

A Study to Assess the Effectiveness of Ginger Tea on Reduction of Morning Sickness among 1st Trimester Primi Antenatal Mothers in Selected Area of Sonitpur District, Assam

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Abstract: Introduction: Morning sickness is nausea and vomiting that occurs during pregnancy. And, despite its name, morning sickness can strike at any time of the day or night. Many pregnant women have morning sickness especially during the first trimester. But some women have morning sickness throughout pregnancy. Objective of the Study: To find out the effectiveness of ginger tea on reduction of morning sickness among 1st trimester antenatal mothers. Method: A quantitative research approach with quasi experimental nonrandomized control group design. 60 1st trimester antenatal mothers were selected using nonprobability purposive sampling technique and who fulfill the inclusion criteria of the study. Data was collected using demographic variables, Modified Rhodes index nausea, vomiting, retching scale followed by intervention Ginger tea. Results: The study revealed that in experimental group pre-test majority 14(46.7%) of participants had severe morning sickness whereas in post-test majority of participants 15(50%) had mild morning sickness. In control group pre-test majority 13(43.3%) of participants had severe morning sickness while in post-test majority 14(46.7%) of participants had severe morning sickness. Result revealed that ginger tea was effective on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group as compared to control group. Conclusion: The findings of the study are consistent with the literature and have support from the other studies.

Keywords: Effectiveness, Nursing interventions, Morning sickness, Antenatal mother

1. Introduction

“Birthing is the most profound initiation to spirituality a woman can have.”

-Robin Lim

Motherhood is said to be purest form of human existence and it is the phase of being a mother. Motherhood is the start of a new phase in a woman's life and often comes with a lot of difficulties.¹

Pregnancy is a unique, exciting and often joyous time in a woman's life. The growing fetus depends entirely on its mother's healthy body for all needs so pregnant woman must take steps to remain as healthy and well-nourished as they possibly can.²

Nausea and vomiting (morning sickness) are the most common discomforts of the first trimester of pregnancy.³ Most of the mother's experience nausea and vomiting during pregnancy.

Herbal preparations such as ginger tea may help to relieve morning sickness symptoms. Fortunately, ginger root contains a variety of plant compounds that may help with some of the discomforts of pregnancy. Specifically, two types of compounds in ginger – gingerols and shogaols - are thought to act on receptors in the digestive system and speed stomach emptying, which in turn may help reduce feelings of nausea. Gingerols are present in large amounts in raw ginger, while shogaols are more abundant in driedginger.⁴

2. Background of the study

Morning sickness is found more often in Western countries and urban populations and is rare among Africans, Native Americans, Eskimos, and most Asian populations. Only a few studies have examined the racial distribution of morning sickness in a given population. One such study from Canada of 367 women found that Asians and blacks were less likely to report symptoms of morning sickness than Caucasians. Sociodemographic factors did not account for the racial/ethnic variation in disease prevalence, suggesting that genetic and/or cultural factors may be at play.⁵

According to a report published by Med. India, women born in India and Srilanka are three times more likely to suffer from extreme nausea and vomiting (morning sickness) during pregnancy.⁶

Kamu AS (2017) conducted a study “to assess the effectiveness of ginger tea on reduction of morning sickness. The level of morning sickness in control group were 1(3.3%) subject experienced mild sickness, 8(26.7%) had moderate sickness, 12(40%) shown severe symptoms and 9(30%) experienced profound sickness respectively in posttest. The level of morning sickness in the experimental group were 12(40%) subject experienced mild sickness, 17(56.7%) had moderate sickness, 1(3.3%) shown severe sickness and no one experienced profound sickness respectively in posttest. This finding reveals that the levels of morning sickness among first trimester were decreased in experimental group than control group.⁷

3. Need of the study

Pregnancy is a very good feeling for a woman. Some pregnancies occur without any discomfort but sometimes it is associated with some minor disorders like nausea and vomiting, heart burn, constipation, backache, varicose veins, ankle edema, pica etc. Getting good care before, during and after pregnancy is very important. It can help baby and mother to be healthy.

