



## A CRITICAL ANALYSIS OF *PHAKKA ROGA* IN AYURVEDIC PEDIATRICS: ETIOPATHOLOGY AND MULTIMODAL MANAGEMENT PROTOCOLS

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### ABSTRACT

**Introduction:** Developmental delay, particularly in gross motor skills, affects approximately 10% of children globally. In Ayurveda, this is conceptualized as *Phakka Roga*, a condition characterized by the inability of a child to walk independently by one year of age, accompanied by systemic physical wasting. **Material and Method:** This conceptual review was carried out based on classical Ayurvedic literature and modern paediatric references. The primary source for the study was *Kashyapa Samhita* (Chikitsa Sthana, *Phakka Roga Chikitsa Adhyaya*), which was critically analysed to understand the aetiology, clinical manifestations, and management of the three types of *Phakka*, namely *Ksheeraja*, *Garbhaja*, and *Vyadhija*. Relevant data regarding the etiological factors, symptomatology, and therapeutic principles were compiled, analysed, and correlated with contemporary paediatric concepts for better clinical understanding. **Result:** *Phakka Roga* manifests as severe muscle wasting (*Ksheena-mamsa*) and abdominal distension (*Mahodara*) due to *Mandagni* and *Srotorodha*, which impair tissue nourishment from *Rasa Dhatu*. Management is cause-specific: digestive stimulation (*Deepaneeya*) for *Ksheeraja*; anabolic therapy (*Vidari, Ghrita*) for *Garbhaja*; and primary disease management followed by rejuvenation with *Samvardhana Ghrita* for *Vyadhija*. The *Phakka-Ratha* (Specifically designed walker) provide early evidence of structured physical therapy. **Discussion:** The study reveals that *Phakka* is an umbrella term use for metabolic and nutritional disorder caused by various reasons. By integrating internal purification (*Shodhana*) with targeted nutrition and mechanical aids, Ayurveda offers a holistic framework for treating developmental delays. **Conclusion:** Early intervention using *Samvardhana Ghrita* and the *Phakka-Ratha* can effectively reverse motor delays and restore tissue integrity, highlighting the relevance of ancient paediatric protocols in modern nutritional rehabilitation.

**KEYWORDS:** *Kaumarbhritya*, *Phakka*, Nutritional Deficiency, Developmental delay.

## INTRODUCTION

Development is a measure of function or physiological maturation and myelination of the nervous system. Development is defined as an acquisition of qualitative and quantitative skills. Development of child is assessed in the following four areas- Gross motor development, fine motor development, social development and language development. If the child fails to attain the key milestones by the expected age, he/she is said to suffer from developmental delay. Around 10% of children are estimated to suffer from developmental delay. In *Phakka Roga* the child is not able to achieve the gross motor activities even after the age of 1 year and also there is a decline in child's health too. Gross motor milestones are

the significant stages in a child's physical development, specifically involving the large muscles of the body (arms, legs and torso). These skills allow us to sit, stand, walk and run. Gross motor skills development is governed by two principles that also control physical growth. Head to toe development refers to the way the upper parts of the body develop, beginning with the head, before the lower ones. The second principle of development is trunk to extremities. Head control is gained first, followed by the shoulders, upper arms and hands. Upper body control is developed next, followed by the hips, pelvis and legs. While every child develops at their own pace, paediatrician use a standard timeline to ensure development is on track.

## Developmental Timeline<sup>[1]</sup>

**Table 1.1 - Developmental Timeline - Gross Motor.**

Age	Milestone
Two months	Social smile
Four months	Head control
Eight months	Sitting
Ten months	Crawling
Twelve months	Standing alone
Fifteen months	Crawl upstairs
Eighteen months	Throw a Ball
Two years	Growing up and down stairs 2 feet at a time
Three years	Going upstairs on alternate feet, ride a tricycle
Four years	Going downstairs on alternate feet, Hoping
Five years	Skipping.

