

Comprehensive Ayurvedic Management of Autism Spectrum Disorder (*Bāla Unmāda - Kapha–Vāta type*): A Case Series

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ABSTRACT

Background: *Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by impairments in social communication, sensory processing, and repetitive behaviours. In Ayurvedic terms, ASD can be conceptualized as Bāla Unmāda with predominant– Kapha–Vāta doṣa involvement, arising from genetic predisposition, dietary imbalances and impaired digestive function (agni māndya).*

Objective: *This case series aimed to evaluate the clinical outcomes of a comprehensive Ayurvedic treatment protocol targeting the underlying doṣa imbalances, systemic channel obstructions, and metabolic disturbances associated with ASD.*

Methods: *Eight children with ASD underwent an integrative Ayurvedic intervention comprising of internal therapies (Hinguvacādhī Cūrṇam, Kalyānaka Kaṣāya, Pañcagavya Ghṛtam) and external therapies (Kaḍikizhi, Takradhārā, Pradeham, Patrapoṭṭali Sveda, Sannikizhi and Śirodhārā), designed to correct Kapha–Vāta imbalance, enhance digestive and metabolic function, and promote cognitive and sensory rehabilitation. Outcomes were assessed using Childhood Autism Rating Scale (CARS -psychologist-administered) and Autism Treatment Evaluation Checklist (ATEC - parent-reported) scores.*

Results: *Post-intervention, CARS scores showed a modest reduction from 32–51 to 30.5–50, reflecting stabilization of core autistic behaviors. ATEC scores decreased more prominently from 66–90 to 59–86, indicating improvements in communication, social interaction, sensory processing, and cognitive functioning. Clinically, children showed enhanced eye contact, name-call response, social reciprocity, sensory regulation, and expressive language.*

Conclusion: *The findings suggest that a holistic Ayurvedic protocol addressing digestive, metabolic, and neurophysiological imbalances can provide meaningful clinical benefits in children with ASD. Integrative Ayurvedic management may serve as a valuable complementary approach for ASD, calling for further validation through larger, controlled studies*

Keywords: *Autism Spectrum Disorder (ASD), Neurodevelopmental Disorders, Ayurveda, BālaUnmāda, Pañcagavya Ghṛta, Childhood Autism Rating Scale (CARS), Autism Treatment Evaluation Checklist (ATEC)*

INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental disorder with onset in early childhood. The core deficits are identified in 2 domains - Social communication, interaction and restricted repetitive patterns of behaviour, interests, or activities.² Latest epidemiological studies have estimated 52 million cases of Autism Spectrum Disorders globally, equating to a prevalence of 7.6 per 1000 or one in 132 persons.¹ Childhood Autism has become the key arena of medical research for the last three decades, not only due to its alarmingly increasing prevalence but also due to the lack of any effective medical management for the disease. Only behaviour therapy has proven its efficacy in managing the socio behavioural attributes associated with Autism. Ayurvedic clinical practice and

research are producing promising results in managing the neuro behavior domains of ASD. Meticulous analysis and comparison of the classical and modern literature about the etiopathology and symptomatology came up to a conclusion that ASD can be included under the broad spectrum of *Unmada*³ *Acharya Charaka* defines *Unmada* as instability of mind (*manas*), intellect (*buddhi*), deranged perception of all sensory stimulus with impairment in orientation of time, situation and place (*Sanjna jnana*), inclination (*bhakti*), mannerism (*Sheela*), activities (*Chesta*) and conduct (*achara*).⁴ Clinical symptomatology and management of *Unmada* is explained purely based on *doshas* (functional entity). Cases of Autism satisfying the DSM V criteria having a CARS score above 30, devoid of hyperactivity, excessive irritability and tantrums were included in the case series. This selection criteria was designed to include *Kapha–Vāta* type of *Unmada* and to exclude *Vāta pitta* types, to frame an effective management protocol based on *doṣa*.

