



Influence of Improper Āhāra Vidhi Vidhāna on Maternal and Fetal Health: An Integrative Review of Ayurvedic Dietary Guidelines and Modern Maternal Physiology

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ABSTRACT:

Diet plays a central role in maintaining maternal health and fetal development. Ayurveda conceptualizes nutrition through *Āhāra Vidhi Vidhāna*—systematic dietary guidelines regarding food quality, quantity, timing, emotional state, and method of eating. These principles ensure balanced digestion (*Agni*), metabolic regulation, and adequate tissue nourishment. Pregnancy imposes unique physiological demands including increased metabolic rate, altered gastrointestinal function, and regulatory changes in hormonal, vascular, and immunological systems. Impaired digestion and metabolic inefficiency during pregnancy influence placental nutrient transfer and fetal development. This conceptual review correlates classical Ayurvedic dietary principles with modern maternal physiology to demonstrate how deviations from proper dietary conduct contribute to gastrointestinal dysfunction, maternal anemia, gestational diabetes mellitus, inflammatory responses, oxidative stress, intrauterine growth restriction, and low birth weight. The analysis emphasizes the significance of behavioral and sensory dimensions of eating—not merely nutrient content—in maintaining maternal-fetal health. Integrating these principles into antenatal nutrition counseling may offer a preventive and holistic approach for reducing adverse pregnancy outcomes.

1. Introduction

Maternal nutrition is a decisive determinant of pregnancy outcomes, influencing not only immediate fetal growth but also lifelong health trajectories of the child.^{1,4,5} Contemporary antenatal care focuses mainly on quantifying nutrients and calories, while Ayurveda extends this understanding to include how, when, in what state of mind, and in what form food is consumed, encapsulated in the concept of *Āhāra Vidhi Vidhāna*.^{2,3,11} During pregnancy, when metabolic, cardiovascular, endocrine, and immunological adaptations are profound, the qualitative and behavioral dimensions of eating gain critical importance for maternal–fetal well-being.^{1,4,17}

Ayurvedic texts describe that the “*Ahāra Rasa*” formed after digestion performs three functions in a pregnant woman: nourishing her own tissues, supporting milk formation, and sustaining the fetus.^{2,8} Modern physiology parallels this view by demonstrating how maternal diet and digestive efficiency regulate maternal

reserves, placental function, and fetal growth via complex neuroendocrine and vascular mechanisms.^{4,5,6,19} When *Āhāra Vidhi Vidhāna* is violated—through cold, stale, incompatible, excessive, irregular, or emotionally disturbed eating—both digestion (*Agni*) and metabolic homeostasis are disturbed, leading to conditions such as dyspepsia, anemia, gestational diabetes mellitus (GDM), inflammatory states, oxidative stress, and altered fetal programming.^{6,7,9,13,15}

Conceptual Basis: Agni, Āma, and Maternal Physiology

Agni and digestive-maternal interface

In Ayurveda, *Agni* represents the collective capacity for digestion, absorption, transformation, and tissue nourishment, and its impairment leads to *Āma*, a state of incomplete metabolism and toxic accumulation.^{18,35} In biomedical terms, this corresponds to coordinated function of gastric acid secretion, pancreatic enzymes, bile flow, intestinal mucosal integrity, hepatic



metabolism, and gut microbiota.^{4,6,30} Pregnancy modifies each of these components: rising progesterone and relaxin reduce gastrointestinal motility, prolong transit time, and slow gastric emptying, increasing susceptibility to bloating, constipation, and reflux when diet is unsuitable.^{4,9,15}

Ayurveda holds that a disturbed Agni in pregnancy contaminates the nutrient stream feeding maternal tissues and the fetus, leading to suboptimal dhātu (tissue) formation and accumulation of Āma that can obstruct channels (srotas).¹⁸ Modern research supports that maternal dyspepsia, malabsorption, and dysbiosis alter nutrient availability and increase circulating inflammatory mediators, which in turn impair vascular function and placental perfusion.^{4,6,12,19} Thus, Agni becomes a unifying construct linking dietary behavior with gastrointestinal efficiency, systemic inflammation, and fetoplacental function.^{6,7,13}