**Table 1.2 - Developmental Timeline - Fine Motor.**

Age	Milestone
Four months	Holding object with both hands
Ten months	Immature pincer grasp
Twelve months	Mature pincer grasp
Eighteen months	Exploring drawers, scribbling with pencil/ crayon tower of 4 cubes
Two years	Drawing vertical / horizontal line tower of 6 cubes
Three years	Drawing a circle, tower of 8 cubes/ bridge
Four years	Drawing a square/ cross, steps of 6 cubes
Five years	Drawing a triangle, steps of 10 cubes

*Acharya Kashyapa* says, in a normal child one year of age is the maximum time to attain milestone of walking enabling the child to walk few independent steps or using legs by at least standing with or without support. Child failing to attain the same, with delayed motor developmental milestones by one year due to various causes should be considered as patient of *Phakka*.

## Gross Motor Milestone

In this case, Gross means large and motor means movement. Gross motor skills involve the large muscles of the body, allowing for big movements like crawling, walking, running, jumping, and climbing. They also encompass higher-level coordination skills such as skipping, balancing, and throwing or catching a ball. Gross motor skills are the movements we make with large muscles, like those in your legs, arms and torso. Walking and waving your arm are examples of gross

movements. Movements are a part of everyday life. Our bodies change as our gross motor skills develop and vice versa. New or improved gross motor skills allow us to explore more of our environment. This then allows more and more opportunities for learning and doing. More specifically, gross motor skills are essential for mobility, independence and overall health. Having difficulties with gross motor skills can impact several areas of your life.

## DEVELOPMENTAL DELAY AND IT'S PATTERNS<sup>[2]</sup>

Delays in childhood development can occur in one area known as isolated developmental delay or across multiple domains known as global developmental delay. When a child shows significant delays in two or more developmental domains, this is classified as global developmental delay (GDD).

### Patterns of Abnormal Development

**Developmental disorders** – Development does not follow the typical sequence. For example, a child with autism may develop language skills but struggle to use them effectively for social communication.

**Developmental arrest and regression** - A child may initially progress normally but then stop acquiring new skills or even lose abilities they previously mastered. Regression is considered a serious warning sign and requires urgent referral to a specialist.

**Developmental disability** - Refers to severe, lifelong limitations in development that affect learning, independence and adaptive functioning. Not all children with developmental delay will meet criteria for a developmental disability.

### Phakka Roga in Ayurveda

बालः संवत्सरा पादाभ्यां यो न गच्छति  
स फक्क इति विज्ञेयस्तस्य वक्ष्यामि लक्षणम्॥  
(Ka.chi.17/3)

According to Ayurveda a child who is unable to walk on their own feet even after one year of age is known as a *Phakka*.<sup>[3]</sup>

क्षीरजं गर्भजं चैव तृतीयं व्याधिसंभवम्।  
फक्कत्वं त्रिविधं प्रोक्तं क्षीरजं तत्र वर्णितम् (Ka.chi.17/10)

According to *Aacharya Kashyapa Phakka Roga* mainly classify into three groups on the basis of their causes as follows.<sup>[4]</sup>

- *Kshiraja Phakka*
- *Garbhaja Phakka* and
- *Vyadhija Phakka*.

### *Kshiraja Phakka*

When a mother's milk vitiated by *Kapha Dosha* called *Phakka Dugdha*, it affects the child's nutrition. Normally, breast milk is the main source of nourishment for a baby, especially during the first two years. Breastfeeding is essential for the survival, growth, and healthy development of children. Exclusive breastfeeding for the first six months meaning the baby receives only breastmilk, with no other food or liquid, not even water ensures optimal nutrition and supports proper physical and cognitive development. In addition to nutrition, breastmilk contains vital antibodies that protect infants from common childhood illnesses and infections. It is a safe, natural, and sustainable source of nourishment that promotes both short- and long-term health for children,<sup>[5]</sup> if the mother eats a balanced diet with all *Shad Rasa*, the child grows well without needing extra supplements. However, if the mother mainly consumes excessively sweet-tasting foods and follows a lifestyle that increases *Kapha*, her breast milk becomes imbalanced. Breast milk vitiated by *Kapha Dosha* disturbs the child's *Rasavaha Srotasa* (nutrient channels), blocking proper nourishment, as a result the child does not receive

enough nutrition, which hampers healthy growth and may lead to developmental delays. This blockage leads to poor nourishment and ultimately results in *Kshiraja Phakka Roga*, a condition of nutritional deficiency in children.<sup>[6]</sup>

