



Review Article

ANCIENT WISDOM, MODERN RESILIENCE: EXPLORING AYURVEDIC CONCEPTS OF VATA VYADHI IN THE MANAGEMENT OF PEDIATRIC CEREBRAL PALSY

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ABSTRACT

Cerebral Palsy (CP) is one of the most common causes of childhood disability. Children with CP may also experience sensory, cognitive, and speech difficulties. Modern medical management mainly focuses on symptomatic treatment through physiotherapy, medications, and other supportive therapies. However, complete functional recovery is often limited. In Ayurveda, the clinical features of CP can be correlated with *Vata Vyadhi*, a disorder caused by the imbalance of *Vata Dosha*. This study aims to evaluate the Ayurvedic concept of the causes and pathogenesis of cerebral palsy and to assess the effectiveness of Ayurvedic therapies in improving functional abilities in affected children. A review of available clinical studies and Ayurvedic literature was conducted. Most of the studies included internal administration of medication and external therapies like *Abhyanga* (therapeutic massage), *Shashtika Shali Pinda Sweda* (sudation therapy with medicated rice), *Nasya* (nasal medication), and *Basti* (medicated enema therapy) etc. Clinical evidences suggests that Ayurvedic therapies helped to reduce muscle spasticity and improve motor function. Therapies like *Matra Basti* and *Yapana Basti* had shown improvements in joint mobility, reduced muscles spasticity. Progress was also observed in developmental milestones such as neck holding, sitting, standing, and speech. Improvement in nutritional status and reduction in drooling were also reported. Thus, Ayurvedic management provides a safe and holistic approach for the rehabilitation of children with cerebral palsy and enhance the overall quality of life.

INTRODUCTION

Neurodevelopmental disorders are a group of conditions that originate during the developmental period, usually in early childhood, and are characterized by impairment in the development of the brain, leading to deficits in motor, cognitive, language, behavior, or social functioning. Cerebral palsy (CP) is a neurodevelopmental disorder characterized by abnormalities of muscle tone, movement and motor skills, and is attributed to injury to the developing brain [1].

It often accompanied by disturbances in sensation, perception, cognition, communication, and behaviour, as well as epilepsy and secondary musculoskeletal problems[2]. Global incidence of Cerebral palsy is 1.5 to 4/1000 live births[3]. In India cp prevalence is 2.08 to 3.88/1000 live births[4]. Almost 15-20% of total physical disabled children suffer from various type of cerebral palsy [5]. In India, 80% of CP is caused by an in-utero brain injury, 10% occurs around the time of birth, and 10% occurs in early childhood, still, perinatal risk factors are a major cause of CP[6]. Based on motor deficit and distribution of handicap CP is classification into five major types; Spastic CP, Ataxic CP, Extrapyraximal CP, Hypotonic CP, and Mixed CP [7]. Most important cause of chronic disability in children is CP [8]. Modern medicine has no cure for any types or subtypes of cerebral palsy. Much newer advancement is being tried for treatment of cerebral palsy and

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associated features such as botulinum toxin injection^[9], Baclofen injection^[10], hyperbaric oxygen therapy^[11], selective dorsal rhizotomy^[12], neuroplasticity^[13], and stem cell transplantation procedure. Therapeutic hypothermia benefits only selected newborns and is time-sensitive. Botulinum toxin and baclofen injections reduce spasticity temporarily but do not repair brain damage. Hyperbaric oxygen therapy lacks consistent scientific support. Selective dorsal rhizotomy is irreversible and suitable for limited patients. Neuroplasticity-based therapies demand prolonged, intensive rehabilitation with variable results.

