

Effectiveness of Ginger Tea on Pregnancy-Associated Nausea and Vomiting Among Primigravida Women: A One-Group Pretest–Posttest Study

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Abstract

Background: Nausea and vomiting are common symptoms during early pregnancy and may interfere with daily activities and nutritional intake. Objectives: To assess the severity of pregnancy-associated nausea and vomiting before and after administration of ginger tea among primigravida women in the first trimester, and to examine associations between baseline symptom severity and selected demographic and clinical variables. Methods: A quantitative, quasi-experimental one-group pretest–posttest design was used among 30 primigravida antenatal women with nausea and vomiting selected purposively from a private hospital in Kanyakumari district, India. Symptoms were assessed using the Modified Rhodes Index of Nausea, Vomiting and Retching (score range 0–32). Ginger tea was prepared using 250 mg of sliced ginger in 150 mL water and administered twice daily for four days. Descriptive statistics, a paired-samples t test, and chi-square tests were used. Results: At baseline, 15 participants (50.0%) had severe symptoms, 8 (26.7%) moderate symptoms and 7 (23.3%) profound symptoms. After the four-day intervention, 18 (60.0%) had moderate symptoms, 11 (36.7%) mild symptoms and 1 (3.3%) severe symptoms; none had profound symptoms. The mean symptom score decreased from 19.43 ± 3.86 to 10.13 ± 3.36 , a mean reduction of 9.30 points. The reported paired t statistic was 15.19 (df=29), indicating a statistically significant pretest–posttest difference ($p < 0.001$). Baseline symptom severity was reported to be associated with gestational-week category but not with the other demographic variables examined. Conclusion: In this small uncontrolled study, symptom scores decreased after four days of ginger-tea administration. Because there was no control group, purposive sampling was used, and the sample was small, the observed improvement cannot be attributed to ginger tea alone. Controlled studies with adequate sample sizes and clearly verified eligibility criteria are needed.

Keywords: ginger; pregnancy; nausea and vomiting; morning sickness; primigravida; antenatal care; nursing.

1. Introduction

Nausea and vomiting are frequent symptoms during early pregnancy and are commonly referred to as morning sickness. Although symptoms are often self-limiting, they may affect food intake, hydration,

daily functioning and quality of life. Severe symptoms may require clinical assessment and treatment. The original thesis identifies ginger as a complementary approach that may help reduce nausea and vomiting during pregnancy and provides a rationale for examining a simple ginger-tea preparation in antenatal care.

Previous studies cited in the thesis have examined the frequency and severity of nausea and vomiting during pregnancy and a range of management approaches, including dietary measures, pharmacological treatment, complementary therapies and ginger preparations. The thesis therefore focused on whether a short course of ginger tea was associated with a reduction in symptom scores among primigravida women.

The present manuscript is derived from the original M.Sc. Nursing dissertation. The terminology and reporting have been streamlined for journal publication, while the numerical findings have been retained from the source data. Several inconsistencies in the original dissertation—particularly the recording of gestational-week categories—are explicitly identified rather than silently corrected.

2. Objectives

1. To assess the level of pregnancy-associated nausea and vomiting among primigravida women during early pregnancy.
2. To determine the difference between pretest and posttest nausea-and-vomiting scores following administration of ginger tea.
3. To determine the association between baseline symptom severity and selected demographic and clinical variables.

3. Methods

3.1 Study design and setting

A quantitative, quasi-experimental one-group pretest–posttest design was used. The study was conducted at P.P.K. Private Hospital, Marthandam, Kanyakumari district, India. The original dissertation states that data collection was conducted from 7 October to 20 November 2015.

3.2 Participants and sampling

The sample comprised 30 primigravida antenatal women with nausea and vomiting who fulfilled the stated eligibility criteria. Purposive sampling was used. Inclusion criteria were first-trimester pregnancy, nausea and vomiting, willingness to participate, and ability to read and understand Tamil or English. Women who were unavailable during data collection, had other obstetric problems, or were classified as high risk were excluded.

3.3 Intervention

Ginger tea was prepared by boiling 150 mL of water, adding 250 mg of sliced ginger, boiling for approximately 3–5 minutes, straining, and adding approximately one-half teaspoon of honey for taste. The preparation was administered twice daily for four days. The intervention description is reported exactly from the dissertation; the manuscript does not infer the precise gingerol content, standardization, or dose equivalence.

3.4 Outcome measure

The Modified Rhodes Index of Nausea, Vomiting and Retching was used as the symptom measure. The dissertation describes an eight-item instrument with a total score range of 0–32. The reported categories were mild (0–8), moderate (9–16), severe (17–24), and profound (25–32). Content validity was assessed

by five experts, and reliability was assessed using an inter-rater method. The pilot study included three participants.

3.5 Data collection and ethics

Formal administrative permission was obtained from the study hospital. The dissertation states that approval was obtained from the dissertation committee of Christian College of Nursing, Neyyoor and that oral consent was obtained from participants. Confidentiality and anonymity were assured.

3.6 Statistical analysis

Frequency, percentage, mean and standard deviation were used for descriptive analysis. A paired-samples t test was used to compare pretest and posttest symptom scores. Chi-square tests were used to examine associations between baseline symptom category and selected demographic/clinical variables. Statistical significance was interpreted at the 5% level in the original dissertation.