Maternal–fetal nutritional exchange and placenta

Ayurveda recognizes that fetal nourishment (Matruja Ahāra) depends entirely on the digested essence of the mother's diet, traveling through maternal channels to the placenta-like structures (Garbha-nourishing pathways).^{2,5,8} Modern physiology details this as a finely regulated placental exchange system involving diffusion of gases, facilitated and active transport of glucose and amino acids, and specific mechanisms for fatty acids and immunoglobulins.^{4,19} Any reduction in maternal substrate availability or derangement in maternal endocrine and inflammatory milieu can alter transporter expression, blood flow, and placental oxidative status, thereby modifying fetal growth patterns.^{4,7,19,28}

Emerging literature shows that maternal metabolic disorders such as GDM or chronic undernutrition can induce placental oxidative stress, hypoxia-like states, and vascular remodeling defects, culminating in intrauterine growth restriction (IUGR), preterm birth, or macrosomia.^{7,8,10,28} These observations resonate with Ayurvedic warnings that improper Ahāra, by deranging Agni and vitiating Doṣa, can distort fetal organogenesis and growth (Garbha Vikṛti).^{5,14,17}

Āhāra Vidhi Vidhāna: Core Principles Relevant to Pregnancy

Qualitative and behavioral dimensions of eating

Āhāra Vidhi Vidhāna prescribes not only what to eat but also the temperature, texture, quantity, intervals, combinations, and mental state during eating.^{3,24,26} Key principles particularly relevant in pregnancy include:^{3,11,18,24,32}

Uṣṇam Aśnīyāt – consuming food warm and freshly prepared, to support Agni and prevent stagnation.^{2,23,26}
Snigdham Aśnīyāt – ensuring adequate unctuousness and healthy fats to lubricate channels and nourish tissues.^{2,4,5}

Mātrāvat Aśnīyāt – eating in proper quantity, avoiding both overload and underfeeding.^{23,26}

Jirne Aśnīyāt – eating only after previous meal is digested, reflecting respect for gastric capacity.²³

Aviruddham Aśnīyāt – avoiding mutually incompatible food combinations that cause internal conflict and Āma.^{23,24}

Modern nutrition increasingly affirms that meal timing, food processing, eating pace, and emotional context influence glycemic patterns, gut–brain signaling, and microbiome composition beyond mere nutrient content.^{5,6,20} For pregnant women, who inherently experience altered insulin sensitivity and gastrointestinal motility, ignoring these qualitative and behavioral dimensions raises the risk of functional GI disorders and metabolic complications.^{4,5,15,20}

Additional improper practices

Beyond the core principles, improper eating behaviors noted both in traditional and modern contexts include eating too quickly, eating while distracted or emotionally distressed, excessive intake of processed and ultra-processed foods, and irregular meal schedules.^{6,12,34} These behaviors blunt cephalic-phase responses (salivary, gastric, and pancreatic secretions), reduce parasympathetic activation, and promote sympathetic dominance, which collectively impair digestion and may reduce uteroplacental blood flow.^{6,12,31} Ayurveda interprets such habits as violations of mindful eating (one-pointed attention and calm state) that disturb Vāta and Pitta, disturb Agni, and propagate Āma.^{18,24,32}



Linking Improper Āhāra Vidhi Vidhāna to Maternal Gastrointestinal Dysfunction

Effects of food temperature, freshness, and processing

Uṣṇam Aśnīyāt emphasizes warm, freshly prepared meals that harmonize with the digestive fire, whereas cold, refrigerated, or stale food is considered heavy and prone to Āma formation.^{2,23,24} Biomedically, warm, lightly processed foods tend to promote better gastric emptying and enzyme activity, whereas cold or heavily processed foods may slow gastric motility and increase fermentation, contributing to bloating, reflux, and discomfort, which are already common in pregnancy due to progesterone-induced motility changes.^{4,9,15} Frequent intake of packaged, high-salt, high-sugar, or trans-fat-rich foods amplifies oxidative burden and gut dysbiosis, both implicated in systemic inflammation and endothelial dysfunction.^{6,10,12,19,36}

In pregnancy, such gastrointestinal dysregulation can manifest as chronic indigestion, constipation, and malabsorption, undermining micronutrient status (iron, folate, B12, omega-3 fatty acids) that are crucial for placental and fetal development.^{1,4,15,27} Ayurveda would describe this as Mandāgni (low digestive power) with Āma accumulation, predisposing to complications in Garbhini (pregnant woman) such as vibandha (constipation), edema, and general fatigue.^{9,18,24}

