

Oral Administration of Ginger Tea in the Treatment of Nausea and Vomiting in early Pregnancy among Primi Antenatal Mothers

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Abstract- Morning sickness, also known as nausea and vomiting during pregnancy, is a common ailment. It affects roughly 70% of pregnancies and usually starts around 6 weeks of pregnancy and lasts for weeks or months. Symptoms usually improve during the second trimester. Ginger's therapeutic benefits include relief from colds, flu, chills, fever, headaches, stomach upset, improved blood circulation, nausea relief, pain relief, chest congestion, improved liver function and digestion, and relief from morning sickness during pregnancy. This study investigated the effectiveness of oral administration of ginger tea in the treatment of nausea and vomiting in early pregnancy among primi antenatal mothers in selected hospitals, Dehradun. The objectives were; to assess the level of nausea and vomiting before and after intervention in experimental and control group out, to assess the efficacy of ginger tea on nausea and vomiting among primi antenatal mothers in experimental group and control group and to find out the association between level of nausea and vomiting with selected demographic variables. The study's design was quantitative research approach in nature. The study employed a nonequivalent control group research design. The target population was 40 primi antenatal mothers who are attending OPD. Participants were selected using purposive sampling technique to get a sample size of 40 primi antenatal mothers who are attending antenatal OPD. To gather primary data for this project, Modified Rhodes Index of Nausea, Vomiting and Retching by Rhodes VA were used. The study concluded that based on the findings, it shows that there is significant difference between pre-test and post-test scores on treatment of nausea and vomiting among primi antenatal mothers in experimental group at 0.05 level compared to the control group. The study findings indicate that ginger tea is effective on treatment of nausea and vomiting among primi antenatal mothers. The study recommendations were to promote programs and interventions that enhance effective natural remedies for reducing nausea and vomiting symptoms among antenatal mothers. This can be achieved through counseling, support groups and educational initiatives that focus on improving healthy pregnancies by treating minor ailments during pregnancy with natural remedies avoiding medications.

Index Terms- Ginger Tea, Nausea & Vomiting, Early pregnancy, Primi antenatal mothers.

I. INTRODUCTION

Every second, a woman dies in childbirth or from pregnancy complications. This amounts to more than 500,000 women per year. And 99% of these deaths occur in developing countries. Every five minutes, a woman in rural India dies while giving birth. Among all the minor discomforts associated with pregnancy a very common experience shared by pregnant women all over the world is "morning sickness", a normal psychological phenomenon not an illness but a part of being healthy. Nausea and vomiting specially in the morning, soon after getting out of bed are usually common in primi gravida. Nausea and vomiting are commonly experienced symptoms in pregnancy, especially in early pregnancy. Nausea and vomiting are caused by a variety of neural pathways and motor responses to sensory stimuli. When the trigger is activated, the gastrointestinal system reacts with hypotonicity, hypoperistalsis, hyosecretion, and decreased small intestinal motility, and ejection of stomach and small intestine contents. HCG levels rise rapidly during the first six weeks, peak around 10 weeks, and then begin to fall around 12 weeks.

Due to women concerned that pharmaceutical medications will harm their unborn children, women are increasingly starting to turn to non-drug treatment methods, such as complementary and alternative therapies, to treat these symptoms. Alternative therapies, on the other hand, are less well-regulated and have less evidence of effectiveness. The general public frequently uses alternatives and complementary medicines even without involvement of physicians. There are considerable risks and effects on pregnant women who experience this condition. Nausea and vomiting affect up to 70–85% of all women during gestation and for the majority self-management suffices. For the remainder, symptoms are more severe, clinical conditions may become critical and lead to hyperemesis gravidarum (0.3–1.0% of pregnant women). Declining Fertility Rates are Highlighted in the 2021 Population Data Sheet. The global total fertility rate (number of births per woman over her lifetime) is 2.3, which is higher than the replacement level (2.1 births per woman) but lower

than it was in 1990. (3.2). The Total Fertility Rate (TFR), or the average number of children a woman would have in her lifetime, has fallen from 2.2 in 2015-16 to 2.0 in 2019-21. It was revealed in the fifth round of the National Family Health Survey, or NFHS-5, which began in 2019. According to the Office of the Registrar General and Census Commissioner, the total fertility rate in Uttarakhand in 2019 was 1.900 NA. This is an increase from the previous year's figure of 1.800 NA. Total Fertility Rate: Uttarakhand data is updated yearly, with 6 observations averaging 1.900 NA from December 2014 to 2019.

