

AYURVEDIC MANAGEMENT OF GARBHINI CHARDI (Emesis Gravidarum) WITH CHATURJATA CHOORNA (CHATURJATA POWDER) - A PILOT STUDY

[Priyanka¹](#), [Shreyes. S²](#), [Yogitha Bali M.R³](#)

¹PG Scholar, ²Associate Professor; Dept of Prasooti Tantra & Stree Roga, Rajiv Gandhi Education Society's Ayurvedic Medical College, Ron, Karnataka, India

³Professor and HOD, Dept of Shareera Rachana, Sushrutha Ayurvedic Medical College, Bangalore, Karnataka, India; Ayurveda & Yoga Consultant, AAYUSH- Multispeciality Ayurveda & Integrated Healthcare, Bangalore, Karnataka, India

Corresponding Author: shrss02@gmail.com

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ABSTRACT

Background: During pregnancy many demands are made by growing fetus, to meet these requirements maternal system has to undergo certain changes. *Garbhinichardi (Emesis Gravidarum)* is one among them and this has been termed as *Gruhita Garbha Lakshanas (Immediate signs of conception)* in *Ayurvedic* classics. Approximately 80 % of pregnant women experience excessive salivation, nausea and vomiting during pregnancy, commonly known as “morning sickness”, which is seen frequently throughout the day. **Design:** This is single blind pilot study. 30 patients with complaints of *Garbhinichardi (Emesis Gravidarum)* in first trimester were included in this study. Patients were given *Chaturjatachurna (Chatutjata powder)* for a period of 2 weeks in dose of 3gms thrice a day after meal with *Anupana (Adjuvant)* as *Madhu (honey)* of 5ml mixed with *Tandulodaka (Raw rice water)* **Results:** This pilot study showed statistically significant changes with *Chaturjatachurna* in reducing the complaints of pregnant women such as nausea ($p<0.001$), vomiting ($p<0.001$) and *Aruchi (Anorexia)* ($p<0.001$) in their first trimester of pregnancy. **Conclusion:** *Chaturjatachurna* was effective in the management of *Garbhini Chardi (Emesis Gravidarum)* and other symptoms in the first trimester of pregnancy.

Keywords: *Garbhini Chardi (Emesis Gravidarum), Chaturjatachurna, Emesis Gravidarum.*

INTRODUCTION

Achievement of motherhood is the cherished desire of every woman, as the fetus depends upon mother for its nourishment. Pregnant woman must take measures to remain healthy & well-nourished to give birth to a healthy progeny. [1] Many demands are made during pregnancy in accordance to rapidly growing fetus. To meet these requirements, the maternal internal system has to undergo certain changes to create favorable condition to the fetus. [2] Nausea and vomiting of pregnancy (NVP) are the most common medical condition of pregnancy, affecting up to 80% of all pregnant women to some degree. In most cases, it subsides by the 16th week of pregnancy, although up to 20% of women continue to have symptoms throughout pregnancy. Severe NVP (hyperemesis gravidarum) affects less than 1% of women, but it can be debilitating, sometimes requiring hospitalization and rehydration. [3] Women suffer not only physically, but also psychologically, which has been documented in a number of studies. [4-6] In addition, some women have decided to terminate their pregnancies rather than tolerate the severe symptoms. [7] Those 80 % of pregnant women experience excessive salivation, nausea and vomiting during pregnancy, commonly known as “morning sickness”, this frequently continues throughout the day. Hyperemesis gravidarum is a severe form of nausea and vomiting such that it may lead to complication like weight loss, tiredness, and dehydration. Altered hormonal and immunological statuses are considered responsible for initiation of the symptoms which are probably aggravated by the neurogenic factors. For such physiological alterations, if proper care is not given, then it may affect mother and growing fetus. Ancient medical science of India, *Ayurveda*, has vast description of *Garbhinichardi (Emesis Gravidarum)* and its management in detail. *Garbhinichardi (Emesis Gravidarum)* is a common symptom in obstetrics practice. In early months of pregnancy altered physiology initiates vomiting. In certain women, depending upon the antenatal care, the intensity of symptoms

may vary. [8] It is very important for the consultant to manage this condition in its initial stage. Though a wide range of both pharmacological and non-pharmacological treatments are available regarding the management of nausea and vomiting in pregnant women of first trimester, with a vast description of the subject in the *Ayurveda shastra (Ayurvedic science)*, very few research studies are found related to *Ayurvedic* management of *Garbhini Chardi (Emesis Gravidarum)* or the nausea and vomiting, Hence the present study was planned to evaluate the efficacy of *Chaturjatachurna* in the management of *Garbhini chardi (Emesis Gravidarum)*