CASE PRESENTATION

CASE 1

A 4½-year-old male child presented with poor eye contact, reduced response to name call, lack of peer group interaction, and delayed speech development affecting both receptive and expressive domains.

CASE 2

A 7½-year-old female child presented with poor social interaction, stereotypical hand movements, verbal stereotypies, sensory issues with prominent olfactory hypersensitivity, and significant impairments in communication.

CASE 3

A 5½-year-old male child presented with poor peer group interaction, stereotypic hand movements, and inadequate development of speech and language skills.

CASE 4

A 6-year-old female child presented with poor response to name call, reduced eye contact, inattention, a tendency to remain in her own world, and absent emotional reciprocity. The child also showed speech delay affecting both receptive and expressive language domains.

CASE 5

A 6-year-old female child presented with repetitive hand movements, reduced sitting tolerance, poor eye contact, limited peer group interaction, and diminished emotional reciprocity. The child also showed severe sensory issues, particularly tactile hypersensitivity, along with frequent self-smiling behaviour.

CASE 6

A 4-year-old male child presented with poor eye contact, absent response to name call, lack of social smile, and limited communication, which was occasionally expressed through gestures or pointing. The child showed poor peer group interaction and engaged in repetitive play, particularly with rotating objects.

CASE 7

A 5½-year-old male child presented with reduced attention, poor eye contact, diminished response to name call and verbal commands, and lack of emotional reciprocity. The child showed impaired speech affecting both receptive and expressive domains, poor peer group interaction, a preference for solitary play, and frequent self-talking behaviour.

CASE 8

A 6-year-old female child presented with poor response to name call, reduced eye contact, and a tendency to appear absorbed in her own world. She showed sensory issues, particularly tactile hypersensitivity, along with impaired communication skills.

CLINICAL FINDINGS

Across the eight cases, the children—aged between 4 and 7½ years—consistently showed core clinical features suggestive of Autism Spectrum Disorder (ASD). Social communication deficits were prominent, with poor eye contact, reduced or absent response to name call, lack of social smile, diminished peer interactions, and a tendency for solitary play. Language and communication impairments were evident, including delays in both receptive and expressive domains, reliance on gestures or pointing, frequent self-talking, and the presence of verbal stereotypies. Behavioural patterns were characterized by stereotypic hand movements, self-smiling, and restricted, repetitive

play such as fixation on rotating objects. Emotional reciprocity was often diminished or absent. In addition, significant sensory processing abnormalities were observed, particularly tactile and olfactory hypersensitivity, which contributed to reduced sitting tolerance, inattention, and behavioural challenges.

DIAGNOSTIC ASSESSMENTS

Screening of ASD through diagnostic assessment with CARS (Childhood Autism Rating Scale) indicating 3 cases under moderate autism (score 30-36.5) & 5 cases under severe autism (score above 37).

THERAPEUTIC INTERVENTION

The treatment protocol, based on an Ayurvedic framework, was designed to address a *Sannipathika dosha dushti* (imbalance of all three doshas) with a predominance of *Kapha* and *Vata* after considering the *dushya* (morbid factor/tissue), *agni bala* (digestive/ metabolic capacity), *deha bala* (innate strength) and *vayas* (age) of the patient. The primary goal was to manage the presenting features, which were considered manifestations of *BalaUnmada* (psycho-emotional imbalance in children), focusing on the principles of *Deepana-pachana* (digestive and metabolic correction), *srotoshodhana* (clearing channels & systemic detoxification), and *kaphavata samana* (pacifying *Kapha* and *Vata*). The protocol also incorporated *Laghu Brimhana* (easy to assimilate and nourishing) and *Rasayana* (rejuvenation) therapies.