4. Results

4.1 Participant characteristics

Variable	Category	n	%
Age	18–21 years	2	6.67
	22–25 years	16	53.33
	26–30 years	12	40.00
	31–35 years	0	0.00
Education	Degree	14	46.67
	High school	7	23.33
	Primary school	9	30.00
	Uneducated	0	0.00
Physical activity	Sedentary	12	40.00
	Moderate	18	60.00
	Heavy	0	0.00
Occupation	Unemployed	15	50.00
	Laborer	1	3.33
	Daily wage worker	4	13.33
	Professional	10	33.34
Dietary pattern	Vegetarian	0	0.00
	Non-vegetarian	30	100.00
Family income	₹25,000 and above	0	0.00
	₹15,000–25,000	12	40.00
	₹5,000–15,000	18	60.00
	Below ₹5,000	0	0.00
Residence	Rural	14	46.67
	Urban	16	53.33
Religion	Hindu	11	36.67
	Christian	16	53.33
	Muslim	3	10.00
	Other	0	0.00

The largest age group was 22–25 years (53.33%). All participants were reported as non-vegetarian. More than half lived in urban areas (53.33%), and 53.33% were Christian.

4.2 Pretest and posttest symptom severity

Severity category	Pretest n (%)	Posttest n (%)
Mild	0 (0.0)	11 (36.7)
Moderate	8 (26.7)	18 (60.0)
Severe	15 (50.0)	1 (3.3)
Profound	7 (23.3)	0 (0.0)
Total	30 (100.0)	30 (100.0)

Before the intervention, half of the participants had severe symptoms and 23.3% had profound symptoms. After four days, 36.7% had mild symptoms and 60.0% had moderate symptoms; only one participant (3.3%) remained in the severe category and none remained in the profound category.

4.3 Change in symptom score

Assessment	n	Mean	SD	Mean difference
Pretest	30	19.43	3.86	—
Posttest	30	10.13	3.36	9.30

The mean symptom score decreased by 9.30 points, from 19.43 ± 3.86 at pretest to 10.13 ± 3.36 at posttest. The original dissertation reports a paired t value of 15.19 with 29 degrees of freedom. This corresponds to $p < 0.001$. The reported result therefore indicates a statistically significant pretest–posttest difference.

4.4 Association with baseline variables

Variable	χ^2	df	Decision reported in thesis
Age	3.18	4	Not significant
Educational status	2.39	4	Not significant
Physical activity	1.61	2	Not significant
Occupation	1.71	6	Not significant
Gestational-week category	15.30	6	Significant
Family income	1.12	4	Not significant
Place of residence	1.76	2	Not significant
Religion	3.51	4	Not significant

The dissertation reports a statistically significant association between baseline symptom category and gestational-week category, while associations with age, educational status, physical activity, occupation, family income, residence and religion were reported as not statistically significant.

5. Discussion

The principal finding was a reduction in the mean nausea-and-vomiting score following four days of ginger-tea administration. The mean score decreased from 19.43 to 10.13, and the distribution shifted from predominantly severe/profound symptoms at baseline to predominantly moderate/mild symptoms at posttest. The original dissertation interpreted this difference as evidence of the effectiveness of ginger tea.

However, the study design is important when interpreting this finding. Because the study used a single group without a comparison group, changes over four days could also reflect the natural course of pregnancy-associated nausea and vomiting, regression to the mean, changes in diet or routine, placebo/context effects, or other concurrent factors. Therefore, the present results demonstrate a statistically significant within-participant change, but they do not establish that ginger tea alone caused the change.

The association observed between the recorded gestational-week category and baseline symptom severity should also be interpreted cautiously because the sample was small and the gestational-age categories in the original dissertation are internally inconsistent with the stated first-trimester eligibility criterion. This issue should be resolved against the original participant records before journal submission.

6. Strengths and Limitations

- The study used a defined symptom instrument and repeated measurement of the same participants.
- The intervention procedure was described sufficiently to identify the reported preparation and duration.
- The sample was small ($n=30$) and selected purposively from a single hospital, limiting generalizability.
- There was no control or comparison group.
- The intervention lasted only four days.
- Outcome assessment relied on a self-reported symptom scale.
- The original dissertation contains an eligibility/data inconsistency: first-trimester pregnancy is defined as up to 12 weeks, but gestational-age categories of 15–20 and 21–25 weeks are reported. The original dataset or case records must be checked before submission.
- The dissertation reports oral consent and institutional/dissertation committee approval but does not provide an ethics committee approval number; this should be added if one exists.

7. Implications for Nursing Practice

The findings may be relevant to nurses and midwives considering non-pharmacological supportive measures for nausea and vomiting in pregnancy. Any use of ginger during pregnancy should be incorporated into individualized antenatal assessment and should not delay evaluation or treatment of persistent vomiting, dehydration, weight loss, or suspected hyperemesis gravidarum. The present study should be regarded as preliminary evidence because of its uncontrolled design.

8. Conclusion

In this one-group pretest–posttest study of 30 primigravida antenatal women, nausea-and-vomiting scores decreased significantly after four days of the reported ginger-tea intervention. The findings support the need for further research but should not be interpreted as definitive evidence of causal effectiveness. Larger randomized controlled studies with clearly defined gestational-age eligibility, standardized ginger preparation, appropriate safety monitoring and a comparison group are warranted.

9. Recommendations for Further Research

1. Conduct randomized controlled trials comparing standardized ginger preparations with placebo or

usual care.

2. Use a larger sample from multiple antenatal settings.
3. Standardize the dose, preparation and timing of ginger administration.
4. Predefine gestational-age eligibility consistent with the study protocol.
5. Assess adherence, adverse effects, hydration, nutritional status and quality-of-life outcomes.
6. Report ethics approval details and prospective registration where applicable.

Ethical Approval and Consent

The dissertation states that approval was obtained from the dissertation committee of Christian College of Nursing, Neyyoor and administrative permission was obtained from P.P.K. Private Hospital, Marthandam. Oral consent was obtained from participants and confidentiality was assured.

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