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IMPACT OF BASTI THERAPY ON MATERNAL WEIGHT GAIN AND FETAL OUTCOME IN AN UNDERWEIGHT PRIMIGRAVIDA: AN AYURVEDIC CASE REPORT

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ABSTRACT

Background: Maternal nutrition before and during pregnancy is one of the important determinants of pregnancy outcome. Pre-pregnancy body mass index (BMI), gestational weight gain, and gestational age play a crucial role in determining maternal and fetal health. Underweight pregnant women are at increased risk of intrauterine growth retardation (IUGR) and low birth weight infants, while Ayurveda describes that inadequate *Ahāra* leads to *Vāta* aggravation, poor formation of *Rasa Dhātu*, and insufficient nourishment of the fetus. Thus, both systems clearly highlight that maternal undernutrition directly affects fetal growth and development. **Objective:** To evaluate the role of Basti therapies in improving maternal weight gain and fetal outcome in an underweight primigravida. **Materials and Methods:** A 20-year-old primigravida with a body weight of 34 kg was managed with *Kṣīrāṇḍa Basti* and *Kṣīrāṇḍa Basti* with *Kṣīrabala Taila* during the 5th and 7th months of pregnancy. *Mātrā Basti* with *Sukha Prasava Ghṛta* and *Yoni Pichu* with *Kṣīrabala Taila* were administered after 37 weeks. **Results:** Maternal weight increased from 34 kg in the first trimester to 46 kg by the third trimester. The patient delivered a healthy full-term neonate weighing 2.5 kg through normal vaginal delivery without maternal or neonatal

complications. **Conclusion:** Appropriately selected Basti therapies during pregnancy can be beneficial in improving maternal nutrition, regulating *Vāta*, and supporting normal fetal growth.

KEYWORDS: *Kṣīrāṇḍa Basti, Kṣīrāṇḍa Basti, Kṣīrabala Taila.*

INTRODUCTION

Pregnancy is a crucial phase in a woman's life, associated with significant physiological and metabolic changes, during which nutritional requirements increase to support maternal health and optimal fetal growth. The nutritional state of the mother before and during pregnancy, along with factors such as pre-pregnancy body mass index, gestational weight gain, and gestational age, plays an important role in determining pregnancy outcomes.

Underweight women at conception often fail to achieve adequate gestational weight gain, resulting in growth-retarded or small-for-date infants, and are therefore considered an at-risk group, particularly in developing countries where maternal undernutrition is prevalent.

Ayurveda emphasizes *Garbhiṇī Paricharya* for proper nourishment of both mother and fetus and recognizes the pivotal role of *Vāta Doṣa* in *Garbha Dhāraṇa* and *Garbha Poṣaṇa*. Inadequate intake of wholesome *Ahāra* leads to *Vāta* aggravation, improper formation of *Ahāra Rasa*, and impaired circulation through the *Rasavahā Nāḍī*, resulting in *Rasa Dhātu Kṣaya* and defective fetal nourishment. This condition is described in the classics as *Upaviṣṭaka*, *Upaśuṣka*, or *Nāgodara*, which closely resembles the modern concept of fetalgrowth restriction. *Basti Chikitsā*, particularly *Bṛṃhaṇa* and *Balya* therapies such as *Kṣīrāṇḍa Basti* and *Kṣīrabala Taila Anuvāsana Basti*, along with *Mātrā Basti* and *Yoni Pichu* using *Kṣīrabala Taila* for *Vāta Anulomana*, are advocated to improve maternal nutritional status, support fetal growth, and facilitate normal delivery.

AIM AND OBJECTIVES

Aim

To assess the effect of *Kṣīrāṇḍa Basti* along with *Ksheerabala taila basti* on maternal weight gain and fetal outcome in an underweight primigravida.

