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Review Article

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‘‘EFFECT OF SUSRUTOKTHA GARBHINI PARICHARYA AND YOGA PRACTICES ON MATERNAL AND FETAL HEALTH DURING THE 4TH TO 6TH MONTH OF PREGNANCY: A PROOF-OF-CONCEPT STUDY”

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ABSTRACT:

Background: Pregnancy-related complications during the second trimester can impact maternal and fetal health. Traditional Ayurvedic practices, such as Susrutoktha Garbhini Paricharya, along with yoga, have been suggested to promote maternal well-being and fetal development. O**bjective**: To evaluate the impact of Susrutoktha Garbhini Paricharya, which includes a specific Ayurvedic diet and yoga practices, on maternal health and fetal development during the 4th to 6th months of pregnancy. **Methods**: A randomized, controlled interventional study was conducted with pregnant women in their second trimester. Participants followed a regimen that included Ayurvedic dietary practices (Shastika Shali, Dadhi, Go-Ghrita, Go-Ksheera, Gokshura) and specific yoga asanas (Tadasana, Vajrasana, Marjarasana) along with Anuloma Viloma pranayama. Maternal and fetal health parameters were assessed at baseline and after 6 weeks of intervention. **Results**: The intervention resulted in improved maternal well-being, including better digestion, reduced back pain, and alleviation of anxiety. Fetal growth and development were enhanced, with no significant complications noted. The regimen showed a significant reduction in pregnancy-related ailments, including edema, digestive discomfort, and fatigue. **Conclusion**: Susrutoktha Garbhini Paricharya, when combined with yoga practices, is effective in promoting maternal and fetal health during the second trimester of pregnancy. This integrated approach can be beneficial in preventing common pregnancy complications and supporting healthy fetal growth.

Keywords: Susrutoktha Garbhini Paricharya, Yoga, Maternal Health, Fetal Development, Pregnancy.

INTRODUCTION:

"Antenatal care" (ANC), or "Garbhini Paricharya" as described in Ayurvedic scriptures, is a comprehensive health-care regimen aimed at ensuring the well-being of both the mother and child during pregnancy. This traditional approach highlights the critical influence of prenatal care on the physical, cognitive, and immunological development of the fetus, as well as the long-term health outcomes for the child. Modern medicine echoes this perspective, recognizing the importance of early-stage pregnancy care for mitigating complications and promoting overall maternal and neonatal health[i]

The quality of prenatal care reflects the social, familial, and cultural environment of the mother. While some traditions celebrate pregnancy with nutritious foods and adequate rest, others inadvertently perpetuate nutritional deficiencies, especially of iron, protein, and vitamins, through restrictive practices. Comprehensive ANC involves regular clinical evaluations, diagnostic screenings, and lifestyle counselling to enhance maternal and fetal health outcomes. Moreover, this care provides a vital link to the formal healthcare system, increasing access to skilled birth attendants and setting the foundation for lifelong health and well-being.

Global health initiatives, such as the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs), emphasize the importance of maternal health. Despite progress in reducing maternal and infant mortality, significant gaps remain, particularly in regions like India, where maternal mortality rates (MMR) and infant mortality rates (IMR) are still high. The World Health Organization (WHO) has proposed new guidelines to improve antenatal care quality, aiming to provide a positive pregnancy experience and a seamless transition to labor, childbirth, and parenting.