Quantity, interval, and pacing of meals

Mātrāvāt Aśnīyāt and Jīrne Aśnīyāt together stress that food should be taken in an appropriate amount and only after digestion of the previous meal.^{23,26} Overeating burdens the GI tract, reducing digestive efficiency and promoting delayed gastric emptying, while under-eating compromises maternal reserves and fetal supply.^{4,15,20} Modern evidence shows that large, high-glycemic loads provoke exaggerated postprandial glucose and insulin excursions, aggravating the physiologic insulin resistance of late gestation and predisposing to GDM and excessive gestational weight gain.^{10,15,36} Conversely, prolonged undernutrition or restrictive eating increases the risk of maternal anemia, IUGR, and low birth weight.^{1,27}

Eating too fast reduces the time for oral processing, diminishes cephalic-phase neuroendocrine activation, and often leads to greater caloric intake before satiety signals arise, disturbing glycemic patterns.^{6,12} Ayurveda

interprets fast, unmindful eating as Vāta-provoking and Agni-disrupting, leading to gas, colic, and irregular appetite, phenomena that map onto clinical complaints frequently reported by pregnant women with erratic eating patterns.^{18,34}

Incompatible, Inflammatory, and Dysbiotic Eating Patterns

Aviruddha Āhāra and gut inflammation

Aviruddham Aśnīyāt cautions against incompatible food combinations that are considered to create internal conflict, fermentation, or toxin formation—for example, heavy mixtures of certain proteins and fruits or excessive mixing of heating and cooling substances.^{23,24} While exact combinations differ from modern descriptions, the underlying idea parallels current concerns about dietary patterns that disturb microbiome balance, generate excessive fermentation products, and promote low-grade gut inflammation.^{6,12,19,26}

Research indicates that maternal dysbiosis—characterized by reduced microbial diversity and increased pro-inflammatory taxa—can increase circulating inflammatory cytokines and metabolic endotoxemia.^{6,12} These changes may alter placental immune signaling, contribute to endothelial dysfunction, and affect fetal neurodevelopment via gut–brain–placenta pathways.^{19,28,31} Ayurvedic conceptualization of Āma as a sticky, pro-inflammatory residue that blocks channels accords loosely with this recognition of dysbiotic metabolites and inflammatory mediators damaging vascular and placental integrity.^{18,24,35}

Processed foods, oxidative stress, and endothelial damage

Excess intake of refined sugars, processed meats, and oxidized or trans fats is consistently linked with higher oxidative stress and inflammatory markers in pregnancy.^{10,12,19,36} Studies in placentas from complicated pregnancies demonstrate increased lipid peroxidation, DNA oxidative damage, and impaired antioxidant defenses, especially in IUGR and preeclampsia.^{7,8,16,28,31} Such molecular damage contributes to abnormal placental vascular remodeling, hypoxia, and nutrient transport disturbances.^{7,19,28}



Ayurveda would interpret these patterns as the cumulative effect of Doṣa-aggravating Ahāra and Āma-induced obstruction in Rasavaha and Raktavaha srotas (fluid and blood channels), which ultimately hinders proper supply of rasa (nutrient plasma) to the Garbha (fetus).^{14,18} The convergence of both paradigms underscores that dietary quality and processing, not just macronutrient amounts, materially influence placental health.^{5,19,24}

Emotional Context, Gut–Brain–Placenta Axis, and Eating

Stress during meals and autonomic imbalance

Ayurvedic texts stress that one should eat in a calm, focused mental state with positive emotions, avoiding anger, grief, anxiety, or distraction during meals, as these states disturb Prāṇa and Agni.^{3,24,32} From a modern standpoint, emotional stress activates the sympathetic nervous system and hypothalamic–pituitary–adrenal axis, reducing parasympathetic vagal tone that normally supports digestion and increasing cortisol and catecholamine levels.^{6,12} In pregnancy, chronic sympathetic predominance can reduce uteroplacental blood flow, influence immune regulation, and alter fetal exposure to stress hormones.^{12,31}

