

# A True Experimental Study to Assess the Effectiveness of Dry Ginger Powder on Management of Nausea and Vomiting Among Antenatal Mother at CHC in Utai, Chhattisgarh

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**Abstract:** **Background:** Nausea and vomiting during pregnancy (NVP) is a common condition affecting a large proportion of antenatal mothers, particularly during the first trimester. Although usually non-fatal, it can significantly impair physical comfort, nutritional intake, and quality of life. Pharmacological management is often associated with concerns regarding fetal safety, leading to increased interest in safe, natural, and cost-effective remedies. Ginger (*Zingiber officinale*) has been traditionally used as an antiemetic, but limited experimental evidence is available on the effectiveness of dry ginger powder among antenatal mothers. **Aim:** To assess the effectiveness of dry ginger powder in the management of nausea and vomiting among antenatal mothers. **Settings and Design:** The study was conducted at a Community Health Centre (CHC), Utai, Chhattisgarh. A true experimental research design was adopted. **Materials and Methods:** Sixty antenatal mothers in the first trimester suffering from nausea and vomiting were selected using random sampling technique and assigned into experimental (n=30) and control (n=30) groups. The experimental group received dry ginger powder at a dose of 1.5 grams twice daily after meals for a duration of 30 days, while the control group received routine antenatal care without intervention. The severity of nausea and vomiting was assessed using a structured rating scale during pre-test and post-test. Data were analyzed using descriptive and inferential statistics. **Results:** The findings revealed a statistically significant reduction in the severity of nausea and vomiting among antenatal mothers in the experimental group after administration of dry ginger powder compared to the control group ( $p < 0.05$ ). Hence H1 was accepted. The intervention was found to be effective and well tolerated by the participants.

**Keywords:** Dry ginger powder, Nausea and vomiting of pregnancy, Antenatal mothers, True experimental study, Complementary therapy.

## 1. Introduction

Nausea and vomiting of pregnancy (NVP) is a common condition affecting approximately 70–80% of antenatal mothers, particularly during the first trimester. Although generally considered a normal physiological change, persistent nausea and vomiting can negatively affect maternal comfort, nutritional status, daily activities, and quality of life. The

etiology of NVP is multifactorial and is mainly associated with hormonal changes such as increased levels of human chorionic gonadotropin, estrogen, and progesterone. Pharmacological management is often limited due to concerns regarding fetal safety and maternal preference, leading to increased interest in non-pharmacological interventions. Ginger (*Zingiber officinale*) is a traditional remedy known for its antiemetic properties. Dry ginger powder contains active compounds that help reduce nausea and vomiting by improving gastric motility. Owing to its safety, affordability, and easy availability, dry ginger powder may serve as an effective complementary therapy. Hence, this study aimed to assess the effectiveness of dry ginger powder in managing nausea and vomiting among antenatal mothers.

## 2. Objectives

- 1) To assess the level of nausea and vomiting among antenatal mothers in the experimental and control groups before the intervention.
- 2) To assess the level of nausea and vomiting among antenatal mothers in the experimental and control groups after the intervention.
- 3) To determine the effectiveness of dry ginger powder by comparing the pre-test and post-test scores of nausea and vomiting among antenatal mothers in the experimental group.
- 4) To compare the post-test level of nausea and vomiting between the experimental and control groups.
- 5) To find the association between the post-test level of nausea and vomiting and selected socio-demographic variables of antenatal mothers.

## 3. Materials and Methods

A true experimental research design was adopted for the study. Sixty antenatal mothers suffering from nausea and vomiting in the first trimester were selected from a Community Health Centre (CHC), Utai, Chhattisgarh, using random

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sampling technique. Participants were divided into experimental (n=30) and control (n=30) groups. The experimental group received dry ginger powder at a dose of 1.5 g twice daily after meals for 30 days, while the control group received routine antenatal care. The severity of nausea and vomiting was assessed using a structured rating scale before and after the intervention. Data were analyzed using descriptive and inferential statistics. Mean, standard deviation, paired t test, and independent t test were used to evaluate the effectiveness of dry ginger powder. Association between post-test scores and selected socio-demographic variables was analyzed using chi-square test. The level of significance was set at  $p < 0.05$ .

#### 4. Result and Discussion

##### A. Distribution of Antenatal Mothers According to Severity of Nausea and Vomiting

In the experimental group, pre-test assessment showed 6 (20%) mild, 18 (60%) moderate, and 6 (20%) severe nausea and vomiting. In the control group, 11 (36.6%) had mild, 15 (50%) moderate, and 4 (13.3%) severe nausea and vomiting.

This indicates that the majority of antenatal mothers in both groups experienced moderate to severe symptoms before intervention.

##### B. Post-test Level of Nausea and Vomiting in Experimental Group

After administration of dry ginger powder, post-test findings revealed that 18 (60%) antenatal mothers experienced mild nausea and vomiting and 12 (40%) had moderate symptoms. No participant experienced severe nausea and vomiting in the experimental group.