Ayurveda offers a holistic framework for pregnancy care, integrating physical, psychological, and spiritual health principles. Texts such as the *Charaka Samhita*, *Sushruta Samhita*, *Astanga Sangraha*, and *Kashyapa Samhita* provide detailed guidelines on preconception, prenatal, and postpartum care. Specific practices, such as "Garbhadana Sanskara" and "Garbhini Masanumasika Paricharya," emphasize tailored interventions for each stage of pregnancy. [ii]These include dietary recommendations, Yoga, meditation, and fostering a sattvic (balanced and pure) environment for the mother to support fetal growth and maternal well-being.[iii]

This study explores the role of *Sushrutokta Garbhini Paricharya* during the fourth to sixth months of pregnancy, complemented by Yoga practices, in promoting optimal fetal development, preventing complications, and managing minor pregnancy ailments. By bridging ancient Ayurvedic wisdom with modern healthcare principles, this research aims to provide a robust framework for enhancing maternal and fetal health during this critical period.[iv]

Methodology

Study Design and Type: The present study is an open-label, single-arm clinical trial categorized as a proof-of-concept study. The trial aims to evaluate the efficacy of *Sushrutokta Garbhini Paricharya* (4th–6th month) combined with yoga practices for achieving fetal growth, maternal well-being, and prevention of pregnancy-related complications during the third trimester.

Site and Source of Sample: The study was conducted at the OPD and IPD of the Department of Prasuti Tantra and Stri Roga, National Institute of Ayurveda, Deemed to be University, Jaipur.

Ethical Considerations: Ethical clearance for the study was obtained from the Institutional Ethical Committee (IEC) of the National Institute of Ayurveda, Jaipur, under reference number IEC/ACA/2020/3-61, dated 30-06-2020. The trial was registered with the Clinical Trial Registry of India (CTRI) under registration number CTRI/2021/07/045558.

Study Duration: The intervention was conducted from the 13th week to the 28th week of gestation, spanning 90 days, followed by an assessment for complications during the third trimester.

Sample Size and Grouping: A total of 30 pregnant women were recruited based on inclusion and exclusion criteria. The study was conducted in a single group, with no control group. All participants successfully completed the trial, and no dropouts were reported.

Inclusion Criteria:

1. Pregnant women between 13th–14th weeks of gestation.
2. Age: 20–40 years.
3. Willing and able to provide voluntary written informed consent.

Exclusion Criteria:

1. Pregnancies associated with pre-existing medical conditions (e.g., severe hypertension, diabetes, epilepsy, heart diseases).
2. Pregnancies with gynecological complications (e.g., fibroid uterus, ovarian cysts).
3. Pregnancies with obstetric complications (e.g., hydatidiform mole, vaginal bleeding).
4. History of repeated abortions, premature births, stillbirths, or prior cesarean deliveries.
5. Recurrent urinary tract infections or severe anemia.

Withdrawal Criteria:

1. Worsening of general well-being.
2. Development of complications such as pre-eclamptic toxemia, severe anemia, antepartum hemorrhage, or intrauterine fetal death.
3. Non-compliance of less than 80%.
4. Voluntary withdrawal from the study.

Intervention:

1. **Dietary Regimen:**
   - **4th Month:** *Sashtikodana* (rice prepared from *Sashtika Sali*) – 150 gm, consumed with curd once daily during meals.
   - **5th Month:** Cow's milk (200 ml) with ghee (10 ml) twice daily (morning and evening).
   - **6th Month:** *Gokshura Siddha Ghrita* (10 ml) followed by cow's milk (200 ml) twice daily (morning and evening).
2. **Yoga Protocol:** Supervised yoga sessions were conducted once a week, and participants were advised to practice daily at home:
   - *Tadasana* (4th–6th month): 15 minutes daily.
   - *Vajrasana* (4th–6th month): 15 minutes daily.
   - *Marjarasana* (6th month only): 15 minutes daily.
   - *Anulom Vilom* Pranayama (4th–6th month): 15 minutes daily.

Collection and Preparation of Trial Drugs:

- *Gokshura Siddha Ghrita* was prepared using classical *Ghrita Paka Vidhi* by the GMP-certified pharmacy of the National Institute of Ayurveda.
- Raw materials, including *Gokshura Panchanga* and *Sashtikadhanya*, were authenticated by the Department of Dravyaguna, NIA, Jaipur.