The degree and type of motor impairment and functional capabilities vary depending on the etiology. Cerebral palsy may have several associated comorbidities, including epilepsy, musculoskeletal problems, intellectual disability, feeding difficulties, visual abnormalities, hearing abnormalities, and communication difficulties^[14]. The clinical manifestations gradually become more evident over time as the child grows and developmental milestones are delayed. Symptoms typically become evident during infancy, usually before the age of 2-3 years. The primary features of CP involve motor dysfunction, including abnormalities of muscle tone such as spasticity (increased tone), hypotonia (decreased tone), or involuntary movements. Affected children frequently demonstrate delayed developmental milestones, including late attainment of head control, rolling, sitting, crawling, and independent walking. Characteristic motor impairments may include scissored gait, toe walking, poor coordination, impaired balance, weak postural control, and difficulty with fine motor skills. Oro-motor dysfunction is common, leading to drooling, swallowing difficulties, and speech impediments. In addition to motor deficits, many children with CP present with associated comorbidities such as epilepsy, speech and language disorders, sensory impairments (visual and hearing deficits), and varying degrees of cognitive impairment. An exact correlation to cerebral palsy is not directly available in the Ayurvedic texts. Considering the Ayurvedic disease classification and their respective features, Cerebral palsy can be compared with *Vata vyadhi* or *Vata vikar* (diseases of the nervous system) which specifically afflict the *Shiro-marma* which shows in various clinical forms as *Phakka* (a kind of nutritional disorder), *Pangulya* (locomotor disorders), *Mukatva* (dumbness), *Jadatva* (mental disorders), *Ekanga roga* (monoplegia), *Sarvanga roga* (quadriplegia), *Pakshaghata* (hemiparesis) and *Pakshavadha* (hemiplegia) etc., *Vatavyadhi's* (neurological disorders)^[15].

Possible Risk and Etiology as Per Ayurveda *Garbhopaghatakara Bhavas* (Prenatal Factors)

Garbhopaghatakara bhavas refer to influences that adversely affect fetus development during pregnancy. Preterm birth and congenital abnormalities arise due to inappropriate maternal diet and lifestyle practices. Consumption of heavy (*Guru*), excessively spicy or pungent (*Katu*), very hot (*Ushna*), sharp or penetrating (*Tikshna*) foods, along with intoxicating substances (*Madakari dravya*), is considered harmful to the developing fetus^[16]. Similarly, certain activities during pregnancy-such as excessive walking (*Adhva gamana*), strenuous physical exertion (*Darun chesta*), traveling over uneven or rough terrain (*Yana*), and engaging in actions not advised for pregnant women-may negatively influence fetal growth and wellbeing.

Akala Pravahana Janya Vyadhi (Natal Causes)

Akala pravahana janya vyadhi refers to complications arising from premature or inappropriate bearing-down efforts during childbirth. If a pregnant woman strains or pushes in the absence of proper labor contractions, it may adversely affect the newborn. Such improper efforts are described as potential causes of developmental abnormalities (*Vikriti*), motor impairment such as paralysis or diplegia (*Pangu*), and speech impairment including muteness (*Mukata*)^[17].

Prasavakalina Vyadhi (Disorders Related to Improper Delivery)

Prasavakalina vyadhi refer to conditions that arise due to complications during childbirth. These include obstructed labor, instrumental delivery such as forceps application, and neonatal birth trauma. Injury to the brain (*Mastishkagata majja*) during delivery is described as a cause of *Vatavyadhi* (neurological disorders predominantly involving *Vata dosha*)^[18]. The clinical manifestations of such conditions resemble those observed in cerebral palsy. Trauma to the head may lead to various neurological impairments, including *Ardita* (hemiplegia with facial involvement), *Chakshu vibhrama* (visual disturbances), *Moha* (altered consciousness or confusion), *Cheshta nasha* (loss of voluntary movements), *Muka* (speech impairment or muteness), *Gadgada* (unclear or hoarse speech), *Lalasarava* (excessive drooling), and *Swara hani* (loss of voice).^[19]

Postnatal Causes (Factors After Birth)

Rakta kshaya, which refers to depletion of the blood tissue (*Rakta dhatu*), is described as one of the contributing factors for the development of *Vata vyadhi* (neurological disorders associated with *Vata* imbalance)^[20]. intraventricular hemorrhage is frequently observed in early preterm neonates. This condition can be interpreted as a disturbance or depletion of *Rakta dhatu*. Children affected by such

early brain insults are at increased risk of developing long-term neurological sequelae, including cerebral palsy.