Objectives

1. To improve maternal nutritional status
2. To promote adequate gestational weight gain

3. To support normal fetal growth and prevent IUGR

CASE REPORT

A 20-year-old primigravida with amenorrhea of four months attended the OPD of Prasuti Tantra evam Stri Roga, SKAMCH & RC, Bengaluru, on 11-07-2025 for antenatal care. She complained of generalized weakness, reduced appetite, and aversion to food for the past 1–2 months. On examination, the patient was underweight with a body weight of 34 kg.

Past history- Not a K/C/O DM, HTN, Thyroid dysfunction, asthma, epilepsy etc.

Personal History-The patient was on a vegetarian diet with reduced appetite. Bowel habits were constipated for one month. Urinary frequency was 4–5 times per day. Sleep was sound.

Married life-6 months

Menstrual and Obstetric History

- Menstrual cycle: Regular
- Duration of bleeding: 1–2 days
- Amount: Scanty
- Dysmenorrhea: Present
- Obstetric status: G1P0A0L0
- LMP: 20-02-2025
- Period of gestation: 19 weeks 6 days
- EDD: 27-11-2025

GENERAL EXAMINATION

Built: Illbuilt

Nourishment: Malnourished

Pulse: 74/min.

BP: 110/70mmhg

Temperature: 97.2F

Respiratory Rate: 24 Cycles/min

Height: 146cm

Weight: 34kg

BMI:16 kg/m2

Tongue: Uncoated

Pallor/Icterus/Cyanosis/Clubbing/Edema/Lymphadenopathy: Absent.

ASTHA STHANA PAREEKSHA

1. *Nadi: Pitta Pradhana*
2. Pulse: 74 bpm
3. *Mala: Badha*
4. *Mutra:* 4-5 times a day
5. *Jiwha: Alipta*
6. *Shabda: Utpatti-+*
7. *Grahana - +*
8. *Sparsha: Anushna Sheeta*
9. *Drik: Prakruta*
10. *Akruti: Avara*

DASHAVIDHA PAREEKSHA

1. *Prakruti: Vata pitta*
2. *Vikruti: Vatapitta, Hetu: Asatyma* and *Ahittakara Ahara* and *Dauhruda Avastha*
3. *Sara: AVARA*
4. *Satmya: Mishrarasa Satmya*
5. *Pramana: Bhara*: 34 kg
6. *Darighya*: 146cm
7. *Satva:Avara*
8. *Ahara Sakti: Avara*
9. *VyayamaSakti: Avara*
10. *Vaya: Madhyam*

SYSTEMIC EXAMINATION

1. Central Nervous System

Patient is conscious

Well oriented to time, place and person

2. Cardio Vascular System

Inspection: No distended vessels over neck or chest

Palpation: Apex beat palpable at 5th intercostal space

Percussion: Cardiac dullness present on left side

Auscultation: S1 S2 heard no added sounds

3. Respiratory system

Inspection Shape of chest: Bilaterally Symmetrical

Movement symmetrical RR 18 cycles/min

Palpation: Trachea: Centrally placed.

Percussion: Resonant over the lung field except card

4. GIT- Anoroxia- present

Constipation- present

Epigastric pain -absent

Nausea-absent

Vomiting –absent

ANTENATAL EXAMINATION

Inspection: P/A- Stria gravida present

Palpation: P/A-Uterus palpable

Fetal movements – Appreciable

Auscultation-156-158bpm

Percussion-not done

P/S and P/V -not done

Breast examination-Soft, Nontender

INTERVENTION DETAILS

Table 1: Treatment Schedule.

Date	Gestational period	Therapy	Duration
USG-30 June 2025	A Single Intrauterine Pregnancy corresponding to 18weeks 1 day. No fetal structural anomaly is detected at this stage. EFW-224gram+-33grams Liquor normal		
11TH July 2025-18TH July 2025	19 weeks 6 days	*Ksheeranda Basti* -130ml (Ksheera-100ml + Anda/egg -30ml) and *Anuvasana Basti* with *ksheerabala taila* 45ml in *yoga basti* pattern	8 days
Follow up scan-	A single intrauterine pregnancy corresponding to 25weeks 1 day.		

