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Effectiveness of Ginger Tea in Reducing Morning Sickness among First-Trimester Primi Antenatal Mothers: A Quasi-Experimental Study

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Abstract: ***This study investigates the efficacy of ginger tea in alleviating morning sickness among first-trimester primi antenatal mothers in a rural setting in Bangalore. Employing a quasi-experimental non-randomized design, the research involved an experimental group receiving ginger tea and a control group without it. Pre-and post-test scores were measured using the Modified Rhodes Index of Nausea Vomiting and Retching tool. The results demonstrate a significant reduction in morning sickness symptoms in the experimental group, establishing the effectiveness of ginger tea in mitigating this discomfort. Moreover, the study identifies associations between demographic variables and morning sickness levels, shedding light on factors influencing this condition among pregnant women in rural areas.***

Keywords: Ginger Tea, Morning Sickness, First-Trimester, Antenatal Mothers, Quasi-Experimental Study

1. Introduction

A first pregnancy is like any other first experience.1First trimester of pregnancy is a time filled with excitement and celebration. But it can also be a period of difficult changes both physical and emotional.2 Many women experience minor disorders during pregnancy like morning sickness, constipation, backache, heartburn and so on due to hormonal and metabolic change. These disorders should be treated adequately as they may escalate and become life threatening.**3** Morning sickness refers to nausea with or without vomiting. It appears at approximately 4 to 6 weeks of gestation and usually subsides by the end of third month that is first trimester of pregnancy.1 The incidence seems to higher among teenagers, women over age 35, women who are obese, non smokers or women with multiple pregnancies.4 Severity varies from mild distaste for certain foods to more severe vomiting. The sickness is not confined to early morning but can occur at any time in the day. The smell of food cooking will often cause mother to retch.5 The condition may be triggered by sight or odor of various foods. Rarely does morning sickness have harmful effects on fetus or the woman. Nausea and vomiting during first trimester of pregnancy is a serious problem for pregnant women. If it is not treated at the proper time it may have adverse effects on both mother and fetus. The ultimate outcome in mother will be malnutrition, hyperemesis gravidarum, and in baby low birth weight, intra uterine growth retardation, still birth etc which directly increase IMR and NMR.6 National Family Health Survey-3 (Ministry of Health and Family Welfare Government of India) reported Fertility levels in rural areas is 3.0 children per woman much higher than urban areas where it is 2.1 children per woman. Less than half of rural women received antenatal care during first trimester. Another 22% had their first visit during fourth or fifth month of pregnancy. Just over half of mothers had three or more antenatal care visits. More than 1 in 5 mothers received no antenatal care.7

Objectives of the study:

- To assess the level of morning sickness among first trimester primi antenatal mothers in experimental and control group.
- To assess the effectiveness of ginger tea on reduction of morning sickness among first trimester primi antenatal mothers of experimental group.
- To determine association between level of morning sickness and selected demographic variables among first trimester primi antenatal mothers.

Hypothesis

- **H_1**-There will be significant difference between pre-test and post-test scores on reduction of morning sickness among first trimester primi antenatal mothers in experimental group at 0.05 level.
- **H_2**-There will be significant difference between pre-test and post-test scores on reduction of morning sickness among first trimester primi antenatal mothers in control group at 0.05 level.
- **H_3**-There will be significant difference between post test scores on reduction of morning sickness among first trimester primi antenatal mothers in control and experimental group at 0.05 levels.
- **H_4**-There will be significant association between levels of morning sickness scores among first trimester primi antenatal mothers with selected demographic variables at 0.05 levels.

2. Methodology

Research Design: The research design selected for this study was quasi experimental nonrandomized experimental control group pre test post test design to measure the effectiveness of Ginger tea.

Research Setting: The research setting was in four villages under Tavarekere PHC, Bangalore that is Cholanayakanhally, Tavarekare, Kurusharahally and Tippogondahally.

Population: The accessible population for the study comprised of first trimester primi antenatal mothers with morning sickness from Cholanayakanhally, Tavarekare, Kurusharahally and Tippogondahally villages under Tavarekare PHC.

Samples and sampling technique: The sample for the study consisted of 40 first trimester primi antenatal mothers out of which 20 were given ginger tea i. e. experimental group and 20 were not given ginger tea i. e. control group. Non-probability purposive sampling technique was used for selecting the sample for the study.