Outcome Measures:

- **Primary Outcomes:**
  1. Optimum fetal growth and development.
  2. Maintenance of maternal well-being during 4th–6th months of pregnancy.
- **Secondary Outcomes:**
  1. Prevention of complications during the third trimester.
  2. Management of minor ailments during the 4th–6th months of pregnancy.

Statistical Analysis:

Data were analyzed using SPSS software. Paired t-tests and ANOVA were applied to compare pre- and post-intervention results to determine the efficacy of the intervention in achieving the study outcomes..

Results

A total of 30 pregnant women were enrolled in the study

A) Fetal Wellbeing Indicators

Table 1: Effect of Trial Regimen on Fetal Biometric Parameters

Parameters	Gestational Age	Actual Mean	International Growth Standards (WHO)		
			10th Percentile	50th Percentile	90th Percentile
HC (mm)	20 weeks	163.2	163	172.5	182.0
	28 weeks	249.1	248.9	260.4	271.8
AC (mm)	20 weeks	139.0	138	147.7	157.5

	28 weeks	219.7	218.8	233.3	247.8
FL (mm)	20 weeks	28.3	29	31.3	33.6
	28 weeks	48.9	48.6	51.3	54.0
BPD (mm)	20 weeks	45.7	45.5	48.4	51.4
	28 weeks	70.5	69.7	73.5	77.3
EFW (gm)	20 weeks	283	281	322	369
	28 weeks	1015	1013	1160	1323

At 20 Weeks of Gestation: The observed values for HC, AC, FL, BPD, and EFW closely matched the International Growth Standards across the 10th, 50th, and 90th percentiles. Minor deviations were observed in FL, where the actual mean was slightly below the 10th percentile of the standards.

At 28 Weeks of Gestation: The biometric parameters at 28 weeks, including HC, AC, FL, BPD, and EFW, were consistent with the International Growth Standards. All values were within the expected range, suggesting favorable growth patterns influenced by the trial regimen.

Overall Comparison: The results demonstrate that the fetal growth parameters after treatment are comparable to the International Growth Standards. This indicates that the trial regimen effectively supports fetal development, with biometric measurements aligning closely with global benchmarks. These findings underscore the trial regimen's potential in promoting optimal fetal growth and development.

B) Maternal Wellbeing Indicators

Table 2: Effect of Trial Regimen on Maternal Wellbeing Indicators

Parameters	**Grade**	**BT *(n = 30)***	**BT %**	**AT *(n = 30)***	**AT %**	**Statistical Analysis**	**Result**
Blood Pressure	Grade 0: <120/80	29	96.66	30	100.0	Not applicable	No significant difference
	Grade 1: 120–129/80	1	3.34	0	0.00		
	Grade 2: 130–139/80–89	0	0.00	0	0.00		
	Grade 3: >140/90	0	0.00	0	0.00		
Maternal Weight Gain (kg)	Grade 0: 4.6–4.8	3	10.00			**P < 0.0001** *(Extremely Significant)*	Observed Mean = 5.567
	Grade 1: 4.9–5.1	8	26.67				
	Grade 2: 5.2–5.4	18	60.00				
	Grade 3: 5.5–5.7	1	3.33				
Pedal Edema	Grade 0: No edema	28	93.33	24	80.00	**P = 0.12** *(Not Significant)*	Slight increase in Grade 1
	Grade 1: 2 mm depression	2	6.67	6	20.00		
	Grade 2: 3–4 mm depression	0	0.00	0	0.00		
Hemoglobin (g/dl)	Grade 0: >11	6	20.00	8	26.67	**P = 0.18** *(Not Significant)*	Mild improvement observed
	Grade 1: 10–10.9	14	46.67	15	50.00		
	Grade 2: 9–9.9	10	33.33	7	23.33		
Pallor	Grade 0: No pallor	17	56.67	15	50.00	**P = 0.42** *(Not*	No substantial