Marmabhighata, or trauma to vital anatomical sites (*Marma*), is described as an important cause of *Vata vyadhi* [21]. The head (*Siras*) is considered a major *Marma*; therefore, injury to this region can lead to neurological manifestations. Such trauma may produce clinical features resembling those observed in cerebral palsy.

Ayurvedic Correlation of Cerebral Palsy Based on Clinical Features

Correlation Based on Motor Manifestations

Ayurveda Correlates	Classical Description	Corresponding CP Type
<i>Phakka Roga</i>	Child fails to achieve walking even after one year of age	Delayed motor milestones in CP
<i>Ekanga Vata</i>	Loss of motor function in a single limb due to aggravated <i>Vata</i>	Spastic monoplegia
<i>Ardhanga Vata</i>	Functional loss affecting one side of the body	Spastic hemiplegia
<i>Sarvanga Roga</i>	Involvement of the entire body with motor dysfunction	Spastic quadriplegia
<i>Pakshaghata</i>	Paralysis of one half of the body	Hemiplegic CP
<i>Pangu</i>	Difficulty in walking due to motor weakness	Diplegic CP
<i>Kubja</i>	Spinal deformity with hunching of the back	Postural deformities in CP
<i>Ardita</i>	Motor impairment of one side of face and body with deviation of facial structures	Facial palsy
<i>Akshepaka</i>	Generalized involuntary movements due to vitiated <i>Vata</i>	Athetoid / Ataxic CP

Correlation Based on Associated Non-Motor Features

Clinical Feature in CP	Ayurvedic Interpretation	Involved <i>Dosha</i> / <i>Srotas</i>
Intellectual disability	Disturbance of higher mental functions	Vitiated <i>Prana Vayu</i>
Sensory impairments (vision, hearing)	Dysfunction of sense organs	Vitiated <i>Prana Vayu</i>
Speech impairment	Impaired vocal expression	Vitiated <i>Udana Vayu</i>
Difficulty in swallowing and drooling	Impaired coordination of oral functions	Vitiated <i>Prana Vayu</i>
Enuresis	Poor neuromuscular control of elimination	Vitiated <i>Apaan Vayu</i>
Hyperactivity	Disturbance in mental channel	Vitiated <i>Vyana Vayu</i>

DISCUSSION

Phakka Roga is associated with delayed development, poor muscle tone, and nutritional deficiency in children. These features overlap with developmental delay and growth retardation observed in children with CP, due to impaired nourishment (*Dhatu Kshaya*) and *Vata* imbalance. *Akshepaka*, characterized by convulsions or involuntary movements, correlates with seizure disorders frequently associated with CP. This indicates the involvement of disturbed *Vata Dosha* affecting the neuromuscular system. Intellectual disability,

Graha rogas (Disorders Attributed to Unidentified or External Factors) are conditions traditionally attributed to unseen or external influences, which may be correlated with infectious or microbial causes. Among the nine types of *Graha*, *Skandagraha* [22], is described with clinical features comparable to hemiplegic cerebral palsy, including unilateral motor impairment and functional deficits.

commonly seen in CP, can be understood in Ayurveda as impairment of cognitive functions (*Dhi, Dhriti, Smriti*), again linked to *Vata* imbalance and possible involvement of *Manovaha Srotas*. Associated comorbidities such as sensory impairments (vision and hearing), speech difficulties, and swallowing problems with drooling are also significant findings in CP. These can be interpreted in Ayurveda as dysfunction of *Indriyas* (sense organs) and impaired coordination of motor functions governed by *Vata Dosha*. Enuresis (involuntary urination) can be linked to *Apana Vata*