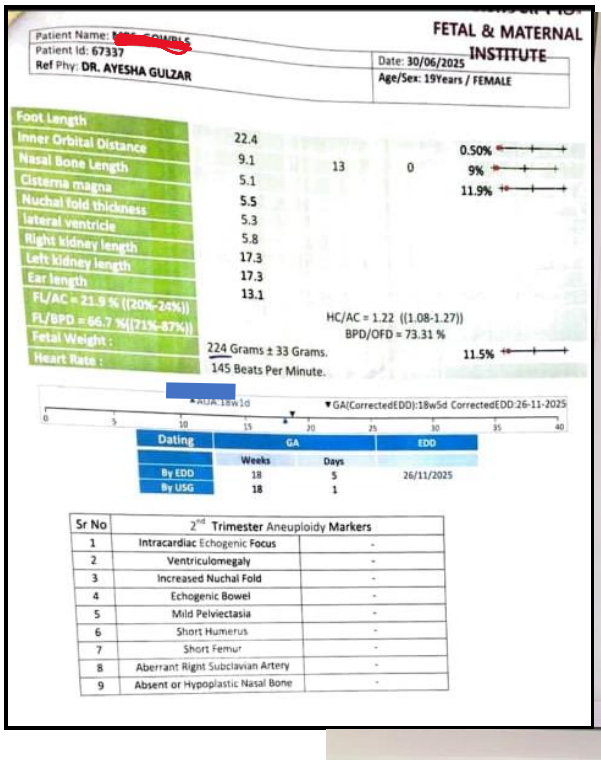
20th August 2025	Doppler shows negative for PIH. EFW-748gram+-111grams Liquor-14.1cm		
25TH Sep 2025 – 2ND Oct 2025	31weeks 1 day	*Ksheeranda basti* -130ml (Ksheera-100ml+Anda/egg-30ml) and *anuvasana basti* with *ksheerabala taila* 45ml in *yoga basti* pattern	8 days
Growth scan-17TH October 2025	A Single Intrauterine Pregnancy corresponding to 32weeks 4 day. EFW-2005gram+-300grams Liquor-14.1cm		
8th Nov 2025 -16th Nov 2025	37 weeks 2 days	*Mātrā basti* with *sukha prasava ghṛta* 40ml *Yoni pichu* with *Kṣīrabala taila*	9 days

OBSERVATIONS AND RESULTS

Following initiation of the first course of *Kṣīrāṇḍa Basti* along with *Anuvāsana Basti* with *Kseerabala taila administered at 20 weeks* and the patient exhibited gradual improvement in appetite (*Agnidīpana*) and normalization of bowel movements (*Mala Pravṛtti*) within 2–3 days, indicating effective *Vātānulomana*. Fifteen days after completion of the first *Basti* course, maternal body weight increased from 34 kg to 36 kg, suggesting improvement in *Rasa Dhātu* and an overall *Bṛṃhaṇa* effect. Follow-up ultrasonography demonstrated satisfactory *Garbha Poṣaṇa*, with an increase in estimated fetal weight from 243 g to 773 g.

A second course of *Kṣīrāṇḍa Basti* along with *Anuvāsana Basti* with *kseerabala taila* administered at 31 weeks of gestation resulted in further enhancement of maternal nourishment, with maternal body weight increasing to 44 kg after treatment. Subsequently, *Mātrā Basti* with *Sukha Prasava Ghṛta* and *Yoni Pichu* with *ksheerabala taila* were administered after 37 weeks of gestation to facilitate *Vātānulomana* and *Sukha Prasava*. By term, maternal body weight reached 46 kg, and ultrasonography revealed an estimated fetal weight of 2005 g.

Considering the maternal pre-pregnancy body mass index and nutritional status, an expected fetal birth weight of approximately 2.5 kg was anticipated. At 39 weeks of gestation, the patient delivered vaginally a single live male baby weighing 2.5 kg on 19/11/2025. The achieved neonatal birth weight indicates satisfactory *Garbha Poṣaṇa* and an effective *Bṛṃhaṇa* response to the instituted *Basti*-based Ayurvedic management.