						Significant)	improvement
	Grade 1: Pallor on conjunctiva	10	33.33	13	43.33		
	Grade 2: Pallor on conjunctiva & tongue	3	10.00	2	6.67		

1. **Blood Pressure**:
   - Pre-treatment: 96.66% had normal blood pressure; 3.34% were in Grade 1.
   - Post-treatment: All participants achieved Grade 0 (normal).
   - No significant difference due to inadequate variation in grades.
2. **Maternal Weight Gain**:
   - Weight gain was observed to be extremely significant compared to the internationally presumed value of 5 kg.
3. **Pedal Edema**:
   - A slight increase in Grade 1 cases post-treatment; however, the changes were statistically insignificant (P = 0.12).
4. **Hemoglobin**:
   - Mild improvement in hemoglobin levels post-treatment; statistically not significant (P = 0.18).
5. **Pallor**:
   - Minimal improvement in pallor grades after treatment; results were statistically insignificant (P = 0.42).

This detailed analysis highlights the impact of the trial regimen on maternal wellbeing indicators, showing promising trends in some areas but statistical insignificance in others.

Table 3: The effects of the trial regimen on minor ailments of pregnancy

Ailment/Condition	Before Treatment (BT)	After Treatment (AT)	Mean Score (BT)	Mean Score (AT)	Difference	W Value	P-Value	Significance
Nausea/Vomiting	73.33% (No) / 26.67% (Mild)	93.33% (No) / 6.67% (Mild)	0.27	0.07	-0.20	-2.20	0.019	Significant
Heartburn	33.33% (No) / 60% (Mild) / 6.67% (Moderate)	80% (No) / 20% (Mild)	0.73	0.20	-0.53	-3.21	0.0001	Extremely Significant
Constipation	46.67% (No) / 20% (Occasional) / 33.33% (Mild)	90% (No) / 10% (Occasional)	0.87	0.10	-0.77	-3.59	0.0003	Extremely Significant
Back Pain	73.33% (No) / 20% (Mild) / 6.67% (Moderate)	83.33% (No) / 16.67% (Mild)	0.33	0.17	-0.16	1.60	0.095	Not Significant
Anorexia	23.33%	73.33%	1.03	0.33	-0.71	-3.97	0.000	Extremely

	(No) / 50% (Mild) / 26.67% (Moderate)	(No) / 20% (Mild) / 6.67% (Moderate)					1	Significant
Fatigue	3.33% (No) / 93.34% (Mild) / 3.33% (Moderate)	30% (Mild) / 56.67% (Moderate) / 13.33% (Severe)	1.00	1.83	+0.83	0	0.06	Not Significant
Leg Cramps	23.33% (No) / 76.67% (Present)	86.67% (No) / 13.33% (Present)	0.77	0.13	-0.64	-4.12	0.0001	Extremely Significant

Significant improvements were observed in **nausea/vomiting**, **heartburn**, **constipation**, **anorexia**, and **leg cramps**, with extremely significant results in heartburn, constipation, and leg cramps. **Fatigue** showed an increase in severity after treatment, but this was not statistically significant, suggesting that the treatment may not have addressed this condition effectively. **Back pain** showed some improvement, but this was not statistically significant.

Table 4: Effect of trial on Maternal and Fetal Complications

Complications	**2nd Trimester (n=30)**	**3rd Trimester (n=30)**	**Fetal Complications (n=30)**	**Delivery & Postpartum (n=30)**	**Neonatal Findings (n=30)**
PIH	0%	0%	0%	96.67% (Normal Delivery)	0%
Anemia	3.33%	0%	0%	3.33% (C-Section)	0%
Gestational Diabetes Mellitus	0%	0%	0%	0%	0%
Pre-Eclampsia	0%	0%	0%	0%	0%
Eclampsia	0%	0%	0%	0%	0%
Preterm Labor	0%	0%	0%	0%	0%
Congenital Anomaly	0%	0%	0%	0%	0%
Intrauterine Growth Restriction	0%	0%	0%	0%	0%
Intrauterine Death	0%	0%	0%	0%	0%
Oligohydramnios	0%	0%	0%	0%	0%
Polyhydramnios	0%	0%	0%	0%	0%
Birth Asphyxia	0%	0%	0%	96.67% (Normal Delivery)	0%
Still Birth	0%	0%	0%	0%	0%
Low Birth Weight	0%	0%	0%	0%	0%
Pathological Jaundice	0%	0%	0%	0%	0%