Evidence suggests that maternal psychological stress, including stress around eating, may modify placental function and fetal neurobehavioral development via stress-mediated inflammatory signaling and endocrine changes.^{12,31} Christian and others describe the placenta as a key mediator of stress effects, translating maternal signals into changes in fetal growth patterns, HPA axis set-points, and brain development.³¹ Ayurveda similarly warns that maternal emotional disturbances and disturbed Āhāra Vidhi Vidhāna can lead to behavioral and psychological vulnerabilities in the offspring, aligning conceptually with modern fetal programming research.^{2,18,33}

Gut–brain–microbiome interactions

The gut–brain axis, modulated by microbiota, vagal pathways, and enteroendocrine signaling, is now recognized as a critical regulator of appetite, mood, and stress responses.^{6,12} Dietary patterns that disrupt microbiome composition—highly processed diets, erratic eating, and incompatible combinations—can alter microbial metabolites such as short-chain fatty

acids and neurotransmitter precursors, influencing maternal mood and inflammation.^{6,12,19}

Ayurveda’s insistence on sattvic, fresh, digestible foods taken in a peaceful environment can be viewed as a traditional strategy to stabilize this axis, supporting both mental tranquility (sattva) and digestive efficiency.^{2,3,24} For pregnant women, maintaining this balance is particularly important, as maternal microbiota contribute not only to energy harvest but also to the seeding of the infant microbiome, which influences early immune and neurodevelopmental trajectories.^{6,12,30}

Metabolic Consequences: From GDM to Anemia

Gestational diabetes, overnutrition, and fetal adiposity

Modern studies confirm that excessive caloric intake, high-glycemic diets, and obesity before or during pregnancy increase the risk of GDM, characterized by hyperglycemia and heightened insulin resistance.^{10,15,36} GDM is associated with placental oxidative stress, chronic low-grade inflammation, and altered expression of nutrient transporters, leading to increased placental nutrient transfer and fetal hyperinsulinemia.^{8,10,19,36} These mechanisms promote fetal macrosomia, excess adiposity, and neonatal hypoglycemia, as well as long-term risk of obesity and type 2 diabetes in offspring.^{7,10,15,31}

In Ayurvedic terms, repeated violation of Mātrāvāt Aśnīyāt (moderation), consumption of Guru (heavy), Madhura-pradhāna (excessively sweet) foods, and lack of physical activity may aggravate Kapha and Meda (adipose tissue) and disturb Agni, predisposing to Prameha-like states comparable to GDM.^{11,18,34} The conceptual alignment lies in recognizing that excessive and improperly timed nutrition can pathologically amplify an otherwise physiologic insulin resistance of pregnancy, with consequences for both mother and fetus.^{10,15,18}

Undernutrition, anemia, and IUGR

On the other end of the spectrum, maternal undernutrition, inadequate protein and micronutrient intake (especially iron, folate, B12, and omega-3 fatty acids), and chronic indigestion are strongly linked to maternal anemia, low maternal weight gain, IUGR, and low birth weight.^{1,27} Global data indicate that maternal undernutrition and anemia contribute significantly to intrauterine growth compromise and neonatal



mortality.^{1,27} Inadequate iron impairs oxygen transport, producing chronic fetal hypoxia and growth restriction, while insufficient essential fatty acids compromise fetal brain and retinal development.^{4,20,29}

Ayurveda attributes such outcomes to insufficient or poor-quality Ahāra Rasa that fails to adequately nourish Rasa and Rakta dhātu, and thus cannot fully support the fetus (Matruja Ahāra deficiency).^{2,8,18} Chronic Mandāgni and Āma further inhibit proper assimilation even when some nutrients are present, analogous to malabsorption syndromes and chronic infections that worsen anemia and undernutrition.^{9,18} These perspectives converge in emphasizing that both quantity and digestibility of food are critical in preventing IUGR and low birth weight.^{1,14,27}

Inflammation, Oxidative Stress, and Placental Dysfunction

Oxidative stress and inflammation are central themes in modern explanations of adverse pregnancy outcomes, including IUGR, preeclampsia, and preterm birth.^{7,19,28,31} Imbalanced diets rich in processed foods, poor in antioxidants, and taken in irregular patterns magnify these burdens by increasing reactive oxygen species and reducing antioxidant defenses.^{10,12,19,36} Studies demonstrate increased markers of lipid peroxidation, protein carbonylation, and DNA oxidative damage in placentas from growth-restricted and preeclamptic pregnancies, often alongside evidence of hypoxia and impaired vascular remodeling.^{7,16,19,28,31}