dysfunction, while hyperactivity can be correlated with increased *Chala Guna* (mobility) of *Vata*. Motor impairment is the most prominent feature of CP, ranging from weakness in one limb to involvement of the entire body. Conditions like *Ekanga Vata* (affecting one limb), *Ardhanga Vata* and *Pakshaghata* (hemiplegia), and *Sarvanga Vata* (quadriplegia) show close resemblance to the distribution of motor deficits seen in CP. Similarly, *Pangu* (inability to walk) correlates with severe locomotor disability, while *Kubja* (spinal deformity) reflects postural abnormalities commonly observed in spastic CP. *Ardita*, which involves facial paralysis, can be compared to cranial nerve involvement seen in some CP cases. Overall, the findings of this study suggest that CP can be understood as a spectrum of *Vata Vyadhi* with multisystem involvement. Although no single *Ayurvedic* condition exactly matches CP, a combination of disorders provides a comprehensive understanding of its clinical presentation. According to *Ayurveda*, disease develops due to imbalance of the three *Doshas-Vata, Pitta, and Kapha*. The dominant disturbed *Dosha* determines the nature and presentation of the disorder. Cerebral palsy is primarily interpreted as a *Vata*-dominant condition because *Vata* governs movement, neuromuscular coordination, speech, and sensory activities. Any disturbance in *Vata*, particularly during fetal life or early childhood, may impair normal neurological development. Aggravated *Vata* leads to reduction of strength (*Bala*), deterioration of complexion (*Varna*), and impairment of sensory and motor functions (*Indriya shakti*). Various disorders described under *Vataja Nanatmaja Vikara* show close resemblance to the clinical features of CP. These include speech difficulty (*Vaksanga*), mutism

(*Mukatva*), hearing impairment (*Ashabdashravana*), facial palsy (*Ardita*), monoplegia (*Ekanga roga*), quadriplegia (*Sarvanga roga*), convulsions (*Akshepaka*), rigidity or spasticity (*Dandaka*), and abnormal gait (*Khanjata*). The therapeutic approach to aggravated *Vata* focuses on restoring balance through substances and procedures that possess *Madhura* (sweet), *Amla* (sour), and *Lavana* (salty) *Ras*, along with *Snigdha* (unctuous) and *Ushna* (warm) properties. Since *Vata* is characterized by dryness, coldness, and mobility, treatments are selected to counteract these qualities. The main modalities include *Snehana* (internal and external oleation), *Swedana* (sudation therapy), *Basti* therapy (medicated enemas), *Nasya* (nasal administration of medicines), regulated diet, *Abhyanga* (therapeutic oil massage), *Utsadana* (herbal powder massage), and *Parisheka* (therapeutic pouring of medicated liquids). All interventions are administered with careful consideration of dosage, timing, and the patient's constitution. Among these measures, *Asthapana Basti* (decoction enema) and *Anuvasana Basti* (oil enema) are regarded as the most effective therapies for *Vata* disorders.

Treatment modalities in Ayurveda

In case of cerebral palsy, treatment is customized through appropriate selection of *Snehan, Swedan, Basti*, diet, lifestyle modifications, and supportive rehabilitative measures. Seasonal regimens and dietary adaptations further enhance therapeutic outcomes. Selection of oral drugs and procedure dependent upon status of *Dhatu, Agni* and severity of clinical features.

Here is the list of procedures that are being utilised for the management of CP.