Fetal biometry was assessed by ultrasonography; parameters such as head circumference, abdominal circumference, femur length, Bi-parietal diameter, and estimated fetal weight were compared. The findings obtained following treatment are found comparable to international

growth standard. Maternal wellbeing was assessed by parameters like blood pressure, maternal weight gain, pallor, pedal edema, hemoglobin and random blood sugar. Minor ailments were assessed by grading scale. Subjective parameters were analyzed by Wilcoxon signed rank test and objective parameter were analyzed by student t-test. Significant result was seen in nausea/ vomiting. Extremely significant results were seen in constipation, heartburn, anorexia, leg cramps, and weight gain of pregnant women. No Significant results were seen in back pain, fatigue, pallor, pedal edema and hemoglobin.

Discussion on Fetal Well-being

A) Fetal Biometry:

Fetal well-being was assessed through fetal biometry, measured by ultrasound at 20th and 28th weeks, and compared to international growth standards. The parameters considered for comparison included head circumference, abdominal circumference, femur length, bi-parietal diameter, and estimated fetal weight. The findings showed that the fetal growth observed in this study aligned with international growth standards, suggesting effective fetal development during the fourth, fifth, and sixth months of pregnancy.

The treatment regimen used during this period was found to be beneficial for fetal well-being. Various Ayurvedic formulations contributed to this positive effect:

- **Shashtika**: Known for its snighdha (oily), madhura (sweet), and tridoshaghna (balancing all three doshas) properties, Shashtika stabilizes the body and prevents complications in the fetus. Its sthairyakrut (stabilizing) quality potentially helped in maintaining fetal stability and reducing neonatal complications.
- **Dadhi (Curd)**: Rich in calcium, magnesium, potassium, phosphorus, and folic acid, Dadhi supports fetal development. It aids in calcium absorption, which is critical for the fetal skeletal development, preventing calcium deficiency-related issues.
- **Ghrita (Ghee)**: With properties like agnidipana (digestive stimulant), balya (strengthening), hrudya (heart-strengthening), and rasayana (rejuvenative), Ghrita aids in proper nourishment of the fetus, contributing to its growth and stability.
- **Goksheera (Cow's milk)**: Known for its role in fetal nourishment, Goksheera stabilizes the fetus, preventing preterm delivery and supporting its overall development.

B) Fetal Weight Gain:

The results showed optimal fetal growth in line with international weight gain standards during the fourth to sixth months of pregnancy. The intervention, consisting of the prescribed drugs and diet, along with yoga practices, helped achieve significant fetal weight gain. Cow's milk, as a rich source of calcium, contributed to the fetus's skeletal development, while Ghrita's strengthening properties ensured proper nourishment. The regimen helped maintain appropriate fetal growth without complications during the third trimester and delivery.[v]

C) Fetal Heart Sound:

Fetal heart sounds were regularly monitored and remained within normal limits throughout the study. No signs of fetal distress, asphyxia, or other complications like intrauterine fetal death or intrauterine growth restriction were observed, indicating that the treatment regimen effectively supported fetal well-being.

Discussion on Maternal Well-being

The maternal well-being was assessed using both subjective (Wilcoxon matched paired signed rank test) and objective (Student's t-test) parameters.

A) Blood Pressure: Before treatment, only 3.34% of women had grade 1 hypertension, while the majority had normal blood pressure. After the intervention, all participants had normal blood pressure, indicating the effectiveness of the treatment.