Methodology

This was a single blind pilot study. Ten pregnant females aged between 25 to 30yrs who were in their 1st trimester of pregnancy fulfilling the inclusion criteria were selected for the study by sampling technique from the OPD and IPD of *Prasooti Tantra Evam StreeRoga (Obstertrics & Gynecology)* Department of RGES *Ayurvedic* Medical College & Hospital PG Research Center, RON. Pregnant women, both Primi and multi parous women in their first trimester of pregnancy with complaints of nausea, *Aruchi (anorexia)* and diagnosed as emesis gravidarum were included for the study and women with hyperemesis gravidarum, molar pregnancy, twin pregnancy, suffering from any systemic disease and vomiting caused due to other systemic disorders like peptic ulcer, appendicitis etc. were excluded from the study. Ethical clearance was obtained from the Institutional Ethical Committee and Informed consent was taken from all the patients. Data was collected from the special case proforma containing all the necessary details pertaining to the study.

Drug Source: The identified raw drugs, *Twak (Cinnamomumzeylenica)*, *Ela (Cardomom)*, *Tamalpatra (Cinnamomumtamala)*, *Nagkeshar (kesar)* and honey was purchased from approved vendors and the drug was authenticated by the faculty of Dept of Dra-

vyaGuna (Pharmacognosy) prior to administration. **Study Design:** This was a pilot clinical study with pre and post-test design with 10 pregnant women in their first trimester.

Intervention: This Study was conducted for the duration of two weeks in which the patients were given *Chaturjat Churna* for a period of 2 weeks in the dose of 3gms thrice a day after the meals with *Madhu (Honey)* and *Tandulodaka (Raw Rice water)* of 5ml as *Anupana (Adjuvant)*. As this was a pre-post design, patients were assessed on the first day, before treatment and on the 14th day after the treatment. Follow up was carried out on the 21st day. Investigations like pregnancy test, urine routine and microscopic. Hemoglobin, RBS, USG of abdomen and pelvis were also carried out.

Preparation of Chaturjatachurna: The formulation or the drug *Chaturjata Choorna*, used in this study with their respective ingredients was prepared in the *Rasashastra & Bhaishajyakalpna* department of

Rajiv Gandhi Educational Society's *Ayurvedic Medical College & PG Research Center*, Ron under the supervision of *Rasashastra & Bhaishajyakalpna* experts. All the ingredients were taken in equal quantity and made into coarse powder form and the prepared drug was administered with *Madhu (Honey)* and *Tandulodak (Raw rice water)*. *Acharya Kashyapa* has explained in *Antarvartini Chikitsa Adhyaya* of *Khilasthana* on *Garbhini Chardi (Emesis gravidarum)* that *Chaturjata Kalka (Chaturjata paste)* should be mixed with *LajaChurna (Puffed rice powder)*, *Sharkara (Sugar)* and *Madhu (Honey)* should be consumed along with *Tandulodak* by making it *Hrudya* using *Sugandhit Pushpas (Fragrant flowers)*. *Acharya Kashyapa* has also advised *Kalka (paste)* of *Chaturjata* to be added with other drugs in *Chardi (emesis)*^[9] But in today's busy life, especially for working women, it is inconvenient to take *Kalka(paste)* three times per day. For patient's compliance, preparation can be given in the form of *Churna (powder)*.

Table 1: Ingredients of *Chaturjatachoorna*

1.	<i>Twak</i>	Cinnamomumzeylenica	Lauraceae
2.	<i>Ela</i>	Eletteriacardamomum	Zingiberaceae
3.	<i>Tamalpatra</i>	Cinnamomumtamala	Lauraceae
4.	<i>Nagkesar</i>	Mesuaferrea	Guttiferae

Assessment criteria:

Parameters: Nausea, Vomiting, *Aruchi (Anorexia)* were assessed and graded before the treatment, after

the treatment and followed up on the 21st day of the treatment. Data was analyzed and statistical analysis was done using paired t test.