### *Garbhaja Phakka*

A mother's milk is essential for a child's growth. When a nursing mother (or wet nurse, known as the *Dhatri*) becomes pregnant again while still breastfeeding, due to pregnancy the oxytocin-prolactin reflex is decrease, this leads to a significant decrease in both the quantity and the nutritional quality of her breast milk, milk supply often stops. In addition, the mother's attention and care usually shift more toward the unborn baby. The child who was breastfeeding may then receive less love and care. As a result, the child does not receive enough nutrition, which can slow down healthy development. This lack of proper nourishment and emotional support can affect both the child's physical and mental growth, sometimes leading to developmental delays. In Ayurveda, this specific form of emaciation caused by a mother's subsequent pregnancy is classified as *Garbhaja Phakka*. As a result, the child does not receive enough nutrition, which can slow down healthy development. Ayurveda prescribes *Sutika Paricharya* to replenish the mother's depleted tissues and restore her vital essence, it is essential for a mother to be physically complete before her next pregnancy if a mother conceives again before her body has fully recovered its nutritional stores, she faces a *Dhatu Kshaya* (tissue deficiency). Since the developing foetus depends entirely on the mother's internal resources for nourishment, this maternal deficiency directly impacts the womb, ultimately leading to stunted growth and impaired development of the child.<sup>[7]</sup>

### *Vyadhija Phakka: Disease-Induced Emaciation*<sup>[8]</sup>

*Vyadhija Phakka* refers to a state of severe physical wasting in children caused by the lingering effects of various illnesses. It is characterized by the depletion of muscle mass (*Mamsa*) and overall vitality (*Bala*), leading to a failure to thrive.

The causes of this condition are categorized into two primary types of disorders:

- *Nija Roga* (Endogenous/Systemic Diseases): These are internal ailments caused by an imbalance of the *Dosha*. For example, chronic or recurring infectious diseases weaken the body's metabolic fire, preventing the child from regaining strength.
- *Agantuja Roga* (Exogenous/External Factors): These stem from external environments or injuries. This includes exposure to toxins (polluted air/water), food poisoning, chemical allergies, autoimmune responses and even the physiological stress following major surgeries, Birth injuries, Asphyxia, Jaundice etc.

- **Mobility and Behaviour**

Due to effect of this type of *Nija* and *Agantuja* factors the lower body is so weak, the child may be unable to walk, instead dragging themselves along using their hands and knees. They are lethargic, slow to respond, and often appear irritable or angry. Due to their extreme weakness, they become easy targets for flies and parasites.

- **Biological Signs**

The child suffers from frequent and involuntary urination and defecation. They may have constant discharge from the nose and eyes, and their body emits an unpleasant odour. Breathing becomes laboured and they often feel exhausted or faint.

- **Loss of Tissue and Vitality**

*Ksheena-mamsa-bala-dyutih* (Wasting of muscle, strength and lustre) - When the body doesn't get enough nutrients (due to chronic fever or poor digestion), it enters a catabolic state. It begins to eat itself by breaking down *Mamsa Dhatu* (muscle tissue). The loss of *Dyuti* (glow) indicates a deficiency in *Ojas*, the essence of immunity and vitality.

- **Disproportionate Body Shape**

*Samshushka-sphik-bahu-urur-mahodara-shiro-mukhah* (Shrivelled buttocks/limbs vs. large belly). The limbs shrivel because they lose fat and muscle. The *Mahodara* (big belly) occurs because of weak abdominal muscles or fluid retention.

- **Ocular and Skin Changes**

*Peetaksho* (Yellowish eyes) and *Hrishitanga* (Goosebumps/horripilation). Yellowish eyes in a malnourished child often suggest metabolic dysfunction or the involvement of *Pitta* and liver stress. Horripilation (*Hrishitanga*) suggests a disturbed *Vata Dosha*, causing the nervous system to be hypersensitive or cold.