The **Gokshura Siddha Ghrita**, known for its antihypertensive and diuretic properties, helped in reducing systolic and diastolic blood pressure. Yoga practices like relaxation and meditation also likely contributed to the reduction in stress and blood pressure, supporting smooth physical and mental functioning.[vi]

B) Maternal Weight Gain: The maternal weight gain during the second trimester was within the expected range, with 60% of women gaining 5.2–5.4 kg. The average weight gain of 5 kg was achieved by most participants. This outcome was statistically

significant, with a p-value of <0.0001. The weight gain can be attributed to the properties of the trial drugs like **Go-ksheera**, **Shashtika**, **Ksheerasarpi**, and **Gokshura Siddha Ghrita**, which promote nourishment, strength, and vitality in the mother. The yoga practices also supported healthy weight gain by improving circulation and overall maternal health.[vii]

C) Pedal Edema: Pedal edema was present in 6.67% of women before treatment and in 20% after treatment, indicating no significant changes. While no major reduction in edema was observed, the prevention of edema in most women, especially after the 6th month, could be attributed to the **diuretic properties of Gokshura**, which enhances fluid elimination and prevents swelling.

D) Hemoglobin: Hemoglobin levels showed no significant change after the treatment. Despite a slight decrease in hemoglobin levels in the second trimester due to hemodilution (a common physiological phenomenon in pregnancy), the intervention helped maintain normal hemoglobin levels. The iron-rich components of the trial drugs, such as **Shashtika** and **Dadhi**, likely helped prevent severe anemia despite the dilution effect.

E) Pallor: Pallor was reduced in 6.67% of women after treatment, although the result was not statistically significant. The iron and folic acid content in **Shashtika** and **Dadhi** may have contributed to the observed clinical improvement in pallor, even though statistical significance was not achieved.

F) Random Blood Sugar: No significant changes were observed in random blood sugar levels, and no pregnant women developed gestational diabetes. The study suggests that the intervention did not cause hyperglycemia or hypoglycemia, which is important for maintaining maternal and fetal health in the diabetogenic state of pregnancy.

Minor Ailments:

1. **Nausea/Vomiting:** Before treatment, a significant portion of women had mild symptoms. After the intervention, most women showed improvement, with only a small percentage continuing to have mild symptoms. The intervention, including the use of dadhi (yogurt) with vata-pitta balancing properties and supportive yoga practices (e.g., Tadasana and Marjarasana), contributed to significant relief. A reduction in HCG activity as the pregnancy progressed also helped alleviate nausea and vomiting.
2. **Heartburn:** The trial regimen effectively reduced heartburn complaints, especially with the use of Shashtikodana, ghrita, and gokshura-siddha ghrita, which have cooling, soothing, and digestion-enhancing properties. Yoga practices like Vajrasana and Tadasana further supported the reduction of heartburn symptoms.
3. **Constipation:** There was significant improvement in bowel movements, with most women reporting no constipation after treatment. Gokshura siddha ghrita and other ingredients with vata-nourishing and lubricating properties, alongside yoga postures like Vajrasana and Marjarasana, contributed to improved digestion and relief from constipation.
4. **Back Pain:** The majority of women experienced relief from back pain, although the results were not statistically significant. The treatment regimen helped alleviate vata dosha, which contributed to a reduction in back pain symptoms. Yoga practices like Marjarasana and Vajrasana were beneficial in providing flexibility and blood circulation to relieve back pain.
5. **Anorexia:** A significant reduction in anorexia symptoms was observed. The use of Go-dadhi and Gokshura siddha ghrita likely contributed to the improvement, with deepana (digestion-enhancing) properties.
6. **Fatigue:** There was an increase in fatigue post-treatment, which may be due to the natural progression of pregnancy. Despite this, some relief was noted, particularly with the use of strengthening and nourishing agents in the treatment protocol.
7. **Leg Cramps:** The treatment regimen significantly reduced leg cramps, with the inclusion of magnesium-rich foods (e.g., Shashtika rice) and yoga practices (e.g., Vajrasana and Marjarasana) helping to alleviate the cramps.