This shows a clear reduction in symptom severity following the intervention

##### C. Comparison of Post-test Severity Between Experimental and Control Group

Post-test comparison showed that in the experimental group, 60% had mild and 40% had moderate nausea and vomiting, whereas in the control group, 43.4% had mild and 56.6% had moderate symptoms. No severe cases were observed in either group.

The findings demonstrate better improvement in the experimental group compared to the control group.

##### D. Comparison of Mean and Standard Deviation of Nausea and Vomiting Scores

The mean nausea and vomiting score in the experimental group reduced from  $73.5 \pm 1.98$  (pre-test) to  $48.2 \pm 2.5$  (post-test) with a mean difference of 25.3.

In the control group, the mean score reduced marginally from  $59.2 \pm 3.05$  to  $55.3 \pm 2.46$ , with a mean difference of 3.

This indicates a greater reduction in symptoms among the experimental group.

##### E. Effectiveness of Dry Ginger Powder

The calculated t-value in the experimental group was 4.7705, whereas in the control group it was 0.7270, which was statistically significant at  $p < 0.05$ .

This confirms that dry ginger powder was highly effective in reducing nausea and vomiting among antenatal mothers. Hence, Hypothesis H3 was accepted.

S.No.	Group	Maximum score	Posttest		't'
			Mean	SD	
1.	Experimental group	13	48.2	2.58	4.7705
2.	Control group	13	55.3	2.46	0.7270

Table 1 shows that, the calculated 't' value was 4.7705 in experimental group and 0.7270 in control group which shows a significant difference in the level of nausea and vomiting among antenatal mothers in experimental and control group at  $p < 0.05$  level.

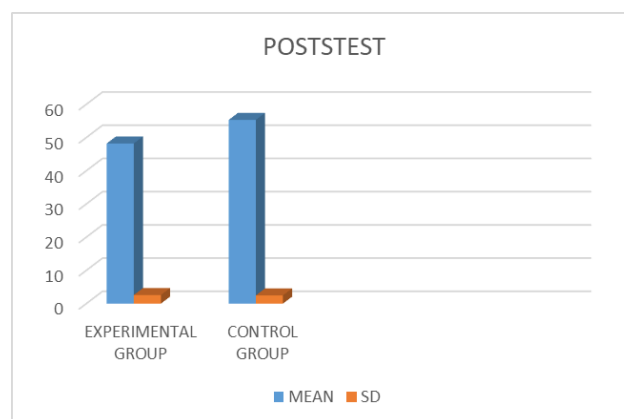


Fig. 1. Clustered column diagram showing the effectiveness of dry ginger powder on management of nausea and vomiting among antenatal mothers in experimental and control group

##### F. Association Between Severity of Nausea and Vomiting and Selected Demographic Variables

Chi-square analysis showed a significant association between severity of nausea and vomiting with educational status ( $\chi^2 = 97.83$ ) and total family income ( $\chi^2 = 14.05$ ) at  $p < 0.05$ .

No significant association was found with age, religion, occupation, type of family, area of residence, dietary pattern, or gestational age.

#### 5. Implication

##### A. In Nursing Practice

- Dry ginger powder can be safely used as a non-pharmacological nursing intervention to manage nausea and vomiting among antenatal mothers.
- The intervention can be easily implemented in antenatal OPD, community health centres, and primary health settings.
- Regular assessment using standardized tools (PUQE scale) can help nurses monitor symptom severity and response to intervention.

##### B. In Nursing Education

- Nursing curricula should include evidence-based information on herbal and alternative therapies like

ginger in maternal care.

- This study can be used as a teaching example for experimental research design and statistical analysis.
- Nursing students can be trained to counsel antenatal mothers regarding safe natural remedies during pregnancy.

#### C. In Nursing Administration

- Nurse administrators can incorporate dry ginger powder as a cost-effective supportive therapy in antenatal care protocols.
- Training programmes and workshops can be organized to update nurses on safe complementary therapies.
- Availability of educational materials on non-drug interventions can be ensured at health centres.

#### D. In Nursing Research

- The findings provide a base for large-scale studies with larger samples and different settings.
- Comparative studies can be conducted between dry ginger powder and pharmacological antiemetics.
- Further research may explore the long-term safety and effectiveness of ginger during pregnancy.

### 6. Recommendation

- Dry ginger powder may be included as a supportive non-pharmacological intervention in routine antenatal care for managing nausea and vomiting.
- Nurses should provide health education to antenatal mothers regarding the safe use, dosage, and duration of dry ginger powder.

- Similar studies can be conducted with a larger sample size to enhance generalizability of findings.
- Comparative studies may be undertaken to evaluate the effectiveness of dry ginger powder with other antiemetic therapies.
- Longitudinal studies are recommended to assess the long-term safety and outcomes of ginger use during pregnancy.
- Further research can be conducted in different settings such as rural and urban communities.

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