, the effectiveness of ginger is further strengthened by studies using comparison groups. A study by (Azizah et al., 2022) using a quasi-experimental design using a control group showed that the reduction in emesis gravidarum in the group given ginger decoction was greater than in the group not receiving ginger intervention. This finding strengthens the evidence that ginger plays an active role as an antiemetic agent, not simply a suggestive effect or a natural adaptation of pregnancy.

The consistency of findings across studies indicates that the effectiveness of ginger herbal drinks is relatively stable despite variations in dosage form, dosage, and duration of administration. Both regular ginger and red ginger, when served as drinks,

have been shown to significantly reduce emesis gravidarum (Rahmawati, 2018; Sari et al., 2026). This indicates that ginger's effectiveness is influenced not only by the type of ginger but also by the appropriate preparation method for the pregnant woman's condition.

A literature synthesis indicates that herbal ginger drinks are an effective non-pharmacological intervention in reducing emesis and hyperemesis gravidarum in the first trimester of pregnancy. Consistent effectiveness, ease of implementation, and good acceptance by pregnant women make herbal ginger drinks a rational and relevant intervention option in obstetric practice, particularly in primary healthcare.

Comparison of Ginger's Effectiveness with Other Non-pharmacological and Pharmacological Therapies

A literature synthesis shows that the effectiveness of ginger in treating emesis gravidarum should not only be assessed independently but also compared with various other therapies, both non-pharmacological and pharmacological. This comparison is important to position ginger proportionally in the management of emesis and hyperemesis gravidarum in first-trimester pregnant women, and to assess whether ginger can serve as an alternative or adjunct to standard therapies currently used in obstetric practice.

Several studies have compared ginger with pharmacological therapies, particularly vitamin B6 (pyridoxine), which is widely used as a first-line therapy for nausea and vomiting in pregnancy. A controlled clinical trial by (Sharifzadeh et al., 2018) showed that ginger is comparable in effectiveness to vitamin B6 in reducing the severity of nausea and vomiting in first-trimester pregnancy. Reductions in nausea and vomiting scores, measured using the Rhodes Index, occurred in both groups, without significant differences. These findings are supported by the results of other intervention studies, which show that ginger can be used as a non-pharmacological alternative equivalent to standard pharmacological therapy in cases of mild to moderate emesis gravidarum (Faridah et al., 2020; Indrayani et al., 2018).

In addition to pharmacological therapy, ginger has also been compared with various other non-pharmacological interventions. Several national studies have reported that ginger provides a more consistent reduction in emesis compared to aromatherapy or aroma-based interventions alone. Research by (Asih et al., 2024; Rahmawati et al., 2018) showed that ginger drink provided better results than a combination of peppermint or lemon aromatherapy without ginger. This indicates that ginger's antiemetic effect is more dominant when consumed orally than when interventions are aroma-only.

Comparisons of ginger with other herbal therapies have also been reported in several studies. Research by (Ramadhanti & Lubis, 2021), which compared ginger with mint leaves, showed that ginger provided a greater reduction in emesis scores. These findings support the results of other studies showing that ginger, both regular and red ginger, has a more consistent effectiveness in reducing nausea and vomiting compared to several other herbal plants used as complementary therapies (Rahmawati et al., 2018; Sari et al., 2026).

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The effectiveness of ginger has also been evaluated in combination therapies, including with honey, lemon, lime, and other non-pharmacological approaches such as acupressure. Several studies have reported that the combination of ginger with other ingredients or methods still demonstrates ginger's dominant role as the main component in reducing emesis gravidarum. Studies by (Abidah et al., 2022; Kundaryanti et al., 2024) indicate that even when administered in combination, ginger consumption still contributes significantly to reducing nausea and vomiting.

Further evidence regarding ginger's position compared to other interventions comes from research synthesis and clinical consensus. A meta-analysis by (Sridharan & Sivaramakrishnan, 2020) concluded that ginger and vitamin B6 are the two interventions with the highest quality evidence in managing nausea and vomiting of pregnancy. Furthermore, an expert consensus compiled by (Deruelle et al., 2022) places ginger as a therapeutic option for mild to moderate nausea and vomiting of pregnancy before using stronger antiemetics. This position demonstrates that ginger is not only superior in effectiveness but also clinically accepted in obstetric and gynecological practice.

The literature indicates that ginger is comparable in effectiveness to standard pharmacological therapies such as vitamin B6 and tends to be superior to most other non-pharmacological therapies that do not involve oral administration. Ginger's advantages lie in its consistent results, flexibility of use, and good safety profile. Thus, ginger can be positioned as a rational alternative or complementary therapy in the management of emesis and hyperemesis gravidarum in pregnant women in the first trimester, especially in mild to moderate cases.

Safety, Mechanism of Action, and Acceptability of Ginger Herbal Drinks in First-Trimester Pregnant Women

A literature synthesis indicates that in addition to effectiveness, the safety, mechanism of action, and acceptability of ginger are important considerations for its use in first-trimester pregnant women. This is relevant considering that concerns about the side effects of pharmacological therapy in pregnancy often drive the search for safer and more acceptable non-pharmacological interventions.