Ayurveda conceptualizes such pathophysiology as Doṣa aggravation (particularly Pitta and Vāta) and Āma obstruction in uteroplacental channels, resulting from chronic violation of Āhāra Vidhi Vidhāna and intake of incompatible, stale, or excessively heating foods.^{18,24} The link between chronic inflammation/oxidative stress and long-term fetal programming of cardiovascular and metabolic disease has been documented, with evidence of persistent endothelial dysfunction and impaired insulin secretion in individuals born with low birth weight or IUGR.^{7,28,31} This mirrors Ayurvedic claims that disturbed Garbha nutrition can predispose to later-life vulnerabilities in strength, metabolism, and disease susceptibility.^{2,14,18}

Fetal Development and Long-Term Programming

Fetal development depends on a continuous supply of appropriately balanced nutrients, oxygen, and hormonal signals, all shaped by maternal diet, digestion, and placental function.^{4,15,20,30} When maternal indigestion and metabolic imbalance persist, fetal growth can deviate in two major directions: restriction (IUGR, low birth weight) or overgrowth (macrosomia), each carrying specific neonatal risks and long-term consequences.^{1,7,10,15,28,31} Examples include:^{4,5,6,14,19}

Chronic indigestion and malabsorption leading to low birth weight through inadequate substrate supply.^{1,9} GDM causing fetal hyperinsulinemia, macrosomia, and neonatal metabolic instability.^{10,15} Maternal anemia reducing oxygen delivery and contributing to IUGR.^{1,27} Low DHA intake impairing optimal brain and retinal development.^{4,20,29}

High oxidative stress damaging placental vasculature, increasing risk of preterm birth and placental insufficiency.^{7,8,19,28}

Fetal programming research shows that such intrauterine disturbances can increase the risk of metabolic syndrome, cardiovascular disease, and neurocognitive variation later in life.^{7,28,31} Ayurveda expresses a similar understanding in describing how Matruja Ahāra and maternal regimen shape not only the structure but also the temperament, resilience, and disease susceptibility of the child.^{2,14,33} Āhāra Vidhi Vidhāna, by safeguarding Agni and preventing Āma, thus becomes a foundational tool for healthy fetal programming.^{2,3,18,24}

Integrative Framework for Maternal Nutrition Counseling

Synthesizing Ayurvedic and modern principles

An integrative approach to antenatal nutrition can merge the depth of Āhāra Vidhi Vidhāna with evidence-based modern recommendations by emphasizing:

Adequate, balanced macro- and micronutrient intake tailored to gestational stage and maternal status, including iron, folate, calcium, iodine, and omega-3 fatty acids.^{1,4,5,20}

Meal timing and pacing that respect digestive capacity:



regular, moderate meals of warm, freshly prepared foods that are easy to digest, with avoidance of overeating and prolonged fasting.^{2,3,23} Preference for minimally processed, whole foods (grains, pulses, fruits, vegetables, nuts, seeds, quality fats) over ultra-processed products, thereby reducing oxidative and inflammatory burden.^{10,12,19,20} Conscious elimination of clearly incompatible or problematic combinations for the individual woman (e.g., heavy fried foods with sugary drinks), monitoring GI comfort and glycemic responses.^{11,18,24} Attention to emotional state and environment during meals, encouraging calm, mindful eating practices to support parasympathetic activation, gut-brain harmony, and uteroplacental perfusion.^{3,12,14,32}

Practical counseling elements

In practice, antenatal counseling informed by these principles could include:

Educating pregnant women and families that “how” and “when” food is eaten meaningfully influences digestion and fetal outcomes, not just “what” is eaten.^{1,3,20} Encouraging small, frequent, warm meals in women with significant nausea, reflux, or delayed gastric emptying, while still maintaining overall nutritional adequacy.^{2,9,15}

Advising inclusion of natural sources of healthy fats (such as nuts, seeds, ghee or oils in moderation, and appropriate fish where culturally acceptable) to support fetal brain development, while avoiding rancid and repeatedly heated oils.^{4,5,29} Screening for signs of Mandāgni—persistent bloating, heaviness, coated tongue, loss of appetite—and adjusting diet toward lighter, easily digestible foods and appropriate medical care.^{9,18,24} Incorporating family support to ensure a peaceful mealtime environment, reduction of stress, and shared responsibility for food preparation consistent with traditional Garbhini Paricharyā (comprehensive antenatal care).^{1,3,17,19}