According to a study conducted by **Heitman K (2017)** "The burden of nausea and vomiting during pregnancy: severe impacts on quality of life, daily life functioning and willingness to become pregnant again". So, this is a cross-sectional population-based study conducted in Norway. 712 women with nausea and vomiting of pregnancy were included in the study. It was significantly associated with several characteristics, including daily life functioning, quality of life and willingness to become pregnant again. The result showed that negative impact was greater the more severe the symptoms were, although considerable adverse effects were also seen among women with mild and moderate symptoms. Over one fourth of the women with severe nausea vomiting symptoms considered terminating the pregnancy due to nausea vomiting and three in four considered not to get pregnant again.⁸

The researcher has observed that morning sickness is one of the most common minor disorder during pregnancy and it affects daily activities of all pregnant women. However, antiemetic drugs are not usually prescribed unless its severe due to its teratogenic effects during embryogenesis period of pregnancy. Researchers felt that there is a need of intervention in this field in order to support pregnant mother so that she can enjoy her pregnancy. Ginger tea is one of the herbal remedies used in the treatment of nausea and vomiting but as there is need for further study in that area, so the investigator is interested to conduct an experimental study by using ginger tea with an aim to reduce nausea and vomiting.

4. Review of Literature

Linda L. (2021) conducted a study on sleep quality in women with nausea and vomiting of pregnancy: a cross-sectional study. In this study the participants were women attending to routine mid-pregnancy visits in maternity health care clinics in Turku city, Finland. In this study sleep disturbances during the past 3 months were assessed with selected questions (difficulty falling asleep, night awakenings, too early morning awakenings and sleepiness during the day) from Basic Nordic Sleep Questionnaire (BNSQ). In addition, general sleep quality, as well as physical and mental quality of life were rated with three visual analog scales (VAS). In this study the association between PUQE categories (severity of NVP) and sleep disturbances, general sleep quality, physical quality of life and mental quality of life were evaluated with multinomial regression analysis. According to PUQE, NVP was most frequently moderate (n = 629, 52.3%), followed by mild (n = 361, 30.0%) and severe (n = 77, 6.4%). Only 11.3% had no NVP (n = 136). The most frequent sleep disturbance was night awakenings (69.9%, n = 837), followed by sleepiness

during the day (35.7%, n = 427), too early morning awakenings (12.0%, n = 143) and difficulty falling asleep (7.1%, n = 81). In adjusted analysis (age, parity, body mass index, smoking, employment), more severe NVP was associated with night awakenings (3.9, 95% CI 1.79-8.47, P < 0.0001) and sleepiness during the day (4.7, 95% CI 2.20-9.94, P < 0.0001). In VAS, women with more severe NVP rated worse general sleep quality and worse physical and mental quality of life. In multivariable analysis, however, the link between the severity of NVP and physical and mental quality of life was stronger than the link between sleep and quality of life.⁹

Khorasani F. (2020) conducted a study on "A systematic review of the efficacy of alternative medicine in the treatment of nausea and vomiting pregnancy". Its main objective is to assess the efficacy alternative medicine in the treatment of nausea and vomiting of pregnancy (NVP). The results of earlier systematic reviews with a larger sample size were confirmed in this systematic review. Vitamin B was less effective than ginger, However, at 35-500 mg ginger, both vitamin B6 and ginger had the same impact. Vitamin B6 was found to be more beneficial than ginger during along the treatment duration (60days). What do these findings mean in terms of clinical treatment and future research? Pregnant women should take matricaria chamomilla, elettaria cardamomum, pomegranate and spearmint syrup, lemon, and ginger.¹⁰