Table 2: Grading for frequency of Nausea, Vomiting, *Aruchi (Anorexia)*

Parameters	Grading	Scoring
Nausea	No nausea	0
	Mild (3-5 times/wk)	1
	Moderate (2-3 times/day)	2
	Severe (>3 times/day)	3
Vomiting	No vomiting	0
	Mild (3-5times/wk)	1
	Moderate (2-3 times/day)	2
	Severe (> 3 times/day)	3
<i>Aruchi(Anorexia)</i>	Absent	00
	Present	01

Results

In the present study, ten patients (pregnant women of first trimester) aged 25 to 30yrs were administered *Chaturjata Churna* for 14 days and follow up was carried out on the 21st day. Assessments were made before the treatment, on 14th day and on 21st day (follow up) and subjected to statistical analysis. Among them, 1(10%) patient had mild and 9 (90%) patients had moderate nausea. Regarding the frequency of vomiting, 5 (50%) patients had 1-2 times vomiting per

24hrs, 3 (30%) patients had 2-5 times vomiting per 24hrs and 2 (20%) patients had no vomiting. With respect to *Aruchi*, (*Anorexia*)8 (80%) patients complained of *Aruchi (Anorexia)* and in 2 (20%) patients *Aruchi (Anorexia)* was absent, 7 (70%) patients had complaints of *Trishna (Excessive thirst)*and 3 (30%) patients had no such complaints. Dryness of the tongue or the *Jihwa Shosha* was found to be present in 6 (60%) patients and absent in 4 (40%) patients.

Table 3: Severity of the Symptoms

Sl.No	Symptoms	Severity	Scoring	Percentage
1.	Nausea (Severity)	Mild	1	10
		Moderate	9	90
		Severe	0	
2.	Vomiting (Frequency)	1-2 times	5	50
		2-5 times	3	30
		Absent	2	20
3.	<i>Aruchi (Anorexia)</i>	Present	8	80
		Absent	2	20
4.	<i>Trishna (Excessive Thirst)</i>	Present	7	70
		Absent	3	30
5.	<i>Jihwashosha (Drynes of tongue)</i>	Present	6	60
		Absent	4	40

Vomiting: The changes in mean from 1.06 to 0.53 after the treatment and 0.36 on the follow up with $p<0.001$ showed that the *ChaturjataChurna*was effective in reducing the episodes of vomiting.

Nausea: The changes in mean from 1.93 to 0.96 after the treatment and 0.76 on the follow up with $p<0.001$

showed that the *Chaturjata Churna* was effective in reducing the episodes of vomiting.

Aruchi: The changes in mean from 0.833 to 0.4 after the treatment and 0.1 on the follow up with $p<0.001$ showed that the *Chaturjata Churna* was effective in reducing the episodes of vomiting.

Table 4: Results

Vomiting	BT	14 th day (After treatment)	21 st day (Follow up)
	Pre mean	Post mean 1	Post mean 2
Mean	1.06	0.53	0.36
Known variance	0.61	0.46	0.44
t value		4.64	4.58
t Critical Value		2.04	2.04
p value		$p<0.001$	$p<0.001$
Nausea			
Mean	1.93	0.96	0.76
Known variance	0.064	0.65	0.80
t value		6.92	7.30

t Critical Value		2.045	2.045
p value		p<0.001	p<0.001
<i>Aruchi (Anorexia)</i>			
Mean	0.833	0.4	0.1
Known variance	0.143	0.24	0.09
t value		4.70	8.93
t Critical Value		2.04	2.04
p value		p<0.001	p<0.001