3. Results

Section-1 Demographic variables of antenatal mothers of control and experimental group

This section deals with description of socio demographic variables or sample characteristics. Samples of 40 first trimester primi antenatal mothers (20-in experimental group and 20-in control group) were selected based on purposive sampling criteria. The data on the sample characteristics were analyzed using descriptive statistics, and presented in terms of frequency percentage depicted in figures

Table 1: Frequency and percentage distribution of respondents according to age, education, and occupation, duration of married life and duration of pregnancy. N=40

Characteristics	Category	Respondents					
		Control (n=20)		Experimental (n=20)		Combined (N=40)	
		N	%	N	%	N	%
Age group (years)	18-20	10	50.0	13	65.0	23	57.5
	21-23	7	35.0	4	20.0	11	27.5
	24-26	3	15.0	3	15.0	6	15.0
Educational status	Illiterate	4	20.0	6	30.0	10	25.0
	Primary	7	35.0	8	40.0	15	37.5
	Secondary	5	25.0	2	10.0	7	17.5
	PUC	4	20.0	4	20.0	8	20.0
	Degree & above	0	0.0	0	0.0	0	0.0
Occupational Status	House wife	5	25.0	5	25.0	10	25.0
	Daily wages	7	35.0	7	35.0	14	35.0
	Self employed	4	20.0	2	10.0	6	15.0
	Private	4	20.0	6	30.0	10	25.0
	Govt. employee	0	0.0	0	0.0	0	0.0
Duration of Married life	<1 year	4	20.0	8	40.0	12	30.0
	1-2 years	14	70.0	9	45.0	23	57.5
	3-4 years	2	10.0	3	15.0	5	12.5
	5 years & above	0	0.0	0	0.0	0	0.0
Duration of pregnancy	1-3 weeks	0	0.0	0	0.0	0	0.0
	4-6 weeks	7	35.0	6	30.0	13	32.5
	7-9 weeks	8	40.0	10	50.0	18	45.0
	10-12 weeks	5	25.0	4	20.0	9	22.5

Regarding age in control group majority of respondents 50% belongs to age group 18-20years and in experimental group majority of respondents 65% belongs to age group 18-20years. Regarding educational status in control group majority of respondents 35% were primary school educated, and in experimental group majority of respondents 40% were primary school educated. Regarding occupational status in control group majority of respondents 35% were working on daily wages and in experimental group majority of respondents 35% were working on daily wages too. Regarding duration of married life in control group majority of respondents 70% were married for 1-2 years and in experimental group majority of respondents 45% were married for 1-2 years. Regarding duration of pregnancy in control group majority of respondents 40% were pregnant for 7-9 weeks and in experimental group majority of respondents 50% were pregnant for 7-9 weeks.

Table 1.2: Frequency and percentage distribution of respondents according to religion, food habits, type of family, family income, health services utilizing and previous information on ginger tea, N=40

Characteristics	Category	Respondents					
		Control (n=20)		Experimental (n=20)		Combined (N=40)	
		N	%	N	%	N	%
Religion	Hindu	16	80.0	14	70.0	30	75.0
	Muslim	4	20.0	6	30.0	10	25.0
	Christian	0	0.0	0	0.0	0	0.0
	Others	0	0.0	0	0.0	0	0.0
Food habits	Vegetarian	9	45.0	8	40.0	17	42.5
	Non vegetarian	11	55.0	12	60.0	23	57.5
Type of family	Nuclear	5	25.0	6	30.0	11	27.5
	Joint	15	75.0	14	70.0	29	72.5
	Extended	0	0.0	0	0.0	0	0.0

Family Income/month	Rs.2, 000-4, 000	9	45.0	8	40.0	17	42.5
	Rs.4, 001-6, 000	6	30.0	6	30.0	12	30.0
	Rs.6, 001-9, 000	5	25.0	6	30.0	11	27.5
Health service utilization	Government	18	90.0	18	90.0	36	90.0
	Private	2	10.0	2	10.0	4	10.0
	Pvt. Nsg. Home	0	0.0	0	0.0	0	0.0
	Vol. health service	0	0.0	0	0.0	0	0.0
Previous Information on Ginger tea	No	20	100.0	20	100.0	40	100.0
	Yes	0	0.0	0	0.0	0	0.0