Shiradwade D, Satvekar R (2018) conducted "A study to Evaluate the Effectiveness of Ginger Tea on Morning Sickness among Antenatal Mothers in Selected Area of Sangli, Miraj, Kupwad. In this study a quantitative quasi experimental one group pre-test and post-test design was used. Total of 60 antenatal mothers were selected and grouped into 30 in each for experimental and control respectively. The subjects were selected by using nonprobability purposive sampling technique. The level of morning sickness was evaluated by using modified Rhodes index scale among antenatal mothers. Based on objective and the hypothesis, the collected data was analyzed by using descriptive and inferential statistics. And the z test was used to find the significance. Ginger tea is effective on morning sickness and statistical sidings showed that there is significant difference in the experimental and control group. Hence study concluded that there was significant effect of ginger tea on morning sickness among antenatal mothers.⁶

Purneswari, Latha P and Arumugam I (2018) conducted a study "to evaluate the effectiveness of ginger tea on management of pregnancy induced nausea and vomiting among antenatal mothers at selected Villages, Nellore, A.P. An experimental study conducted to assess the efficacy of ginger extract on the symptoms of morning sickness among 40 antenatal mothers. The sampling technique was convenience sampling technique. In this study severity of morning sickness symptoms was assessed by '5 point' Likert scale. Among experimental group, In pretest 1(3%) had mild symptoms, 5(17%) had moderate symptoms and 9(30%) had severe symptoms. In posttest 8(26%) had mild symptoms and 7(24%) had moderate symptoms. Among control group, In pretest 1(3%) had mild symptoms, 9(30) had moderate symptoms and 5(1) had severe symptoms. In the post test

1(3%) had mild symptoms, 9(30%) had moderate symptoms and 5(17%) had severe symptoms. The study concluded that there was a significant reduction pregnancy induced nausea and vomiting among antenatal mothers in experimental group as compared to the control group. This shows that the ginger tea was very effective in reducing the vomiting symptoms associated with pregnancy.¹¹

Boon. Et. Al, (2012) conducted a study on “The use of Complementary and Alternative Medicine (CAM) among 70 women suffering from nausea vomiting during pregnancy”. Samples were asked to fill a questionnaire which includes demographic data as well as use of CAM. Results found that 61% reported using acupressure, 21% of those reported using CAM, 8% their physician or pharmacist and 71% discussed the usage with family, friend’s other health professionals. The study concluded that Complementary and Alternative Medicine is effective in reducing nausea, vomiting in the first trimester of pregnancy.¹²

Problem Statement

A Study to Assess the Effectiveness Of Ginger Tea On Reduction Of Morning Sickness Among 1st Trimester Primi Antenatal Mothers In Selected Area Of Sonitpur District, Assam

Objective of the study

General Objective

To find out the effectiveness of Ginger tea on reduction of morning sickness

Specific Objective

- 1) To assess the level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group.
- 2) To find out the effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention.
- 3) To determine the association between the pre test level of morning sickness with selected demographic variables among 1st trimester primi antenatal mothers in control group and experimental group.

Operational Definition

- **Assess:** In this study assess is to find out the importance or value of something.
- **Effectiveness:** It refers to the extent to which ginger tea has the effects as measured by reduction in occurrence of vomiting and feeling of nausea.
- **Morning sickness:** In this study morning sickness refers to the sense of feeling nauseated and vomiting experienced by first trimester primi antenatal mothers who will be assessed in terms of characters such as retching and dry heaves, distress and sick to the stomach.
- **Ginger tea:** In the present study it refers to tea made of ginger root in this study ginger tea will be prepared by boiling 300ml of water over medium to high heat and then added 500mg ginger root, allowed it to boil for 3-5mins removed from heat and strained. Added sugar for taste and served the mothers twice a day.
- **First trimester:** In this study first trimester refers to the

first day of the last menstrual period and lasts until the end of week 12.

- **Primi antenatal mothers:** In this study primi antenatal mother refers to mothers who are pregnant for the first time and have the symptoms of morning sickness.

Hypothesis

Hypothesis are tested at 0.05 level of significance

H1 - There is significant difference between the pre-test and post-test level of morning sickness among 1st trimester primi antenatal mother in experimental group.