Procedure	Interpretation	Purpose in Cerebral Palsy
<i>Snehana</i> (internal & external)	Medicated ghee, <i>Tail</i> , intake, whole body oil application	Reduces spasticity, nourishes dhatus, improves flexibility
<i>Abhyanga</i>	Daily oil massage with <i>Vatahar</i> oils	Improves muscle tone, joint mobility, circulation
<i>Swedana</i>	Mild fomentation	Relieves stiffness and rigidity
<i>Yapana Basti</i>	Administration of medicated milk by anal root	improves neuromuscular function, body strength
<i>Anuvasana Basti</i>	Administration of medicated oils by anal root	Reduces spasticity, nourishes <i>Dhatus</i> , improves flexibility
<i>Nasya</i>	Nasal administration of medicated oils	Supports higher motor and speech functions
<i>Shiro Abhyanga</i>	Oil application over head	Calms nervous system, improves cognition and sleeps
<i>Utsadana</i>	Herbal powder massage	Enhances circulation and muscle response
<i>Lehana</i>	<i>Rasayan sevan</i>	Immunomodulator action

Mode of Action

Snehana (oleation therapy) is considered a principal therapeutic intervention for *Vata* disorders due to its *Snigdha* (unctuous), *Guru* (heavy), and *Mridu* (softening) properties, which counteract the *Ruksha* (dry) and *Chala* (irregular movement) qualities of *Vata*. Through external application of medicated oils, *Snehan* enhances tissue lubrication, improves muscle elasticity, and reduces stiffness and spasticity. The gentle, sustained tactile stimulation during massage may modulate neuromuscular excitability, thereby decrease hypertonia and promote relaxation. *Snehan* improved peripheral circulation and tissue nourishment (*Dhatu poshana*), supporting better range of motion and functional mobility. *Snehan* contributes significantly to symptomatic management, enhances quality of life, and prepares the body for subsequent therapies such as *Swedana* and *Basti* in comprehensive Ayurvedic management. *Til Tail, Mahanarayana Taila, Bala Taila, Ksheerbala Taila, Dhanwantaram Taila, Ashwagandha Taila, Sahacharadi Taila, Brahmi Ghrita, Go Ghrita, Ashwagandha Ghrita* are some formulations for internal and external *Snehana*.

Swedana

Aggravated *Vata dosha*, often associated with *Stambha* (rigidity) and *Sankocha* (contracture). *Swedana* (sudation therapy), plays a significant role in relief of muscles *Stambha* and *Sankocha*. owing to its *Ushna* (hot) and *Tikshna* (penetrating) properties, *Swedana* counteracts the *Sheeta* (cold) and *Ruksha* (dry) qualities of vitiated *Vata*, thereby reducing stiffness and improving tissue pliability. The therapeutic heat promotes muscle relaxation by decreasing neuromuscular hyperexcitability and reducing hypertonia. Thermal stimulation enhances peripheral circulation, improves oxygenation, and facilitates metabolic waste removal, which collectively contribute to reduced muscle fatigue and better joint mobility. *Swedana* also aids in softening tissues and clearing microchannels (*Srotoshodhana*). *Swedana* significantly improves flexibility, motor function, and overall quality of life in children with cerebral palsy. A combined *Snehan* and *Swedana* therapy had effectively reduced spasticity and drooling of saliva, showed improvement in muscle tone and strength, prevent contractures, and promote better social interaction [23]. *Nadi Sweda, Bashpa Sweda, Shashtika Shali, Pinda Sweda, Patra Pottali Sweda, Valuka Sweda* are some *Swedana* procedures in children.

Basti

Pakwashaya (Colon) is the primary seat of *Vata dosha*. *Basti* (therapeutic enema) is regarded as the most effective intervention for regulating *Vata* and may influence neurological function through gut-

mediated mechanisms. *Matrabasti*, a type of *Anuvasana Basti*, involves rectal administration of a small quantity of medicated oil or ghee and is regarded as one of the most important therapeutic procedures for child. *Charaka Samhita* describe *Basti* as *Ardha Chikitsa*, *Basti* is considered *Balya* (strength-promoting), *Brimhana* (nourishing), and *Vata-shamaka* (*Vata*-pacifying). As the large intestine (*Pakwashaya*) is the principal seat of *Vata*, rectal administration helps regulate systemic *Vata* functions. The rectal mucosa allows efficient absorption of lipid-based formulations through its rich vascular and lymphatic supply, enabling systemic action. These formulations may influence neuromuscular transmission and improve motor coordination. By nourishing deeper *Dhatu*s, *Basti* supports tissue development and functional capacity. In children with cerebral palsy, it may enhance both fine and gross motor functions, contributing to better postural control, mobility, and overall quality of life. Study shows that *Matra basti* addition with supportive oral medicine and procedure of *Panchakarma*, knee flexion improved by 15°, ankle joint movements demonstrated incremental gains, with plantar flexion, dorsiflexion, and inversion each increasing by 5°, and eversion showing a 10° enhancement^[24]. These findings suggest a clinically relevant improvement in lower limb joint mobility, and improve quality of life of children suffering from CP,