A study was conducted to investigate the prevalence, severity, and psychosocial determinants of NVP during early and late pregnancy. The data came from a longitudinal and epidemiological study of depression in pregnancy and postpartum in 648 Canadian women. The Nausea and Vomiting in Pregnancy Instrument (NVPI), the Cambridge Worry Scale (CWS), and the Edinburgh Postnatal Depression Scale were among the measures used (EPDS). Demographic, maternal/obstetrical, psychological, and behavioural factors associated with NVP were also investigated. The prevalence of NVP was 63.3% (n = 551) at Time 1 (early pregnancy) and 45.4% (n = 575) at Time 2 (late pregnancy). The severity of symptoms was linked to earlier gestation, antiemetic medication use, employment status, and major depression symptoms. NVP was protected by maternal smoking and having the support of three or more people. This study concludes that NVP screening should continue throughout pregnancy, and that measures to address NVP, low social support, and depression are necessary. More research is needed to effectively manage this very common and distressing condition.

A study was conducted to determine the prevalence of nausea and vomiting in a sample of Canadian women, characterise the severity distribution, and investigate the role of vitamin B6 deficiency in their aetiology. The study was designed as a prospective study. A prospective, population-based cohort of 193 women was studied to estimate the rate and severity of nausea and vomiting (cohort A); a cohort of 555 women who sought advice for nausea with or without vomiting was studied to study the correlation between the maximal daily number of episodes of vomiting and maximal weight loss (cohort B); and a prospective cohort of 301 women who reported vomiting was studied to correlate vitamin supplementation with vomiting (cohort C). In total, 67% of women in cohort A reported nausea or vomiting, or both; 22% reported vomiting, and 9% reported weight loss. Although there was wide variation, there was a significant correlation between the maximum number of daily episodes of vomiting and maximal weight loss in cohort B ($r_2 = 0.25$, $p 0.001$). The number of daily vomiting episodes and mean weight loss had a highly significant correlation ($r_2 = 0.99$). Vomiting was significantly associated with a lack of multivitamin supplementation before 6 weeks' gestation in cohort C ($p = 0.002$). The relationship between the number of daily vomiting episodes and mean weight loss could be used as a clinical tool to assess the severity of nausea and vomiting in pregnancy, as well as the effectiveness of anti-emetics and rehydration regimens. More research is needed to determine the biological basis of the observed link between vomiting and a lack of multivitamin supplementation in early pregnancy.

II. RESEARCH METHOD AND FINDINGS

A quantitative research approach using pretest and posttest was adopted in order to accomplish the objectives of the study. The research design selected for this study is quasi experimental research design (nonequivalent control group research design). The setting of this study was Shri Mahant Indresh Hospital and NANDA Hospital at Dehradun. Both hospitals provide comprehensive facilities for Obstetrics and Gynaecology and other department. The organizational climate of the institution is conducive to conduct this study. The setting is spacious enough to carry out the planned procedures. Primi antenatal mothers in early pregnancy attending OPD in Obstetrics Department at Shri Mahant Indresh Hospital and NANDA Hospital were selected using purposive sampling techniques, who fulfils the inclusion criteria. In this study experimental group were allotted by non-probability purposive sampling technique. In order to select the sample from population initially oral and written consent will be taken from clients those who were having nausea and vomiting attending the Obstetrics OPD in Shri Mahant Indresh Hospital and NANDA Hospital. A total of 40 samples were selected. Among them 20 were assigned for experimental group (ginger tea) and 20 were assigned for control group.

The independent variable was ginger tea. On the hand, the dependent variable of the study was nausea and vomiting in primi antenatal mothers. Extraneous variables are of age, religion, education, occupation, family income, residential area, gestational age, duration of marriage, personal habits and diet and health related information. The tool is constructed based on the objectives of the study and consist of two parts **Part-I:** Demographic (semi structured questionnaire consists of 10 demographic variables) and **Part-II:** Modified Rhodes Index of Nausea, Vomiting and Retching by Rhodes VA.

Over all Pretest mean nausea vomiting scores among control and experimental group

Groups	Maximum Score	Sample (n)	Respondents nausea vomiting scores			Paired '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	

$t (0.05, 38 \text{ df}) = 1.96$

Table shows overall pretest mean nausea vomiting scores of experimental group and control group. The overall combined mean pretest

score of experimental and control group are 61.1% and 68.6% and 't' value was 1.39 which was non-significant. However, the statistical paired' test implies that there was no significant difference in the pretest nausea vomiting scores of experimental and control groups which was statistically non-significant at 0.05 level

**Pretest morning sickness level among control and experimental group
N=40**

Aspects	Nausea Vomiting 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 shows that out of 20 respondents of control group, regarding symptom experience 16 respondents were in moderate and 4 were in mild level, regarding symptom occurrence 15 respondents were in moderate and 5 were in mild finally regarding symptom 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 symptom occurrence 12 respondents were in moderate and 8 were in mild level finally regarding symptom distress 12 were in moderate and 8 were in mild level.