H2 - There is significant difference between level of morning sickness in control group and experimental group.

H3 - There is significant association between pre-test level of morning sickness among 1st trimester primi antenatal mothers and their selected demographic variables in control group and experimental group.

Assumption

- 1) Morning sickness may differ from one individual to another.
- 2) Morning sickness is the normal physiological changes during pregnancy for most of the mothers during first trimester.
- 3) Ginger tea will reduce the severity of morning sickness.

Delimitation

The study is delimited to: -

- The area which is selected for the data collection.
- The primi antenatal mothers who are in first trimester.
- The primi antenatal mothers who are not in high risk of pregnancy.
- The intervention is only for 4 days

5. Research Methodology

The investigator has adopted a quantitative evaluative approach because the aim of the investigator was to determine the effectiveness of ginger tea on reduction of morning sickness among first trimester primi ante natal mothers in selected areas of Sonitpur district, Assam. The research design selected for this study was quasi experimental nonrandomized control group pretest posttest design. The study population were first trimester primi antenatal mothers and 60 samples are selected by using non-probability purposive sampling technique. The variables are divided as –

- **Independent variables** – Ginger tea
- **Dependent variables** – Level of morning sickness

6. Analysis and Interpretation

The analysis of data was arranged under the following sections –

- **Section 1:** Frequency and Percentage distribution of demographic variables.
- **Section 2.** Frequency and percentage distribution of level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group.

S No	Particulars	Experimental Group		Control Group	
1	Age in Years	F	%	F	%
	a. < 20 years	0	0	0	0
	b. 20-25 years	14	46.7	13	43.3
	c. 26-30 years	15	50	15	50
	d. >30 years	1	3.3	2	6.7
2	Religion				
	a. Hindu	30	100	26	86.7
	b. Muslim	0	0	3	10
	c. Christian	0	0	0	0
	d. Others	0	0	1	3.3
3	Educational Qualification				
	a. Illiterate	1	3.3	4	13.3
	b. Primary level	15	50	12	40
	c. High school	12	40	12	40
	d. Higher secondary	2	6.7	2	6.7
	e. Graduation or above	0	0	0	0
4	Physical activity				
	a. Sedentary	0	0	1	3.3
	b. Moderate	29	96.7	27	90
	c. Heavy	1	3.3	2	6.7
5	Occupation				
	a. Housewife	23	76.7	21	70
	b. Daily waged worker	7	23.3	8	26.7
	c. Service	0	0	1	3.3
6	Dietary Pattern				
	a. Vegetarian	2	6.7	5	16.7
	b. Non vegetarian	28	93.3	25	83.3
7	Type of family				
	a. Nuclear family	17	56.7	15	50
	b. Joint family	13	43.3	15	50
8	Gestational week of pregnancy				
	a. 1-4 weeks	4	13.3	4	13.3
	b. 5-8 weeks	15	50	10	33.3
	c. 9-12 weeks	11	36.7	16	53.4
9	Family history of morning sickness				
	a. Yes	9	30	9	30
	b. No	21	70	21	70
10	Taking any home remedy for morning sickness				
	a. Yes	0	0	0	0
	b. No	30	100	30	100
11	Source of information				
	a. Friends or relatives	0	0	0	0
	b. Health care person	0	0	0	0
	c. Mass media	0	0	0	0
	d. No information	30	100	30	100

- **Section 3:** Effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention.
- **Section 4:** Comparison of post-test level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group.
- **Section 5:** Association between pre-test level of morning sickness among 1st trimester primi antenatal mothers with selected demographic variables in experimental group.
- **Section 6:** Association between pre-test level of morning sickness among 1st trimester primi antenatal mothers with selected demographic variables in control group.