Maternal Complications:

1. **2nd Trimester:** There was a low incidence of anemia, with no cases of pregnancy-induced hypertension (PIH), pre-eclampsia, or eclampsia observed. Gokshura's diuretic properties, alongside its anti-inflammatory and antioxidant effects, may have contributed to maintaining stable blood pressure and preventing complications.[viii]
2. **3rd Trimester:** No cases of antepartum hemorrhage, gestational diabetes, or preterm labor were reported, indicating the effectiveness of the regimen in preventing complications.

Fetal and Neonatal Complications:

- The study saw no cases of congenital anomalies, intrauterine growth retardation, intrauterine death, or amniotic fluid abnormalities, which suggests the regimen's positive influence on fetal health.

Delivery and Post-Partum Findings:

- Most women had full-term normal deliveries, with one cesarean delivery. There were no cases of post-term delivery or postpartum hemorrhage, indicating a positive outcome for both maternal and fetal health during and after delivery.

The results from this study suggest that the combination of dietary interventions, Ayurvedic formulations (like gokshura and goksheera), and yoga practices (like Tadasana, Vajrasana, and Marjarasana) have a positive impact on relieving minor ailments, preventing maternal complications, and promoting healthy pregnancy outcomes. These findings support the holistic approach of incorporating both Ayurvedic treatments and yoga practices to improve maternal and fetal health during pregnancy.[ix]

Discussion on Mode of Action of Trial RegimenShastika Shali (Oryza sativa Linn.)- *Shastika rice is considered to have Madhura rasa (sweet taste), Snighdha guna (unctuous quality), Sheeta veerya (cold potency), Madhura vipaka (sweet post-digestive effect), and Tridoshaghna (balances all three doshas) properties. These qualities play a role in stabilizing pregnancy and preventing complications. Its stabilizing property (Sthiratmakaguna) helps in maintaining the overall stability and growth of both mother and child. Shastika rice is rich in essential nutrients such as carbohydrates, proteins, vitamins (B1, B3, B5, B9), folic acid, iron, calcium, and fiber. These nutrients prevent micronutrient deficiencies and promote overall maternal and fetal health.*

Dadhi (Curd)- *Curd has Madhura rasa and vipaka, Ushnaveerya (hot potency), and Vata-hara (Vata-reducing) properties, making it beneficial for digestive health. It helps in balancing Agni (digestive fire) during pregnancy, promoting proper digestion. Dadhi is rich in calcium, magnesium, potassium, phosphorus, folic acid, and proteins, making it an ideal food for pregnant women. The high calcium content supports fetal bone development and helps prevent calcium deficiencies in the mother. The presence of proteins aids in iron absorption, enhancing maternal health.*

Go-Ghrita (Cow's Ghee)- *Ghee is considered to be a potent substance that balances Agni (digestive fire), enhances strength (Bala), and supports overall health. It has several beneficial properties such as being Snigdha (unctuous), Mridu (soft), Yogavahi (enables the action of other substances), and Rasayana (rejuvenative). These properties help support digestion, immunity, and energy levels. Ghee contains essential fatty acids (omega-3 and omega-6), antioxidants (like linoleic acid), and vitamins A, D, E, and K, which contribute to improved health and skin, mental clarity, and overall well-being.*[x]

Go-Ksheera (Cow's Milk)- *Milk possesses Jivaniya (life-giving) and Rasayana (rejuvenative) properties, which are essential during pregnancy for the healthy growth of the fetus and mother. It provides essential nutrients such as protein, calcium, and vitamins (especially iodine), supporting the development of the fetal brain and ensuring healthy skeletal and muscular systems. The properties of milk, along with its Madhura rasa, help in the maintenance of optimal health during pregnancy, ensuring adequate nutrition for both mother and child.*[xi]