TABLE-1.2 reveals distribution of demographic variables. Regarding religion in control group majority of respondents 80% were Hindus and in experimental group also majority of respondents 70% were Hindus, Regarding food habits in control group majority of respondents 55% were non-vegetarians and 45% were vegetarians. In experimental group majority of respondents 60% were non-vegetarians and 40% were vegetarians. Thus the combined data shows majority of the respondents 57.5% were non-vegetarians and 42.5% were vegetarians. Regarding type of family in control group majority of the respondent 75% belonged to joint family and in experimental group majority of the respondent 70% belonged to joint family. Regarding family income per month in control group majority of the respondent 45% belongs to family income of Rs.2000-Rs.4000 and in experimental group majority of the respondent 40% belongs to family income of Rs.2000-Rs.4000. Regarding health service utilization in control group majority of the respondent 90% go to go government hospitals and in experimental group majority of the respondent 90% go to go government hospitals. Regarding previous information about ginger tea in control group majority of the respondent 100% were unaware about it. In experimental group majority of the respondent 100% were unaware about it. Thus the combined data shows majority of the respondent 100% were unaware about it.

Section II: Data on morning sickness scores of first trimester primi antenatal mothers before administration of ginger tea among experimental and control group.

Table 2.1: Overall Pre test mean morning sickness scores among control and experimental group, N=40

Groups	Max Score	Sample (n)	Respondents Morning Sickness Scores			Student 't' Test
			Mean	Mean (%)	SD (%)	
Control	32	20	21.95	68.6	14.6	1.39 NS
Experimental	32	20	19.55	61.1	19.3	

NS: Non-Significant, t (0.05, 38 df) = 1.96

Table 2.1-reveals overall pre test mean morning sickness scores among experimental group and control group. The overall combined mean pre test score of experimental and control group were 61.1% and 68.6% and 't' value was 1.39 which is non-significant. However, the statistical student 't' test implies that there is no significant difference in the pretest morning sickness scores of experimental and control group at 0.05 level.

Table 2.2: Classification of respondents on pre test morning sickness level of experimental group and control group, N=40

Aspects (Symptom)	Morning Sickness Level	Classification of Respondents			
		Control		Experimental	
		N	%	N	%
Experience	None	0	0.0	0	0.0
	Mild	4	20.0	7	35.0
	Moderate	16	80.0	13	65.0
Occurrence	None	0	0.0	0	0.0
	Mild	5	25.0	8	40.0
	Moderate	15	75.0	12	60.0
Distress	None	0	0.0	0	0.0
	Mild	6	30.0	8	40.0
	Moderate	14	70.0	12	60.0
Total		20	100.0	20	100.0

Table 2.2-reveals that out of 20 respondents of control group, regarding symptom experience 16 respondents were in moderate and 4 were in mild level, regarding occurrence 15 respondents were in moderate and 5 were in mild finally regarding distress 14 were in moderate and 6 were in mild level.

Out of 20 respondents of experimental group, regarding symptom experience 13 respondents were in moderate level and 7 were in mild level, regarding occurrence 12 respondents were in moderate and 8 were in mild level finally regarding distress 12 were in moderate and 8 were in mild level.

Section III: Data on effectiveness of ginger tea on morning sickness scores of first trimester primi antenatal mothers with pre test and post test scores among experimental and control group

Table 3.1: Aspect wise pre test post test morning sickness scores of experimental group, N=40

No.	Aspects (symptom)	Respondents morning sickness score (%)						Paired 't' Test
		Pre test		Post test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
I	Experience	51.9	19.4	19.1	13.5	42.8	8.9	21.51*
II	Occurrence	61	20.2	20	14.1	41	11.7	15.67*

III	Distress	59.2	20.6	17.5	12.7	41.7	11.5	16.22*
	Combined	61.1	19.3	19.1	13.5	42	9.3	20.20*

*Significant at 5% Level t (0.05, 19 df) = 2.093

Table 3.1 and fig.1-revealed aspect wise pre test post test morning sickness scores of experimental group. The Pre test and Post test mean morning sickness score for symptom experience was 51.9% and 19.1%, symptom occurrence 61% and 20% and symptom distress 59.2% and 17.5%. The post test mean enhancement for symptom experience was 42.8 with paired 't' value of 21.51, occurrence 41 with 't' value 15.67 and distress 41.7 with 't' value of 16.22.