Yapana Basti, Tikta Ksheera Basti, Mustadi Yapana Basti, Erandamooladi Niruha Basti, Dashamoola Niruha Basti, Baladi Yapana Basti, Bruhat Saindhavadi Taila Basti, Sahacharadi Taila Basti, Ksheera Basti, Madhutailika Basti, Rajayapana Basti, Panchatikta Ksheera Basti, Brihat Panchamoola Niruha Basti are some important *Basti* mentioned in *Ayurveda* texts that can be utilised depending upon the condition of *Dosha* and *Dhatu*.

Nasya

The administration of medicated oils or herbal formulations through the nasal route is *Nasya* procedure in *Ayurveda*. Nose is the primary pathway to the cranial cavity, indicating its therapeutic relevance in neurological disorders. Cerebral palsy is mainly understood as a disorder of aggravated *Vata* affecting motor control and neuromuscular coordination. *Nasya* is believed to pacify vitiated *Vata* in the supraclavicular region and provide nourishment to the nervous system. Intranasal administration of drugs enables rapid absorption through the nasal mucosa due to its rich vascularity and proximity to the brain. Lipid-based preparations reach central neural structures via olfactory and trigeminal pathways, thereby influencing neurochemical activity and

cerebral circulation. This mechanism helps regulate muscle tone, reduce spasticity, and enhance neuromotor coordination. Through its neuroprotective and nourishing actions, *Nasya* contribute to improvements in speech, cognition, and motor functions in children with cerebral palsy. Some medicines which used in CP child for *Nasya* are *Ksheerabala Taila*, *Bala Taila*, *Anu Taila*, *Shadbindu Taila*, *Mahamasha Taila*, *Jyotishmati Taila*.

Clinical evidence

Several clinical trials based on Ayurvedic principles for the management of cerebral palsy or other movement and developmental disorders had shown encouraging results. Here are some clinical evidences and studies showing supportive oral medicines and procedures of *Panchakarma* that had improved the clinical condition and hence the quality of life in CP.

A Case Study on the Ayurvedic Management of Spastic Cerebral Palsy due to Birth Asphyxia by oral medication and *Panchakarma* procedure, over a 93-day period, three treatment sittings resulted in marked clinical improvement, developmental milestones showed progress in speech and verbal abilities (grade 2 to 1) and ambulation with support (grade 3 to 2), significant gains were observed in anthropometric parameters, including weight, length, head circumference, chest circumference, and mid-arm circumference, indicating overall growth, muscle spasticity decreased from grade 4 to 2 on the Modified Ashworth Scale, while muscle power improved from grade 1 to 2 on the MRC scale, Additionally, drooling frequency and severity were reduced, and quality of life improved as reflected by the MACS scale [25].

A single-case study conducted for a duration of six months, patient received both internal and external Ayurvedic therapies along with adjunctive speech therapy and physiotherapy aimed at reducing the clinical features of spastic cerebral palsy. At the end of the intervention period, significant improvement was observed in spasticity, motor function, muscle tone, speech, neck holding, sitting ability, and overall functional activity of the child. [26]

