WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.453
Volume 14, Issue 21, 1020-1028. Review Article ISSN 2277–7105

ROLE OF *MATRUJA BHAVAS* SUCH AS AGE, *AHARA*, *VIHARA*, AND *KARMA* IN DETERMINING *PRASAVA* (DELIVERY) OUTCOME

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Article Received on 07 Oct. 2025,
Article Revised on 27 October 2025,
Article Published on 01 Nov. 2025,

https://doi.org/10.5281/zenodo.17538893

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How to cite this Article: *Swati Malsariya, K. Bharathi, B. Pushpalatha, Rahul Dandiya. (2025) ROLE OF MATRUJA BHAVAS SUCH AS AGE, AHARA, VIHARA, AND KARMA IN DETERMINING PRASAVA (DELIVERY) OUTCOME "World Journal of Pharmaceutical Research, 14(20), 1020–1028.

ABSTRACT

Delivery outcomes are governed by a multifactorial interplay of maternal, fetal, environmental, and socio-economic determinants. Ayurveda also emphasizes similar factors through the concept of *Matruja Bhavas* and *Garbha Vriddhikara Bhavas*, wherein the mother's *Ahara* (diet), *Vihara* (lifestyle and activity), *Vaya* (age), and *Karma* (occupation) directly influence the health and development of the fetus. Maternal age, nutritional status, occupation, and physical activity collectively determine the progression of labor, mode of delivery, and neonatal well-being. Teenage pregnancies are associated with underdeveloped pelvis and low birth weight, while advanced maternal age (>35 years) predisposes to gestational disorders and operative deliveries. Adequate nutrition, as per *Pathya Ahara Vihara*, enhances *Stree Bala* (maternal strength) and uterine contractility, whereas *Apthya Ahara* or malnutrition leads to *Durprasava* (difficult labor). Moderate physical activity and *Garbhini Paricharya* practices, including prenatal yoga and regulated routine, maintain *Vata* balance and promote *Sukha Prasava* (easy delivery). Thus, integrating Ayurvedic principles

with modern antenatal care can optimize maternal and fetal outcomes, minimize complications, and ensure safe childbirth.

KEYWORDS: Maternal age, *Ahara, Vihara, Garbhini Paricharya, Sukhaprasava*, antenatal care, delivery outcome.

INTRODUCTION

Maternal and fetal outcomes are influenced by a complex interplay of biological, lifestyle, and psychosocial factors. Among these, maternal age, nutrition, occupation, physical activity, parity, socioeconomic status, and mental health play pivotal roles in determining pregnancy progression, mode of delivery, and neonatal health. Ayurvedic texts, such as *Charaka Samhita* and *Kashyapa Samhita*, emphasize the importance of optimal reproductive age (*Yuvavastha*), balanced nutrition (*Ahara*), moderate physical activity (*Madhyama Vyāyāma*), and mental equilibrium (*Manasika Bhava*) in ensuring favorable gestation and delivery. Modern obstetric research corroborates these principles, demonstrating that extremes of maternal age, inadequate or excessive nutrition, high physical workload, sedentary behavior, psychosocial stress, and lower socioeconomic status are associated with increased maternal and neonatal morbidity. Integrating traditional wisdom with evidence-based obstetric care provides a holistic framework for improving pregnancy outcomes.

Maternal Age

Maternal age acts as a significant determinant of pregnancy outcome, influencing both maternal and neonatal health. From the Ayurvedic perspective, the ideal reproductive period is described as *Yuvavastha*—approximately between 16 and 30 years in women—when the *Dhatus* (tissues) are fully developed, *Agni* (metabolic activity) is balanced, and the *Garbha-sthana* (uterus) is well-prepared for conception and childbirth.[1] Conception outside this physiological window is considered less favorable. Early conception during *Aparipakva Dhatu Avastha* (immature tissue stage) may lead to complications such as *Prasava-krucchra* (difficult labor), *Garbha-vikṛti* (fetal abnormalities), and *Daurbalya* (maternal debility), while advanced age or *Vraddha Garbhini* (elderly pregnancy) is associated with *Dourbalya*, *Garbha-vyapada* (pregnancy complications), and delayed or obstructed labor.[2]

Modern obstetric evidence parallels these classical concepts. Both extremes of reproductive age are strongly associated with adverse obstetric outcomes. Teenage pregnancies, often occurring before full pelvic and hormonal maturity, predispose to cephalopelvic

disproportion, preterm labor, anemia, and low birth weight infants.[3] On the other hand, pregnancies beyond 35 years—commonly referred to as advanced maternal age—are linked with increased risks of gestational diabetes mellitus, preeclampsia, placental abnormalities, and chromosomal disorders such as trisomy 21.[4] Physiological aging affects ovarian reserve, oocyte quality, and uterine receptivity, leading to suboptimal placentation and a higher incidence of dysfunctional labor. Consequently, the rate of operative interventions, including caesarean sections, is substantially higher in women at both ends of the reproductive spectrum.