Patient Name: [redacted]
Patient Id: 67337
Ref Phy: DR. AYESHA GULZAR

FETAL & MATERNAL INSTITUTE

Date: 30/06/2025
Age/Sex: 19Years / FEMALE

Foot Length	22.4			
Inner Orbital Distance	9.1	13	0	0.50%
Nasal Bone Length	5.1			9%
Cisterna magna	5.5			11.9%
Nuchal fold thickness	5.3			
lateral ventricle	5.8			
Right kidney length	17.3			
Left kidney length	17.3			
Ear length	13.1			
FL/AC = 21.9 % ((20%-24%))				
FL/BPD = 66.7 %((71%-87%))				
Fetal Weight :	224 Grams ± 33 Grams.			11.5%
Heart Rate :	145 Beats Per Minute.			

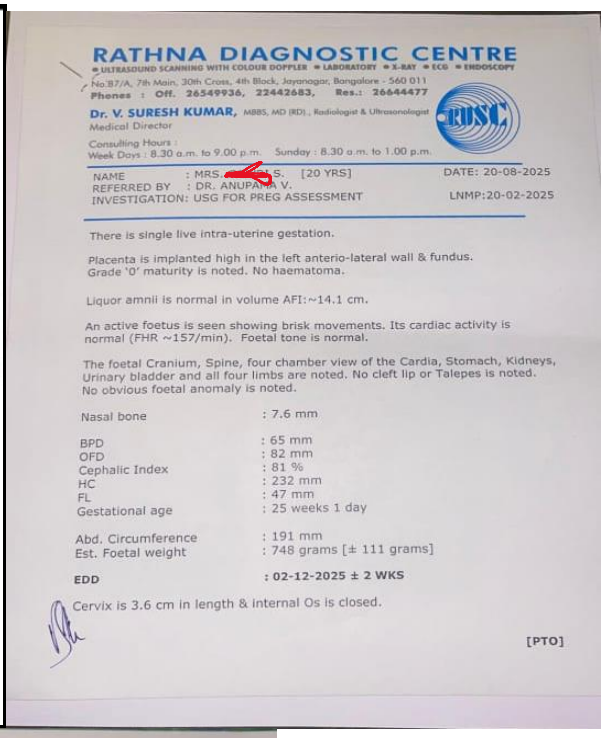
HC/AC = 1.22 ((1.08-1.27))
BPD/OFD = 73.31 %

AUA: 18w1d ▼GA(CorrectedEDD):18w5d CorrectedEDD:26-11-2025

Dating	GA	
	Weeks	Days
By EDD	18	5
By USG	18	1

EDD: 26/11/2025

Sr No	2nd Trimester Aneuploidy Markers	
1	Intracardiac Echogenic Focus	-
2	Ventriculomegaly	-
3	Increased Nuchal Fold	-
4	Echogenic Bowel	-
5	Mild Pelviectasia	-
6	Short Humerus	-
7	Short Femur	-
8	Aberrant Right Subclavian Artery	-
9	Absent or Hypoplastic Nasal Bone	-



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Phones : Off. 26549936, 22442683, Res.: 26644477

Dr. V. SURESH KUMAR, MBBS, MD (RD)., Radiologist & Ultrasonologist
Medical Director
Consulting Hours : Week Days : 8.30 a.m. to 9.00 p.m. Sunday : 8.30 a.m. to 1.00 p.m.

NAME : MRS. [redacted] S. [20 YRS] DATE: 20-08-2025
REFERRED BY : DR. ANUPAMA V.
INVESTIGATION: USG FOR PREG ASSESSMENT LNMP:20-02-2025

There is single live intra-uterine gestation.

Placenta is implanted high in the left anterio-lateral wall & fundus. Grade '0' maturity is noted. No haematoma.

Liquor amnii is normal in volume AFI:~14.1 cm.