A study 30 children aged 1–12 years diagnosed with spastic CP, and randomly divided into two groups. Group A (trial group) received *Ashtang Ghrita* orally along with *Panchakarma* procedures including *Abhyanga* with *Prasarini Taila*, *Shashtishali Pinda Sweda*, and *Matra Basti* with *Devdarubaladi Taila*. Group B (control group) received conventional physiotherapy. The duration of intervention was three months. Assessment of spasticity was carried out using the Modified Ashworth Scale. The results demonstrated statistically significant improvement in

spasticity in all four limbs in the trial group. A comparatively greater improvement was observed in the right upper limb in the trial group compared to the control group. [27]

A clinical study carried out on eight children diagnosed with cerebral palsy. The intervention protocol included *Udwartana* using *Yava and Kulattha Churna*, followed by *Abhyanga* with *Bala Taila* and *Sarvanga Nadi Sweda* for five consecutive days. Subsequently, was administered for eight days. Oral administration of *Ashtanga Ghrita* was continued *Yoga Basti* for a duration of 58 days. Statistical analysis revealed significant improvement ($p < 0.05$) in developmental milestones, anthropometric parameters, and motor system functions. No adverse events or complications were observed during the study period. [28]

The study was designed with two intervention groups, Group A received oral administration of *Samvardhana Ghrita* along with *Abhyanga* using *Bala Taila* and SSPS for 14 days, with the treatment cycle repeated after a 7-day interval, Group B received only oral *Samvardhana Ghrita* for the same duration, Group A demonstrated highly significant improvement ($P < 0.001$) in fine motor skills, standing ability, head control, language function, and personal as well as social activities, A statistically significant improvement ($P < 0.05$) was also observed in sitting ability, Group B showed highly significant improvement ($P < 0.001$) in sitting, fine motor skills, head control, language function, and personal and social activities, no adverse effects were reported in either group during the study period [29].

An open-label, randomized, controlled clinical trial was conducted to evaluate the efficacy of the intervention [30]. The treatment group received *Abhyanga* with *Tila Taila*, SSPS, and *Mustadi Rajayapana Basti* along with oral *Baladi Yoga*, The control group was administered *Abhyanga* with *Bala Taila*, SSPS, and placebo tablets prepared from *Godhuma Churna*. The treated group demonstrated a 13.43% improvement in comprehension ability compared to 1% in the control group ($P < 0.001$), In terms of gross motor function, the treated group showed a statistically highly significant improvement ($P < 0.001$) with a 26.7% increase, whereas the control group exhibited a 5% improvement.

CONCLUSION

Ayurveda provides an alternative approach to understand and manage Cerebral Palsy (CP). The motor and non-motor symptoms of CP can be correlated with *Vata*-dominant disorders. According to Ayurveda, the causes of neurological problems may be related to factors affecting the fetus during pregnancy

(*Garbhopaghatakarā Bhavas*) and complications occurring during delivery (*Akala Pravahana*). By identifying these causes, Ayurvedic management focuses on correcting the underlying imbalance. Clinical evidences support a holistic Ayurvedic treatment approach for better treatment outcome in children suffering from CP. This approach includes internal medications along with *Panchakarma* procedures like *Abhyanga*, *Shashtika Shali Pinda Sweda*, *Matra Basti*, *Nasya*, *Snehan*, *Swedam*, *Shiroabhyanga*, etc. These therapies showed noticeable improvements in several areas. In terms of motor function, it shows reduction in muscle spasticity, along with better muscle strength and joint movement. Improvement was also observed in developmental milestones, including neck holding, sitting, and walking ability. Children also showed progress in associated conditions such as speech clarity, understanding ability, and reduced drooling. Additionally, physical growth parameters like body weight and mid-arm circumference showed improvement during the treatment period. Among the therapies, *Basti* treatment plays an important role, as it is considered an important therapy for managing *Vata* disorders. It may also influence the gut-brain connection and help improve neuromuscular coordination. Overall, Ayurvedic treatment offers a safe, holistic, and cost-effective method for the management of Cerebral Palsy. When used along with conventional rehabilitation methods such as physiotherapy, these therapies will surely help to improve the functional abilities and quality of life in affected children.

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