- **The Living Skeleton**

*Drishyamana-asthipanjara* (Visible ribcage/skeleton) - This occurs due to the total loss of subcutaneous fat. In Ayurveda, this signifies that the *Meda Dhatu* has been completely depleted, leaving the *Asthi* (bones) unprotected and prominent.

- **Motor Disability**

*Nishcheta-adharakayo va panijanu-gamo-api va* (Motionless lower body or crawling on hands and knees) - This is the hallmark of *Phakka*. The legs become too weak to support weight. Lack of bone mineralization (similar to Rickets). *Vata* blockage in the lower extremities prevents motor function, forcing the child to crawl like an infant even if they are older.

- **Mental and Social Decline**

*Manda-cheshta* (Slow movements) and *Paribhutakah* (Easily overpowered/bullied). Malnutrition affects brain development. The child lacks the energy for play, making

them socially withdrawn. Because they are slow and weak, they are often pushed around by other children, leading to a state of psychological defeat.

- **Loss of Hygiene and Immune Barrier**

*Makshika-krimi-kitanam gamyas* (Attracts flies, worms, and insects) - A healthy body has a protective aura and the energy to maintain hygiene. A *Phakka* child, due to weakness, delayed development often covered in sweat, urine, or discharge, and lacks the strength to swat away flies, this makes them a host for secondary infections (*Krimi*).

- **CHIKITSA<sup>[9]</sup>**

Breastfeeding should be encouraged without early cessation. Exclusive breastfeeding is recommended for the first 6 months of life, followed by continued breastfeeding up to 2 years of age to support optimal child health. The child should first be given medicated *Ghrita* like *Kalyanaka Ghrita*, *Shatpala Ghrita* or *Amuta Ghrita*. After seven nights of internal oleation therapy, *Mridu Virechana* should be administered to the child using milk processed with *Trivrita*. In a wasted child, the channels (*Srotasa*) are blocked by toxins. The *Ghrita* lubricates the dry tissues, and the mild purgation clears the path for nutrients to actually reach the muscles and bones.

- **Dietary Therapy and Strengthening**

Use herbs like *Punarnava*, *Eranda*, *Draksha* and *Pilu*, these should be boiled with milk or made into a soup (*Yusha*) or *Mamsa Rasa*. This medicated liquid should be eaten with *Shali* rice. The goal here is *Bruhana*, *Punarnava* helps reduce the pot-belly swelling, while milk and meat broth provide the dense protein and fats needed to rebuild the shrivelled limbs mentioned earlier.

- **Raja Taila- Abhyanga**

A complex oil is prepared using *Eranda*, *Bilva*, *Yava*, *Kola*, *Kulattha*, *Anshumati* and *Dadhi*. This is called *Raja Taila*; it is one of the foremost *Brimhana Taila* preparations indicated in paediatric practice for *Abhyanga*. It is said that great kings like Bharata and Dilipa used such formulations to gain strength, longevity for their sons. In *Phakka*, the legs are paralyzed or weak, massaging with *Vata*-pacifying oil stimulates blood flow and nerve conduction in the lower limbs, helping the child regain the ability to stand. The mode of action of *Abhyanga* can also be understood by the properties of *Sneha* i.e., *Snigdha* and *Guru* acts as *Vatahara*, *Snehana*, *Balya* and *Pustikara*, *Sukshma Guna* helps the drug to reach up to minute channel.<sup>[10]</sup> *Sushruta* advocates, *Abhyanga* imparts a glossy softness to the skin, guards against the aggravation of *Vata* and *Kapha*, improves colour and strength and gives tone to the tissues of the body. The skin is considered the seat of *Vata* (*Sparshana Indriya*). Oil applied to skin enters the *Romakupa* and reaches *Rakta* and deeper *Dhatu* through the *Twakgata Srotas*. *Snigdha*, *Guru*, and *Ushna* qualities of medicated oil directly counter *Vata's Ruksha*, *Laghu*, and *Sheeta*

qualities. *Agni Deepana* - Improved circulation post-*Abhyanga* enhances *Dhatvagni* activity, promoting sequential *Dhatu* nourishment from *Rasa* to *Shukra/Ojas*.<sup>[11]</sup> *Abhyanga* oil application conserves internal body heat probably by reducing insensible water loss and reduce convective heat loss. Hence, less calories required to maintain the body temperature.<sup>[12]</sup>