Section 1: Frequency and Percentage distribution of demographic variables. N=60 (30+30)

Section 2: Frequency and percentage distribution of level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group N=60(30+30)

Morningsickness among 1 st trimester primi antenatal mothers	Experimental group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	f	%	F	%	f	%	f	%
Mild	4	13.3	15	50	3	10	1	3.3
Moderate	6	20	12	40	11	36.7	14	46.7
Severe	14	46.7	3	10	13	43.3	14	46.7
Profound	6	20	0	0	3	10	1	3.3

Section 3: Effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention, N=30

Experimental Group	Mean	SD	Mean Difference	t test value	Df	p value
Pre-Test	18.27	6.802	9.33	18.28	29	0.001**
Post-test	8.93	5.420				

Section 4: Comparison of post-test level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group, N=60(30+30)

Comparison Post-test	Mean	SD	Mean Difference	t test value	Df	p value
Experimental Group	8.93	5.420	5.73	4.178	58	0.001**
Control Group	14.67	5.208				

Section 5: Association between pre-test level of morning sickness among 1st trimester primi antenatal mothers with selected demographic variables in experimental group, n=30

Demographic variables	Morning sickness				χ^2 value	df	p value
	Mild	Moderate	Severe	Profound			
Age in years							
a. 20-25years	3	1	5	5	8.386	6	0.211 ^{NS}
b. 26-30years	1	5	8	1			
c. >30years	0	0	1	0			
Religion							
a. Hindu	4	6	14	6	NA	NA	NA
Educational qualification							
a. Illiterate	0	0	1	0	5,304	9	0.807 ^{NS}
b. Primarylevel	3	3	5	4			
c. Highschool	1	3	6	2			
d. Highersecondary	0	0	2	0			
Physicalactivity							
a. Moderate	4	6	13	6	1.182	3	0.757 ^{NS}
b. Heavy	0	0	1	0			
Occupation							
a. Housewife	3	5	10	5	0.519	3	0.915 ^{NS}
b. Dailywaged	1	11	4	1			
Dietary pattern							
a. Vegetarian	0	0	2	0	2.449	3	0.485 ^{NS}
b. Non vegetarian	4	6	12	6			

S= Significant at 0.05 level of significance NS= Notsignificant

Section 6: Association between pre-test level of morning sickness among 1st trimester primi antenatal mothers with selected demographic variables in control group, n=30

Demographic variables	Morning sickness				2χ value	df	p value
	Mild	Moderate	Severe	profound			
Age in years							
a. 20-25years	1	3	7	2	5.304	6	0.505 ^{NS}
b. 26-30years	2	6	6	1			
c. >30years	0	2	0	0			
Religion							
a. Hindu	3	11	9	3	6.036	6	0.419 ^{NS}
b. Muslim	0	0	3	0			
c. Others	0	0	1	0			
Educational qualification							
a. Illiterate	1	2	0	1	6.725	9	0.666 ^{NS}
b. Primary level	1	5	5	1			
c. High school	1	4	6	1			
d. Higher secondary	0	0	2	0			
Physical activity							
a. Sedentary	0	0	1	0	1.935	6	0.926 ^{NS}
b. Moderate	3	10	11	3			
c. Heavy	0	1	1	0			
Occupation							
a. Housewife	1	8	10	2	4.461	6	0.614 ^{NS}
b. Dailywaged	2	3	2	1			
c. Service	0	0	1	0			
Dietary pattern							
a. Vegetarian	0	2	3	0	1.603	3	0.659 ^{NS}
b. Non vegetarian	3	9	10	3			
Type of family							

a. Nuclear	1	6	6	2	0.834	3	0.841 ^{NS}
b. Joint	2	5	7	1			
Gestation week of pregnancy							
a. 1-4weeks	0	0	3	1	4.418	6	0.620 ^{NS}
b. 5-8weeks	1	4	4	1			
c. 9-12weeks	2	7	6	1			
Family history of morning sickness							
a. Yes	0	7	2	0	9.82	3	0.020*s
b. No	3	4	11	3			
Taking any home remedy for morning sickness							
a. No	3	11	13	3	NA	NA	NA
Source of Information							
a. No information	3	11	13	3	NA	NA	NA

S= Significant at 0.05 level of significance

NS= Not significant

7. Discussion

Objective 1: To assess the level of morning sickness among 1st trimester primi antenatal mothers in control group and experimental group.