These findings highlight the relevance of the Ayurvedic emphasis on *Yuvavastha* as the optimal period for conception and underline the need for age-specific antenatal counselling and surveillance to minimize adverse delivery outcomes.

Maternal Nutrition and Dietary Patterns (*Ahara*)

Nutrition (*Ahara*) holds a central position in Ayurvedic theory as a pillar of health. In *Garbhini Paricharya*, emphasis is placed on *Snigdha* (unctuous), *Poshaka*, and *Hita Ahara* to support fetal growth and ensure a favorable delivery.[5] In contrast, *Apthya Ahara* (unwholesome diet) may result in *Alpabala Stree* (maternal weakness), *Garbha Kshaya* (fetal depletion), and *Durprasava* (difficult labor). Excessive or unwholesome intake is cautioned to lead to *Sthoulya* (obesity) and *Garbhaśaya Avarodha*, concepts comparable to macrosomia and obstructed labor in modern obstetrics.

From the modern evidence base, maternal nutrition significantly influences uterine contractility, placental development, and fetal growth. Maternal undernutrition and micronutrient deficiencies are well-documented causes of intrauterine growth restriction (IUGR), low birth weight, prolonged labor, and increased maternal morbidity.[6] Recent studies from Ethiopia and elsewhere have also reported higher rates of hypertensive disorders, obstructed labor, operative delivery, and infection in undernourished pregnant women compared to those with adequate nutrition.[7]

Conversely, excessive caloric intake and obesity raise the risks of fetal macrosomia, gestational diabetes mellitus, hypertensive disorders, and higher rates of operative deliveries.[8] Meta-analyses of multiple-micronutrient (MMN) supplementation during pregnancy demonstrate reductions in low birthweight and small-for-gestational-age births, further supporting the role of balanced maternal nutrition in favorable birth outcomes.[9]

Maternal Occupation and Workload (*Karma*)

Ayurveda assigns significance to maternal *Karma* (occupation) and *Vihara* (physical activity). Excessive physical strain, irregular routines, or *Ati Vyayama* (overexertion) may vitiate *Vata* and lead to *Apraja* (miscarriage) or *Prasava Vyāpada* (labor complications). In contrast, *Madhyama Vyayama* (moderate exercise) and *Sukha Vihara* (a comfortable, balanced lifestyle) are believed to support *Sukhaprasava* (uneventful delivery).[10]

Modern evidence concurs, suggesting that moderate exercise, yoga, and relaxation during pregnancy are associated with improved pelvic flexibility, endurance, lower rates of operative delivery, and favorable fetal outcomes.[11] Employment conditions and physical workload also matter: physically strenuous labor, prolonged standing, or shift work have been linked to increased risk of preterm birth, low birth weight, and small for gestational age infants.[12] Sedentary behavior, while less strongly established, is under investigation for its possible adverse effects on maternal metabolic and fetal outcomes.[13] Occupational health measures—such as modified duties, ergonomic adjustments, and rest allowances—can help reduce these risks.

Physical Activity and Exercise during Pregnancy (*Vihara*)

Appropriate physical activity during pregnancy enhances muscular tone, cardiovascular endurance, and uterine efficiency. Regular moderate exercise—such as walking, swimming, or prenatal yoga—is associated with reduced risks of gestational diabetes, lower caesarean rates, and improved psychological well-being. For instance, a study found that regular exercise during pregnancy was associated with a reduction in the rate of caesarean deliveries and instrumental births.[14] Additionally, it is reported that moderate physical activity during pregnancy is linked to improved mental health outcomes, including reduced symptoms of depression and anxiety. Excessive or high-impact activities, however, may cause uterine irritability and fetal compromise. Therefore, it is essential to balance physical activity to avoid overexertion, which can lead to adverse outcomes.