Physical Therapy: The "*Phakka-Ratha*" (The Walker)

A wise physician should have a skilled craftsman build a Specifically designed walker (a *Phakka*-walker). The child should be encouraged to hold onto it and slowly practice walking (*Gatim-Abhyaset*). This is one of the earliest historical references to physical therapy. The text recognizes that medicine alone isn't enough; the child needs a mechanical aid to retrain their muscles and regain balance safely.

- Summary of Holistic Care

The Verse *Bastayah snehapanani swedash-chodvartanani cha...* Treatment must include *Basti*, *Snehapana*, *Sweda*, and *Udvartana*, especially if *Vata* is high. Since *Phakka* is a *Vata* dominant disorder (emaciation, dryness, inability to move), *Basti* is considered the most powerful tool because it treats the root of *Vata* in the colon, ensuring systemic absorption of medicine.

- DISCUSSION

The clinical profile of *Phakka Roga* provides a sophisticated ancient perspective on what modern medicine identifies as Marasmus or severe failure to thrive. The distinction between the three types of *Phakka* underscores an understanding of environmental and physiological variables in child health. In *Ksheeraja Phakka*, the focus on the mother's *Kapha*-vitiated milk highlights the biochemical impact of maternal diet on infant health. In contrast, *Garbhaja Phakka* identifies a nutritional competition between a nursing child and a new foetus a scenario still observed in developing regions today. *Vyadhija Phakka* illustrates the catabolic nature of chronic illness, where the body's metabolic fire (*Agni*) is extinguished, leading to the depletion of *Ojas* (vitality).

The management protocol is particularly noteworthy for its bottom-up approach. Before nourishment (*Bruhana*) is attempted, the text mandates *Mrudu Shodhana* (purification) to clear the *Srotasa*. This ensures that medicinal oil like *Samvardhana Ghrita* is actually absorbed rather than simply adding to metabolic waste. Furthermore, *Raja Taila Abhyanga* is a *Vata*-pacifying oil therapy that supports strength and neuromuscular function in children. Its *Snigdha*, *Guru*, and *Ushna* qualities improve circulation, nourish tissues, and aid recovery in limb weakness like *Phakka*. The oil penetrates through skin channels to enhance *Dhatu* formation and overall vitality, it also improves skin tone, strength, and conserves body heat. The introduction of the *Phakka-Ratha* demonstrates a remarkably advanced

understanding of neuro-muscular retraining, proving that ancient physicians recognized the need for physical stimuli alongside chemical medicine to achieve gross motor milestones.

- CONCLUSION

The study of *Phakka Roga* serves as a profound bridge between ancient Ayurvedic wisdom and modern paediatric developmental science. The *Kashyapa Samhita* provides a clear diagnostic timeline, asserting that walking must be achieved by age one or the child is a patient of *Phakka*, Ayurveda provides a sophisticated framework for understanding Gross Motor Delay through the lenses of nutrition, maternal health and chronic illness. The Metabolic First Approach, unlike simple supplementation, the Ayurvedic protocol emphasizes *Agni-Deepana* and *Sroto-Shodhana* before administering heavy growth-promoting tonics. By employing formulations like *Raja Taila Abhyanga* stimulates blood flow and nerve conduction in the lower limbs, helping the child regain the ability to stand and *Samvardhana Ghrita* for tissue growth. Ayurvedic paediatrics offers a comprehensive model for managing developmental delays. These ancient protocols provide a valuable template for integrative paediatrics care, focusing on restoring the living skeleton to a state of functional health and vigour. The historical reference to the *Phakka-Ratha* is a remarkable precursor to modern physical therapy. It highlights that motor recovery requires a synergy of internal medicinal support and external mechanical stimulus to retrain the neuromuscular system.

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