The result of the study revealed that in experimental group pre-test majority 14(46.7%) of participants had severe morning sickness, whereas in post-test majority of participants 15(50%) had mild morning sickness.

In control group pre-test majority 13(43.3%) of participants had severe morning sickness, and in post-test majority 14(46.7%) of participants had severe morning sickness.

The present study findings also support the study conducted by Purneswari, Latha P and Arumugam I (2018) on the effectiveness of ginger tea on management of pregnancy induced nausea and vomiting among antenatal mothers at selected Villages, Nellore, A.P. Severity of morning sickness symptoms was assessed by '5 point' Likert scale. Among experimental group, In pretest 1(3%) had mild symptoms, 5(17%) had moderate symptoms and 9(30%) had severe symptoms. In post test 8(26%) had mild symptoms and 7(24%) had moderate symptoms. Among control group, In pretest 1(3%) had mild symptoms, 9(30) had moderate symptoms and 5(17) had severe symptoms. In the post test 1(3%) had mild symptoms, 9(30%) had moderate symptoms and 5(17%) had severesympoms.¹⁴

Objective 2: To find out the effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention.

The result of the study revealed that the effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention. Findings showed that mean pre-test score was 18.27±6.802 and in post-test mean score was 8.93±5.420 with mean difference was 9.33. The comparison was done using paired t test with obtained t value is 18.28 was significant at p<0.01. Result revealed that ginger tea was effective on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group.

The present study findings also support the study conducted by Shiradwade D, Satvekar R (2018) on the Effectiveness of Ginger Tea on Morning Sickness among Antenatal Mothers

in Selected Area of Sangli, Miraj, Kupwad. In this study a quantitative quasi experimental one group pre-test and post-test design was used. The study revealed that mean pre-test score was 12.80±3.33 and in post test mean score was 5.70±1.82 with mean difference was 11.31. So the result revealed that ginger tea was effective on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group.¹³

Objective 3: To determine the association between the pretest level of morning sickness with selected demographic variables among 1st trimester primi antenatal mothers in control group and experimental group.

In the present study, while determining the association between the pre test level of morning sickness with selected demographic variables result of chi square shows that there is no significant association between pre-test level of morning sickness among 1st trimester primi antenatal mothers with selected demographic variables other than family history of morning sickness in control group ($\chi^2=9.820$, $df=3$, p value=0.020) at 0.05 level of significance.

The present study findings also support the study conducted by Kamu AS (2017) to assess the effectiveness of ginger tea on reduction of morning sickness among first trimester primi antenatal mothers at selected primary health centre in Dindigul district. In this study shows that there was no association between the level of morning sickness among first trimester primi ante natal mothers and their demographic variables such as age, educational status, physical activity, occupation, gestational week, dietary pattern, family income, place of living, religion, and family type at 0.05 level of significance.¹⁵

So that there is no relationship between morning sickness and demographic variables.

8. Conclusion

Morning sickness is one of the most common disturbances during pregnancy. The result of the study revealed that the effectiveness of ginger tea on reduction of morning sickness among 1st trimester primi antenatal mothers in experimental group after intervention. It shows that the ginger is effective on reduction of morning sickness during pregnancy.

9. Nursing Implication of the Study

Nursing Practice

- Nursing practice can be improved in the hospital as well as community setting on the basis of findings of the present study.
- The results will help the nursing personnel to assess the morning sickness among 1st trimester primi antenatal mothers.
- The study findings will help the midwives to create awareness among antenatal mothers regarding benefits of ginger tea administration to reduce morningsickness.
- Nursing curriculum should be updated with inclusion of topics uses of natural remedies for the management of obstetrical conditions.
- Conference, workshops and seminar can be conducted for nurses to impart knowledge on management of morningsickness.
- Nurse educator must update knowledge about morning sickness and alternative therapies

Nursing Administration

- The nurse administrator can organize and conduct various continuing education and in service Programme regarding morning sickness among antenatal mothers.
- The nurse administrator should recommend to allocate the portion of budget for educational materials like pamphlets, models, slides, flexes which contain information about benefits of ginger.