DISCUSSION

In the present study, ten pregnant women aged between 25 to 30yrs and who were in their first trimester of pregnancy were administered *Chaturjata Churna* for 14 days and follow up was carried out on the 21st day. Assessments were made before the treatment, on 14th day and on 21stday (follow up) and were subjected to statistical analysis. Nausea alone should not be minimized, as this can affect the quality of life as much as or more than vomiting. Nausea treatments can be either pharmacologically based or holistic, or an effective combination of both. Timing of NVP treatment is also important, as early treatment can prevent a more severe form from occurring, reducing the possibility of hospitalization, time lost from paid employment, and emotional and psychological problems. It is important that women and their health care providers understand that the benefits of safe and effective NVP treatment predominantly outweigh any potential or theoretical risks to the fetus; thus, all treatment options should be considered.^[10] The goal of treatment is to improve symptoms while minimizing risks to mother and fetus. To attain this, a multimodal approach tailored to each individual is usually needed. Treatment modalities range from simple dietary modifications to drug therapy and total parental nutrition.^[11] The combination of pyridoxine (vitamin B6) (pregnancy category A) and doxylamine (category B), previously available as Bendectin, is the only medication that is specifically labeled for the treatment of NVP by the Food and Drug Administration. It remains available in Canada in a delayed-release tablet of 10 mg of pyridoxine and 10 mg of doxylamine under the trade name Diclectin.^[12] Other pharmacologic treatments with relatively good safety profiles and varying degrees of effectiveness include antihistamines, on-

dansetron, phenothiazines, metoclopramide, and corticosteroids.^[13-16] Herbal products such as vitamin B6 and ginger have also been used safely with varying degrees of effectiveness.^[17-22] Acupressure and acupuncture at acupoint P6 have been used with varying degrees of effectiveness.^[23, 24] *Chaturjatachurna* in the present study has shown statistically significant changes with respect to nausea, vomiting and *Aruchi (Anorexia)* with p<0.001 both after the treatment and the follow up. This shows the effectiveness of the *Ayurvedic* formulation named *Chaturjata Churna* in the management of *Garbhini Chardi (Emesis Gravidarum)* In first trimester of pregnancy. When the pregnant woman suffers from any disorders due to fetus, the condition is known as *Garbhopadrava (complications due to fetus)*. The fetus is the basic cause for most of the *Garbhopadravas (complications due to fetus)* that affects the pregnant women. *Ayurvedic* classics have mentioned *Garbhini Chardi (Emesis Gravidarum)* as one among the *Vyakta Garbha-Lakshanas (Signs and Symptoms of Pregnancy)*,^[25, 26] which can be correlated with emesis gravidarum. Sushruta has included *Garbhini (Pregnant)* as the *nidana (etiology)* for *Chardi Roga (Emesis)*,^[27] *Madhukosha* commentary says that due to *Garbha Peedana (Fetal pressure)*, *Vata Vaigunya (Abnormalcy in Vata dosha)* takes place and pushes the vata in upward direction due to which *chardi* occurs.^[28] While mentioning *Chikitsa (Treatment)* for *Garbhini (Pregnant women)*, *Acharyas* have mentioned the usage of drugs, which are having *Laghu (light)*, *Madhura (Sweet)*, *Sheeta (Cold)*, *Brimhana (Anabolic) & Hridya (Soothing)* properties. In "*Kashyap Samhita*" *Chaturjata* was described for effective management of pregnancy induced vomiting and associated symptoms. *Chaturjata* with *Madhu (Honey)* and *Tandu-*

lodaka (Raw rice water) fulfills all these criteria's. "Chaturjata" contains *Twak*, *Ela*, *Tamalpatra* and *Nagkesara* which act as *Chardi Nigrahana* (anti-emetic), *Trushna Nigrahana* (anti thirst), *Hrudya* (Soothing) and *Dahaprashamana* (Coolant). Vomiting in pregnancy is seen mainly due to carbohydrate starvation. As this formulation consists of honey and this is said to supplement carbohydrates. *Acharya-Kashyapa* advised *Kalka* (paste) of "Chaturjata" with other drugs in *Chardi (emesis)*^[9]. But in today's busy life, especially for working women, as it is inconvenient to consume *Kalka* (paste) three times per day and for patient's compliance, this preparation can be given in the form of *churna* (powder). This drug is affordable and easily available. In this study, an attempt was made to evaluate the efficacy of *Chaturjata Churna* in *Garbhini Chardi (Emesis Gravidarum)* and it showed statistically significant results with $p < 0.001$ in the parameters nausea, vomiting and *Aruchi* (Anorexia) seen in the pregnant women of first trimester.

CONCLUSION

This pilot study showed statistically significant changes with *Chaturjata Churna* in reducing the complaints of pregnant women such as nausea, vomiting and *Aruchi* (Anorexia) with $p < 0.001$ in their first trimester of pregnancy.

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