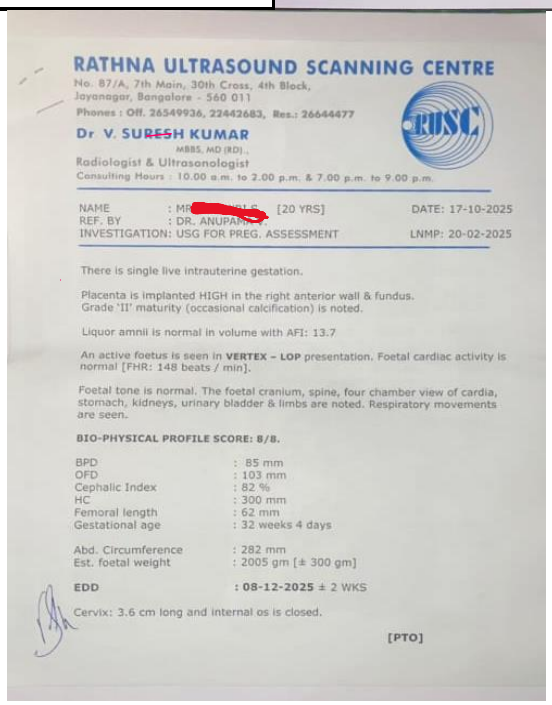
An active foetus is seen showing brisk movements. Its cardiac activity is normal (FHR ~157/min). Foetal tone is normal.

The foetal Cranium, Spine, four chamber view of the Cardia, Stomach, Kidneys, Urinary bladder and all four limbs are noted. No cleft lip or Talepes is noted. No obvious foetal anomaly is noted.

Nasal bone	: 7.6 mm
BPD	: 65 mm
OFD	: 82 mm
Cephalic Index	: 81 %
HC	: 232 mm
FL	: 47 mm
Gestational age	: 25 weeks 1 day
Abd. Circumference	: 191 mm
Est. Foetal weight	: 748 grams [± 111 grams]
EDD	: 02-12-2025 ± 2 WKS

Cervix is 3.6 cm in length & internal Os is closed.

[PTO]



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Dr V. SURESH KUMAR
MBBS, MD (RD).,
Radiologist & Ultrasonologist
Consulting Hours : 10.00 a.m. to 2.00 p.m. & 7.00 p.m. to 9.00 p.m.

NAME : MR[redacted] [20 YRS] DATE: 17-10-2025
REF. BY : DR. ANUPAMA
INVESTIGATION: USG FOR PREG. ASSESSMENT LNMP: 20-02-2025

There is single live intrauterine gestation.

Placenta is implanted HIGH in the right anterior wall & fundus. Grade 'II' maturity (occasional calcification) is noted.

Liquor amnii is normal in volume with AFI: 13.7

An active foetus is seen in **VERTEX – LOP** presentation. Foetal cardiac activity is normal [FHR: 148 beats / min].

Foetal tone is normal. The foetal cranium, spine, four chamber view of cardia, stomach, kidneys, urinary bladder & limbs are noted. Respiratory movements are seen.

BIO-PHYSICAL PROFILE SCORE: 8/8.

BPD	: 85 mm
OFD	: 103 mm
Cephalic Index	: 82 %
HC	: 300 mm
Femoral length	: 62 mm
Gestational age	: 32 weeks 4 days
Abd. Circumference	: 282 mm
Est. foetal weight	: 2005 gm [± 300 gm]
EDD	: 08-12-2025 ± 2 WKS

Cervix: 3.6 cm long and internal os is closed.

[PTO]

DISCUSSION

According to Ayurvedic principles, inadequate intake of proper nutrition *(Āhāra)* leads to aggravation of *Vāta Doṣa.* Due to aggravated *Vāta, Āhāra Rasa* is not formed adequately, resulting in improper nourishment of the *Rasavahā Nāḍī* supplying the fetus. Obstruction in the *Rasavahā Nāḍī* causes impaired flow of *Rasa Dhātu*, leading to defective *Garbha Poṣaṇa.* Consequently, the fetus fails to develop normally and may manifest conditions

described as *Upaviṣṭaka* or *Upaśuṣka*. The classics explain this pathology using the analogy of a paddy field, where crops do not grow properly if the flow of water is obstructed by leaves or grass, despite the presence of fertile land.[1]