**Aspect wise Post test Mean nausea vomiting Scores among Control and Experimental group
N=40**

Aspects	Groups	Sample (n)	Nausea Vomiting Scores			Paired 't' Test
			Mean	Mean (%)	SD (%)	
Experience	Control	20	10.60	66.3	16.6	9.87*
	Experimental	20	3.05	19.1	13.5	
Occurrence	Control	20	6.90	69.0	17.1	9.89*
	Experimental	20	2.00	20.0	14.1	
Distress	Control	20	4.00	66.7	14.3	11.50*
	Experimental	20	1.05	17.5	12.7	
Combined	Control	20	21.50	67.2	15.4	10.50*
	Experimental	20	6.10	19.1	13.5	

* Significant at 5% level, t (0.05, 38 df) = 1.96

Table shows aspect wise posttest mean nausea vomiting scores among control and experimental group in the aspect of symptom experience 66.3% and 19.1%, in the aspect of symptom occurrence 69% and 20% and in symptom distress 66.7% and 17.5%. The paired 't' test value for symptom experience was 9.87, symptom occurrence 9.89 and symptom distress 11.50 which was statistically significant at 0.05 level.

**Over all Post test Mean nausea vomiting Scores among Control and Experimental group
N=40**

Groups	Sample (n)	Respondents Nausea Vomiting Scores			Paired 't' Test
		Mean	Mean (%)	SD (%)	

Control	20	21.50	67.2	15.4	10.50*
Experimental	20	6.10	19.1	13.5	

NS : Non-Significant

t (0.05, 38 df) = 1.9

Table shows overall posttest mean nausea vomiting scores of experimental group and control group. The overall combined mean post test score of experimental and control group are 6.10% and 21.50% and t' value was 10.50 which was significant at 0.05 level, which indicates ginger tea is effective in reduction of morning sickness.

III. DISCUSSION

Researcher (2023) investigated the possibility to reduce the symptoms of nausea and vomiting in primi antenatal mothers during pregnancy. With purposive sampling technique 40 primi antenatal mothers, to gather primary data for this project, Modified Rhodes Index of Nausea, Vomiting and Retching by Rhodes VA were used as assessment tool. The overall pretest mean nausea and vomiting scores of control group was 68.6% and whereas in experimental group it is 61.1%. The pretest standard deviation of control group was 14.6 whereas in experimental group it was 19.3. The 't' test value was 1.39 which is non-significant. The obtained 't' value in the aspect of symptom experience were 9.87, in the aspect of symptom occurrence 9.89 and in the aspect of symptom distress 11.50 Hence, there is significant difference in the post test of nausea and vomiting scores of primi antenatal mothers among Experimental and Control Group. The overall posttest mean nausea and vomiting scores of control group was 67.2% and whereas in experimental group it was 19.1%. The pretest standard deviation of control group was 15.4% whereas in experimental group it was 13.5%. The paired 't' test value was 10.50 which was significant.

IV. CONCLUSION AND RECOMMENDATIONS

Conclusion

Regarding experimental group the posttest mean score was 19.1% which was significantly lower than the pretest score of 61.1%, the mean enhancement score was observed as 42%.and the calculated 't' value was 20.20 which was significant at 0.05 level. Regarding control group the overall posttest mean score was 67.2% which was slightly lower than the pretest score of 68.6%, the difference in the mean enhancement score was observed as 1.4%.and the calculated 't' value was 1.84 which was not significant at 0.05 level. The overall mean post test score of experimental and control group are 6.10% and 21.50% and t' value was 10.50 which was significant at 0.05 level, which indicates ginger tea is effective in reduction of nausea and vomiting during pregnancy. From the statistical analysis it was clear that there was significant reduction in the nausea and vomiting level of primi antenatal mothers after oral administration of ginger tea. From this it can be concluded that ginger tea was effective in reducing nausea and vomiting during pregnancy.

Recommendation

- A similar study may be replicated with a larger population.
- A comparative study to assess the level of nausea and vomiting during pregnancy between primigravida women and multigravida women.
- A survey to assess the knowledge, beliefs and practices of primigravida women regarding management of nausea and vomiting during pregnancy may be undertaken
- A comparative study to test the effectiveness of ginger tea on reduction of nausea and vomiting 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 nausea and vomiting in those subjects who were administered the ginger tea.

This study has opened possible areas of interest for further studies. Further studies concerning other alternatives treatment modalities implications of nausea and vomiting during pregnancy need to be explored by researchers interested in this field.

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