In terms of safety, most reviewed studies reported that administering ginger in the form of herbal drinks did not cause significant side effects in pregnant women. Interventional studies conducted by (Azizah et al., 2022; Faridah et al., 2020; Indrayani et al., 2018) showed that consuming ginger drinks for several days did not cause additional complaints such as stomach pain, dizziness, or allergic reactions. These findings are supported by other case studies and quasi-experiments that report that ginger is well tolerated, even in pregnant women experiencing moderate to severe emesis (Abidah et al., 2022; Tasripin, 2024).

The mechanism of action of ginger in reducing emesis gravidarum is implicitly explained in several studies highlighting ginger's active components, such as gingerols and shogaols. These compounds are known to inhibit serotonin receptor activity in the gastrointestinal tract and increase gastrointestinal motility, thereby reducing nausea and the gag reflex. Although most of the reviewed studies focused on clinical outcomes,

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the consistent reduction in nausea and vomiting across various study designs suggests a relatively stable biological mechanism (Sharifzadeh et al., 2018; Sridharan & Sivaramakrishnan, 2020).

The acceptability of ginger is also a key finding in the literature. Several studies report that pregnant women tend to accept ginger herbal drinks well due to their adaptable taste, warm aroma, and ease of preparation. Research by (Rahmawati, 2018; Sari et al., 2026) shows that ginger served as a warm drink is preferred over other forms, especially among pregnant women experiencing severe nausea and difficulty swallowing solid foods. This high level of acceptability contributes to adherence during the intervention period.

Furthermore, several studies using red ginger or ginger in combination with other ingredients have also reported good acceptability without compromising the safety of the intervention. Research by (Kundaryanti et al., 2024; Rahmawati, 2018) shows that various types of ginger and combinations with other non-pharmacological approaches remain acceptable to pregnant women, as long as ginger remains the primary component of the intervention. This demonstrates the flexibility of ginger use in various clinical and cultural contexts.

Supporting evidence from observational studies and clinical consensus also confirms the safe use of ginger in the first trimester of pregnancy. Observational research by (Tan et al., 2018) indicates that ginger is one of the most frequently used non-pharmacological therapies by pregnant women without any negative impact on quality of life. Meanwhile, an expert consensus by (Deruelle et al., 2022) recommends ginger as an initial therapy for mild to moderate nausea and vomiting of pregnancy, with appropriate dosages and monitoring of the mother's condition.

Overall, this literature synthesis indicates that ginger herbal drinks have a good safety profile, a mechanism of action supporting their antiemetic effects, and a high level of acceptability among pregnant women in the first trimester. The combination of these three aspects makes ginger not only clinically effective but also feasible for use in daily obstetric practice. Considering its safety and good acceptability, ginger herbal drink can be recommended as a safe and feasible non-pharmacological intervention in the management of emesis and hyperemesis gravidarum in early pregnancy.

CONCLUSION

Based on a literature review of 29 articles selected using the PRISMA approach, it can be concluded that ginger herbal drinks play a significant role in managing emesis and hyperemesis gravidarum in pregnant women in the first trimester. The literature synthesis shows that ginger is consistently used as a non-pharmacological therapy in various forms, with ginger herbal drinks (infused, boiled, wedang, and other ginger drink variations) being the most dominant and applicable form of administration.

In terms of effectiveness, most studies show that consuming ginger herbal drinks can reduce the frequency and intensity of nausea and vomiting, as evidenced by a

decrease in emesis scores using standardized instruments such as the PUQE and Rhodes Index. Ginger is effective in treating mild to moderate emesis gravidarum and has the potential to prevent the condition from worsening to hyperemesis gravidarum. These findings are consistent across various study designs, from pre-experimental and quasi-experimental to clinical trials and meta-analyses.

The literature also indicates that ginger's effectiveness is comparable to standard pharmacological therapies, particularly vitamin B6, and superior to most other non-pharmacological therapies. Ginger's position as an alternative or complementary therapy is strengthened by meta-analyses and recommendations in clinical guidelines and consensus, which position ginger as a viable intervention for nausea and vomiting during pregnancy, especially in the early stages.

In terms of safety, mechanism of action, and acceptability, ginger is considered safe for consumption by pregnant women in reasonable doses in the first trimester, with minimal side effects. Ginger's antiemetic mechanism is related to its active compounds, such as gingerol and shogaol, which affect the gastrointestinal system and serotonin receptors. Furthermore, ginger's high acceptance by pregnant women, easy access, and alignment with natural therapy preferences contribute to its successful use in obstetric practice.

Therefore, this literature review concludes that herbal ginger drinks are an effective, safe, and easily implemented non-pharmacological intervention for reducing emesis and hyperemesis gravidarum in pregnant women in the first trimester. These findings support the use of herbal ginger drinks as part of a promotive and preventive approach in obstetric care, particularly in primary healthcare.

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