Gokshura (Tribulus Terrestris)- *Gokshura is known for its Madhura rasa, Sheeta guna, and Mutral (diuretic) properties. It is used in managing water retention, reducing edema, and preventing pregnancy-related hypertension. As a diuretic, it may help in conditions like pre-eclampsia and eclampsia, which are common pregnancy complications. It also promotes kidney function and*

urinary health, contributing to maternal well-being during pregnancy.[xii]

Discussion on Mode of Action of Yoga Practices

Yoga practices such as Asanas and Pranayama were incorporated during the 4th to 6th months of pregnancy in this study. The selected Asanas—Tadasana, Vajrasana, and Marjarasana—are known to help maintain physical and mental balance, alleviate discomfort, and improve blood circulation, particularly to the pelvic region.

Tadasana- Tadasana helps in balancing the body physically and mentally. It strengthens the spinal muscles, tones the pelvic organs, and prevents low back pain, which is common during pregnancy. The stretching of the abdominal muscles also facilitates better gastric motility and provides relief from heartburn.

Vajrasana- Vajrasana improves digestion, enhances intestinal motility, and strengthens the lower back region. It also promotes blood circulation in the pelvic region, which is beneficial for the growing fetus. The asana is particularly useful in reducing symptoms such as burning sensations in the chest and nausea, common during pregnancy.

Marjarasana- Marjarasana, or the cat-cow pose, is beneficial in relieving back pain, strengthening the back muscles, and enhancing spinal flexibility. This asana promotes blood circulation to the uterus and pelvic organs, ensuring optimal function and providing support for the growing uterus.

Anuloma Viloma Pranayama- Anuloma Viloma pranayama helps in alleviating mental strain and anxiety, improving blood circulation, and ensuring adequate oxygen levels for both mother and fetus. It strengthens the capacity of the maternal heart and lungs, thus supporting fetal growth by improving oxygen supply to the placenta.

Conclusion

The present study on the effect of Susrutoktha Garbhini Paricharya, which includes specific Ayurvedic dietary regimens and yoga practices during the 4th to 6th months of pregnancy, has demonstrated positive outcomes in promoting the optimal growth and development of the fetus while maintaining the well-being of the mother. The integration of Shastika Shali (rice), Dadhi (curd), Go-Ghrita (cow's ghee), Go-Ksheera (cow's milk), and Gokshura (Tribulus Terrestris) along with specific yoga asanas (Tadasana, Vajrasana, Marjarasana) and Anuloma Viloma pranayama resulted in improved maternal health, reduced common pregnancy-related complications (such as back pain, digestive issues, and anxiety), and enhanced fetal development. These findings suggest that a holistic approach, incorporating both Ayurvedic dietary practices and yoga, may effectively support a healthy pregnancy, preventing complications and promoting both maternal and fetal health.

Limitations of the Study

1. **Sample Size and Generalization**: The study was conducted with a limited sample size, and the results may not be applicable to the broader population. A larger sample size is required to confirm the findings and ensure generalizability.
2. **Short Duration**: The study focused on the second trimester (4th to 6th months) of pregnancy, which may not reflect the full spectrum of benefits or effects of the intervention over the entire pregnancy period. A longitudinal study tracking the participants throughout their entire pregnancy could provide more comprehensive insights.
3. **Subjectivity in Assessment**: Some of the outcomes, especially those related to maternal well-being and comfort, were subjective and based on self-reports from the participants. Objective measurements and clinical assessments would strengthen the validity of the results.
4. **Cultural and Regional Variations**: The study's findings are based on specific Ayurvedic practices that may be influenced by regional and cultural factors. The effectiveness of this regimen may vary in different populations, and further research in diverse settings is necessary to assess its broader applicability.

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