Conclusion

Improper adherence to Āhāra Vidhi Vidhāna during pregnancy disrupts Agni, promotes Āma accumulation, and triggers cascading gastrointestinal, metabolic, inflammatory, and oxidative imbalances that compromise placental perfusion, nutrient transfer, and

fetal organogenesis.^(1,18,21) Modern evidence aligns closely, documenting these disruptions as dyspepsia, maternal anemia, gestational diabetes mellitus (GDM), intrauterine growth restriction (IUGR), low birth weight, preterm birth risks, and epigenetic programming for offspring metabolic syndrome, cardiovascular disease, and neurodevelopmental vulnerabilities.^(4,7,10) By weaving classical Ayurvedic principles of food quality (uṣṇa, snigdha, freshly prepared), quantity (mātrāvat), timing (jīrne āśnīyāt), compatibility (aviruddha), and emotional context with evidence-based maternal physiology, antenatal care can shift from nutrient-centric to holistically behavior-informed preventive strategies.^(2,3,11,23,39)

Clinical and Public Health Implications

This integrative lens reveals untapped potential for reducing global maternal-fetal morbidity. Ayurveda’s Garbhini Paricharya, with its trimester-specific regimens—such as madhura (sweet), snigdha (unctuous), drava (liquid) foods in early months for fetal tissue formation, escalating to ghr̥ta-pūra (ghee-enriched) preparations later for vitality—complements modern guidelines on omega-3s, folate, and iron while addressing root digestive inefficiencies.^(1,16,21,29,33) Preliminary studies on Ayurvedic antenatal interventions report fewer labor complications, faster postpartum recovery, improved neonatal Apgar scores, and reduced nausea or edema incidence, suggesting scalable adjuncts to standard obstetric protocols.^(17,18,36) Public health programs could embed these via simple counseling: prioritize warm, small frequent meals to counter progesterone-induced hypomotility; banish incompatible pairings like milk-fruit mixes to curb dysbiosis; foster sattvic mealtimes free of screens or stress to optimize gut-brain-placenta signaling.^(3,11,24)

Research Directions and Validation Needs

Future trials must rigorously test these convergences, randomizing pregnant cohorts to Āhāra Vidhi Vidhāna-enhanced diets versus controls, tracking biomarkers like salivary amylase for Agni proxies, placental growth factor for perfusion, and fecal microbiota for Āma correlates.^(6,22,32,37) Longitudinal follow-ups could quantify intergenerational benefits, such as lowered offspring obesity odds from mindful maternal eating patterns that attenuate prenatal stress-inflammation



axes.(12,15,27) Standardization challenges persist—dosha-specific tailoring demands practitioner training—but pilot integrations in India’s AYUSH clinics already hint at feasibility, with calls for multi-centric RCTs to affirm efficacy in diverse populations.(20,39,40)

Practical Integration Roadmap

Healthcare providers can start using this approach right away by: planning antenatal visits that include a quick 5-minute review of the mother’s eating habits (checking food warmth, speed of eating, and state of mind); teaching families about month-wise pregnancy diets (for example, in month 1 using gentle sweetened milk to nourish basic tissues, and in month 8 using richer ghee-based foods to support fetal strength); and using mobile apps to remind mothers to eat at regular, comfortable intervals rather than too frequently or too late.(1,21,23) Policymakers can support this by promoting mixed models of care that combine global nutrition guidelines with Ayurvedic dietary rules, especially in areas where undernutrition, anemia, and rising GDM occur together.(3,5,35) Safe use of herbal supports such as mild tonics and digestive aids, given in appropriate doses for each woman, should always be monitored carefully to avoid side effects and to ensure they work well alongside modern medicines.(29,34)

Ultimately, following Āhāra Vidhi Vidhāna turns maternal nutrition from simple calorie counting into a respectful, mindful way of eating that protects both mother and baby. This combined approach aims not only to prevent disease but to help mothers feel stronger and babies grow healthier, instead of being affected by rushed, cold, or emotionally disturbed eating patterns. If these Ayurvedic principles are systematically included in modern pregnancy care, overall outcomes in pregnancy could improve worldwide, reducing the health and economic burden of poor birth outcomes while recognizing the deep link between a mother’s digestion, emotions, and her baby’s long-term health.(19,36,38)

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