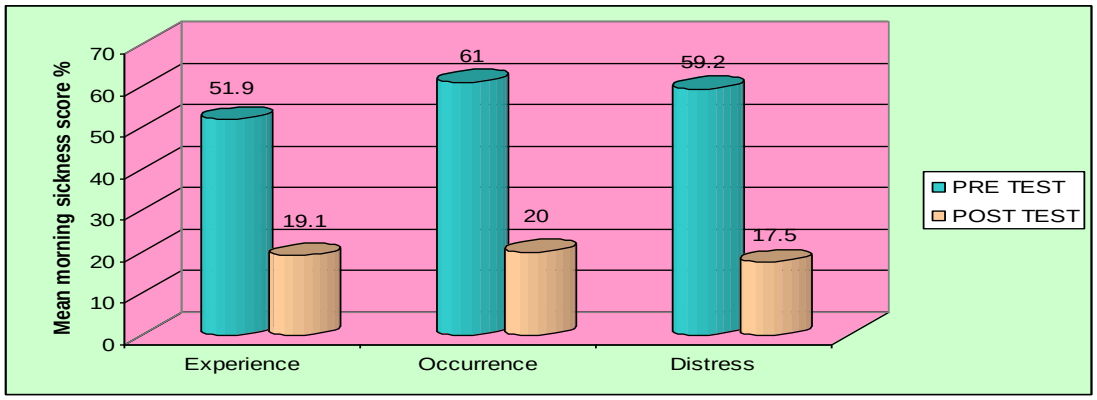

Figure 1

Table 3.2: Overall Pre test and Post test mean morning sickness scores of experimental group, N=40

Test	Sample no.	Morning sickness Score			Paired 't' Test
		Mean	Mean (%)	SD (%)	
Pre test	20	19.55	61.1	19.3	
Post test	20	6.10	19.1	13.5	
Enhancement		13.45	42.0	9.3	20.20*

Significant at 5% level t (0.05, 19 df) = 2.093

Table: 3.2 and fig.2 revealed Overall Pre test and Post test mean morning sickness scores of experimental group. The post test mean score was 19.1% which was significantly lower than the pre test score of 61.1%, the difference in the mean enhancement score was observed as 42%. and the calculated 't' value was 20.20 which is significant at 0.05 level.

However, the statistical paired 't' test implies that there is difference in the pretest and posttest morning sickness scores which is statistically significant at 0.05% level. Hence the research hypothesis H_1-There will be significant difference between pre-test and post-test scores on reduction of morning sickness among first trimester primi antenatal mothers in experimental group at 0.05 level is accepted which indicates that ginger tea is effective on reduction of morning sickness among first trimester primi antenatal mothers.

Table 3.3: Classification of respondents on pre test post test morning sickness level of control and experimental group, N=40

Aspects (Symptom)	Morning Sickness Level	Classification of Respondents				Classification of Respondents			
		Experimental				Control			
		Pre test		Post test		Pre test		Post test	
		N	%	N	%	N	%	N	%
Experience	None	0	0.0	5	25.0	0	0.0	0	0.0
	Mild	7	35.0	15	75.0	4	20.0	4	20.0
	Moderate	13	65.0	0	0.0	16	80.0	16	80.0
Occurrence	None	0	0.0	5	25.0	0	0.0	0	0.0
	Mild	8	40.0	15	75.0	5	25.0	5	25.0
	Moderate	12	60.0	0	0.0	15	75.0	15	75.0
Distress	None	0	0.0	5	25.0	0	0.0	0	0.0
	Mild	8	40.0	15	75.0	6	30.0	6	30.0
	Moderate	12	60.0	0	0.0	14	70.0	14	80.0
Total		20	100.0	20	100.0	20	100.0	20	100.0

Table-3.3 revealed the classification of respondents on pretest post test morning sickness level of control and experimental group. Regarding symptom experience in experimental group in pretest majority of the respondents 65% have moderate level of morning sickness followed by 35% with mild level. In posttest majority of the respondents 75% have mild level followed by 25% with none having morning sickness. In control group in the pretest majority of the respondents 80% have moderate level of morning sickness followed by 20% with mild level. In the posttest there was no improvement they were in the same level.