Further, the classics describe that women who frequently observe fasting, consume stale food, avoid unctuous substances, and indulge in *Vāta-prakopaka* regimens give rise to fetal desiccation and growth retardation. Such a fetus does not show proper movements, remains in the uterus for a prolonged duration, and fails to attain normal development. This condition is termed as *Nāgodara.* These descriptions clearly indicate the pivotal role of *Vāta* vitiation and *Rasa Dhātu Kṣaya* in the pathogenesis of fetal growth restriction.[2]

Although *Basti* and other *Pañcakarma* procedures are generally contraindicated during pregnancy due to safety concerns, Ayurvedic classics permit the administration of specific and carefully selected *Basti* therapies during appropriate stages of gestation. *Suśruta* recommends the use of *Kṣīra Basti* during the eighth month of pregnancy along with intake of *Snigdha* and *Medhya* food for promoting maternal strength and fetal nourishment.This highlights the classical acceptance of milk-based and unctuous Basti therapies during advanced pregnancy.[3]

Administration of Basti is generally avoided in the early months of pregnancy, especially during the first trimester, as the uterus is a pelvic organ and is more vulnerable to trauma, increasing the risk of abortion. After the fourth month, when the uterus ascends into the abdominal cavity and fetal stability improves, Basti therapy may be considered if clinically indicated. In the fifth month, carefully administered *Anuvāsana Basti and Kṣīra Basti* help pacify aggravated *Vāta*, enhance *Rasa Dhātu*, and improve *Garbha Poṣaṇa*, when performed under expert supervision.[4]

Based on Charaka and Kashyapa references*, Āmāgarbha* is described as beneficial in *Garbhaśoṣa*, promoting *garbhavṛddhi* and nourishment; *Āmāgarbha* here denotes aṇḍa, hence *kukkutāṇḍa* is selected.Kāśyapa further states that *dugdha* renders the *garbha puṣṭa* and dṛḍha.Therefore, *Kukkutāṇḍa–Kṣīra Basti*[5] (raw beaten egg with cow's milk) was administered and *ksheerabala taila*[6] was used because of its *madhura rasa,snigdha guna, sheeta virya* and *madhura vipaka* contributing to nourishment and strengthening of maternal tissues.

In the ninth month of pregnancy, administration of Anuvāsana Basti is advocated to provide strength to the mother, relieve stiffness and tension in the pelvic region, and facilitate *Vātānulomana*, thereby aiding preparation for labor.

Sukha Prasava Ghrita[7] used for matra basti has *madhura rasa*, *snigdha guna*, *sheeta veerya*, and *madhura vipaka*. It pacifies *Apana Vata*, softens the cervix and birth passage, and improves tissue lubrication. Thus, it facilitates smooth and uncomplicated normal labor.

Vatahara property of *Balamula* and *Ksheera* helps in balancing the *Apana vata* and promotes its garbhanishkramana karma. hence prevents the undue prolongation of labor as well as prevents soft tissue obstruction in pelvic floor.

In the present case, appropriately selected Basti therapies played a significant role in improving maternal nutrition, regulating *Vāta Doṣa*, and supporting normal fetal growth. The observed improvement in maternal weight gain, progressive increase in fetal weight, and successful vaginal delivery of a healthy neonate support the classical rationale of Basti as an effective *Bṛṃhaṇa* and *Vātahara* intervention during pregnancy when used judiciously.

CONCLUSION

This case report highlights the beneficial role of Ayurvedic Basti therapies in the management of underweight pregnancy. The use of Basti therapies contributed to improved maternal weight gain, regulation of Vata, and adequate fetal nourishment.The integrative application of Garbhini Paricharya supported normal fetal growth, cervical ripening, and smooth labor, resulting in a healthy full-term neonate without complications. These findings suggest that appropriately selected Basti therapies administered with due care can be a safe and effective supportive approach in undernourished pregnant women.

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