Nursing research

- The findings of the study help to expand scientific body of professional knowledge upon which further research can be conducted.
- More research can be performed in assessing the benefits of ginger and generalize the findings.
- By conducting various experimental research, the nurse can develop the knowledge and skills in constructing, theoretical framework in nursing profession.

10. Recommendation

- A comparative study can be conducted between primi and multigravida mothers.
- A comparative study can be done to assess the severity of morning sickness among various age group of antenatal mothers.
- A comparative study can be done to assess the effectiveness of natural remedy and other alternative and complimentary therapies in reducing morning sickness.
- A longitudinal study can be conducted in assessing prevalence of nausea and vomiting on physical and psychological burden life of the pregnant mothers.
- A similar study can be conducted through randomization procedure.

References

- [1] Prasanna. Motherhood Essay: Essay on Motherhood for students and children in English. APLUSTOPPER: 2021 [cited 2021 January 20].

Available from <https://www.aplustopper.com/motherhood-essay/>

- [2] Introduction to Pregnancy. Lifespan development [document on internet]. MentalHelp.net: An American Addiction Centers Resource. Available from <https://www.mentalhelp.net/pregnancy/>
- [3] Raman AV, Maternity Nursing, Family, Newborn and Women's Healthcare 19th edition, New Delhi Wolters Kluwer (INDIA) Pvt.Ltd
- [4] Streit L. Ginger tea in pregnancy: Benefits, safety, and directions. Healthline: 2020 [cited 2020 February 24] Available from <https://www.healthline.com/nutrition/ginger-tea-pregnancy#benefits>
- [5] Lee M N, Saha S. Nausea and vomiting of Pregnancy. Gastroenterology clinicsNorthAmerica:2013[2013june9]doi:10.1016/j.gtc.2011.03.009] Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3676933/#!po=2.18750>
- [6] RENUKA K. a study to assess the effectiveness of ginger tea on morning sickness among antenatal mothers in selected villages, Salem, Tamilnadu. 2011 Available from <http://repository-tnmgrmu.ac.in/4569/>
- [7] Kamu A. A study to assess the effectiveness of ginger tea on reduction of morning sickness among first trimester primi antenatal mothers at a selected primary health centre in dindigul district. 2017 Available from <http://repository-tnmgrmu.ac.in/5928/7/300323317annakamu.pdf>
- [8] Heitmann K et al. The burden of nausea and vomiting during pregnancy: severe impacts on quality of life, daily life functioning and willingness to become pregnant again – results from a cross-sectional study. Feb 28, 2017 Available from <https://pubmed.ncbi.nlm.nih.gov/28241811/>
- [9] L Linda et al A study on sleep quality in women with nausea and vomiting of pregnancy: a cross-sectional study. 2021 Available from <https://pubmed.ncbi.nlm.nih.gov/33607953/>
- [10] Khorasani F. A systematic review of the efficacy of alternative medicine in the treatment of nausea and vomiting pregnancy. 2020 Available from <https://pubmed.ncbi.nlm.nih.gov/31215276/>
- [11] Purneswari, Latha P et al. A study to assess the effectiveness of ginger tea on management of pregnancy induced nausea and vomiting among antenatal mothers at selected villages, Nellore, A.P. International journal of advance research in nursing. 2018, vol.1, issue 1, part 1. Available from <https://www.nursingjournal.net/archives/2018.v1.i.1.A.8>
- [12] Boon. Et. Al. examined the use of Complementary and Alternative Medicine (CAM) among 70 women suffering from nausea vomiting during pregnancy, 2012