Regarding symptom occurrence in experimental group in pretest majority of the respondents 60% have moderate level of morning sickness followed by 40% with mild level. In posttest majority of the respondents 75% have mild level followed by 25% with none having morning sickness. In control group in the pretest majority of the respondents 75%

have moderate level of morning sickness followed by 25% with mild level. In the posttest there was no improvement they were in the same level

Regarding symptom distress in experimental group in pretest majority of the respondents 60% have moderate level of morning sickness followed by 40% with mild level. In posttest majority of the respondents 75% have mild level followed by 25% with none having morning sickness. In control group in the pretest majority of the respondents 70% have moderate level of morning sickness followed by 30% with mild level. In the posttest there was no improvement they were in the same level

Hence, H_3: There will be a significant difference between pretest and posttest on reduction of morning sickness among first trimester primi antenatal mothers in experimental and control group at 0.05 level is accepted. This indicates ginger tea is effective in reducing morning sickness

Table 3.4: Association between Demographic variables and Pre test morning sickness level of Experimental group, N=20

SL. NO	Demographic variables	Symptom Experience		Symptom Occurrence		Symptom Distress	
		X^2	P value	X^2	P value	X^2	P value
1	Age	21.6*	<0.05	21.6*	<0.05	11.8*	<0.05
2	Duration of pregnancy	10.77*	<0.05	7.78*	<0.05	7.78*	<0.05
3	Religion	3.78 NS	>0.05	6.71*	<0.05	2.54 NS	>0.05
4	Educational status	5.90 NS	>0.05	8.72*	<0.05	3.51 NS	>0.05
5	Occupational status	3.53 NS	>0.05	5.58 NS	>0.05	2.30 NS	>0.05
6	Food habits	7.18*	<0.05	4.20*	<0.05	1.25 NS	>0.05
7	Duration of married life	9.50*	<0.05	7.27*	<0.05	2.93 NS	>0.05
8	Type of family	0.01 NS	>0.05	1.94 NS	>0.05	0.16 NS	>0.05
9	Family income / month	0.95 NS	>0.05	1.25NS	>0.05	2.64 NS	>0.05

* Significant at 5% Level, NS: Non-significant

Data presented in the Table-3.4 indicates there exists a significant association between age, food habits, duration of pregnancy, duration of married life with the pretest morning sickness experience scores of experimental group at ($P<0.05$). Hence H_4 is accepted.

There exists a significant association between pre test morning sickness occurrence scores and age, duration of pregnancy, religion, education, food habits, and duration of married life so H_4 is accepted. There exists a significant association between age and duration of pregnancy, with the pretest morning sickness distress scores of experimental group at ($P<0.05$). So H_4 is accepted. And there exists a non-significant association between pretest morning sickness distress scores with variables such as, religion, education, occupation, food habits, and duration of marriage, family income and type of family. Hence H_4 is rejected.

4. Interpretation and Conclusion:

There was a significant reduction in the morning sickness scores of first trimester primi antenatal mothers of experimental group after the administration of the ginger tea. Therefore, it was concluded that the ginger tea was effective on reduction of morning sickness.

5. Recommendation

On the basis of the findings of the study, it is recommended that:

- A similar study may be replicated with a larger population.
- A comparative study to assess the level of morning sickness during pregnancy between primigravida women and multipara women.
- A comparative study to test the effectiveness of ginger tea on reduction of morning sickness during first trimester of pregnancy between the rural and urban pregnant women may be conducted.
- A follow-up study may be conducted to determine the effectiveness of the ginger tea, in terms of no morning sickness in those subjects who were administered the ginger tea.

References

[1] Basavanthappa BT. Textbook of midwifery and reproductive health nursing. New Delhi: jaypee brothers publishers; 2006. p.153 Available from **URL: http: //www.pregnancystories. net/getting_** pregnant.
[2] Rafoqua Rashir. Manual of pregnancy labour and puerperium, Dya books; 2008. p.48-49
[3] Ruth V, Linda K Myles textbook for midwives 13th ed. London: Churchill livingstone; 2000. p.204
[4] Tunani EdmundF. Nausea and vomiting of pregnancyuptodate. com/patients/2009.115, 184.134.57
[5] Bobak Irene M, JensenMarget Duncan. Mternity and gynecologic care-the nurse and the family.5th ed. London: MOSBY; 1992. P.432
[6] National Family Health Survey (NFHS-3) 2005-06, India: key findings. Mumbai IIPS.