Ayurveda correlates these benefits with the principle of *Madhyama Vyayama* (moderate exercise) and the yogic practices of *Pranayama* (breathing exercises) and *Asana* (postures) described in *Garbhini Paricharya* (prenatal care). These practices are believed to maintain *Vata* equilibrium, which is crucial during pregnancy to support the health of the mother and fetus. It emphasizes that maintaining *Vata* balance through appropriate physical activity and mental composure is essential for a smooth pregnancy and delivery.[15]

Integrating prenatal yoga into antenatal programs aligns with both traditional wisdom and evidence-based obstetric practice. Modern studies support the incorporation of such practices, highlighting their role in enhancing maternal and fetal health.

Other Contributing Factors

Socioeconomic Status (SES): Low socioeconomic status is associated with inadequate nutrition, limited access to healthcare, and increased exposure to environmental stressors, all of which contribute to higher maternal and neonatal morbidity. Studies have demonstrated that women from lower SES backgrounds experience worse pregnancy outcomes, including higher rates of preterm birth and low birth weight infants. For instance, a study found that individuals with lower educational attainment had significantly higher odds of gestational hypertension and other complications.[16]

Parity: Primigravidae (first-time mothers) often experience longer labor durations and higher intervention rates compared to multiparous women, who generally exhibit more efficient uterine contractility. This difference is attributed to the physiological adaptations that occur after previous pregnancies, which can facilitate smoother labor processes. Research indicates that multiparous women tend to have shorter durations of labor and lower rates of caesarean deliveries.[17]

Psychological Stress and Mental Health: Psychological stress and anxiety during pregnancy elevate catecholamine levels, leading to uterine dysfunction and fetal distress. Elevated maternal psychological distress is associated with changes in fetal brain structure and function, including reduced hippocampal and cerebellar volumes, increased cortical gyrification, and altered functional connectivity. These neurodevelopmental alterations can have long-term implications for the child's cognitive and emotional development.[18]

Ayurveda emphasizes the importance of *Manasika Bhava* (mental state) and the predominance of *Sattva Guna* (mental clarity and harmony) during pregnancy. Maintaining a calm and balanced mental state is believed to ensure harmonious *Vata* flow, which is crucial for favorable pregnancy outcomes. The Charaka Samhita underscores the significance of mental well-being in ensuring a healthy gestation and delivery.[19]

DISCUSSION

Maternal Age and Nutrition: Both Ayurvedic and modern perspectives highlight the critical influence of maternal age and nutritional status. Optimal reproductive age (16–30 years) is associated with well-developed tissues (*Dhatus*), balanced metabolism (*Agni*), and favorable uterine readiness, whereas teenage or advanced-age pregnancies predispose to complications including cephalopelvic disproportion, gestational diabetes, preeclampsia, and chromosomal anomalies. Nutritional adequacy, particularly intake of proteins, micronutrients, and energy, supports fetal growth and uterine efficiency. Undernutrition or unwholesome diet increases the risk of intrauterine growth restriction, anemia, prolonged labor, and maternal morbidity, while overnutrition elevates the risk of fetal macrosomia, gestational diabetes, and operative deliveries.

Occupation, Physical Activity, and Exercise: Ayurvedic texts advocate moderation in maternal work and exercise, emphasizing *Madhyama Vyayama* and *Sukha Vihara* to maintain *Vata* equilibrium and promote *Sukhaprasava*. Modern studies similarly show that moderate physical activity—walking, swimming, or prenatal yoga—improves maternal cardiovascular endurance, pelvic muscle tone, and psychological well-being, reducing rates of caesarean delivery, gestational diabetes, and prenatal depression or anxiety. Excessive or high-impact activity, however, can lead to uterine irritability and fetal compromise, underscoring the need for balanced exercise interventions during pregnancy.

Other Contributing Factors: Socioeconomic status, parity, and maternal mental health further modulate outcomes. Women from lower SES backgrounds often face limited access to healthcare and poor nutrition, increasing risks of preterm birth and low birth weight. Primigravidae experience longer labor and higher intervention rates, whereas multiparous women demonstrate more efficient labor due to uterine adaptation. Maternal stress elevates catecholamines, adversely affecting uterine contractility and fetal development; these effects are mirrored in Ayurvedic concepts emphasizing *Manasika Bhava* and predominance of *Sattva Guna* for optimal gestation.

CONCLUSION

Maternal age, nutritional status, occupation, and physical activity are interdependent, modifiable determinants of delivery outcomes. Integrating Ayurvedic precepts such as *Garbhini Paricharya* with modern antenatal care can enhance maternal resilience, reduce complications, and promote safe childbirth. Future research should explore structured

integrative protocols combining classical dietary and behavioral regimens with evidence-based obstetric practice.

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