Table 1: Therapeutic management internal medicine

Sl. No.	Internal medicines	Dose	Remark
1	<i>Hinguvachadi churnam</i>	2.5g twice daily before food	<i>Agni deepati</i> improved
2	<i>Panchagavya ghritam</i>	10ml twice daily before food	Improved eye contact & name call response
3	<i>Kalyanaka Kashayam</i>	30ml twice daily before food	Improved socialization, name call response, peer group interaction

Table 1: Therapeutic management external procedure-based therapies

Sl. No.	Treatment procedure	Duration	Remark
1	<i>Kadikkizhi</i> with <i>Kolakulathadi Churnam</i> & <i>Dhanyamla</i>	7 days	<i>Agni deepati</i> improved
2	<i>Takradhara</i> with <i>Panchatikta Kashaya</i> . <i>Thalam ksheerabala 21 avarthi</i>	7 days	<i>Srotho sodhana</i> (cleansing the channels)
3	<i>Pradeham</i> with <i>Kolakulathadi churnam</i> & <i>Bala Ksheera</i> & <i>Mahanarayana tailam</i>	7 days	Tactile sensory issues reduced
4	<i>Patra pottali sweda</i> with <i>Satahwadi tailam</i> along with <i>Pratimarsha Nasya</i> 2 drops each nostril with <i>Panchagavya Grita</i>	7 days	Eye contact improved, name call response improved
5	<i>Sannikizhi</i> with <i>Upanaha churnam</i> & <i>Musta takram</i>	7 days	Socialization improved
6	<i>Sirodhara</i> with <i>Mahanarayana tailam</i>	7 days	Expressive language improved, peer group interaction improved, attention span improved

FOLLOW UP AND OUTCOMES

The results of the assessment indicate a general trend of improvement or change across the different cases for both CARS and ATEC scores. In CARS, the before-test (BT) scores ranged from 32 to 51, while the after-test (AT) scores slightly decreased in most cases, ranging from 30.5 to 50, suggesting a modest reduction. For ATEC, the BT scores were higher, ranging from 66 to 90, and the AT scores showed a decrease in all cases, ranging from 59 to

86, indicating an overall improvement in the measured parameters. Across the eight cases, the reduction in scores for both CARS and ATEC highlights a positive trend, with most cases showing a noticeable improvement after the intervention. Table 3, Figure 1 & 2

Table 3: CARS and ATEC score Before treatment (BT) and After treatment (AT)

	CARS		ATEC	
	BT	AT	BT	AT
CASE 1	32.5	30.5	66	59
CASE 2	42.5	40	85	80
CASE 3	34.5	31.5	68	62
CASE 4	51	50	90	86
CASE 5	43.5	41	86	83
CASE 6	39	37.5	84	79
CASE 7	32	30.5	82	77
CASE 8	40	36	89	84

Figure 1: ATEC SCORE BT and AT.

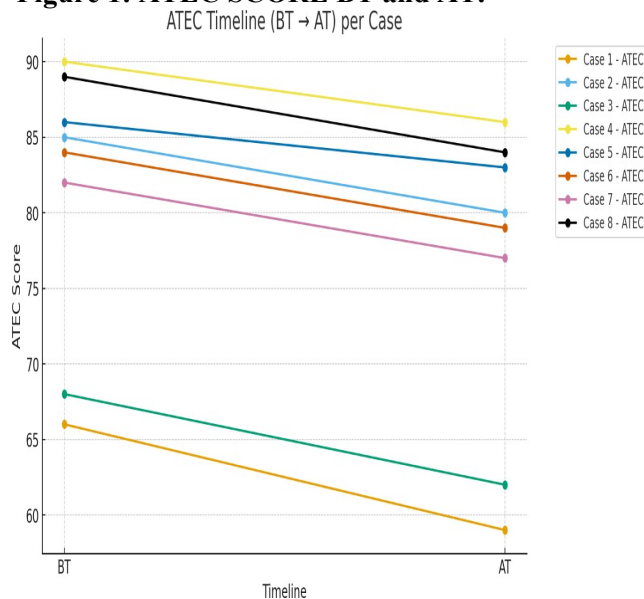
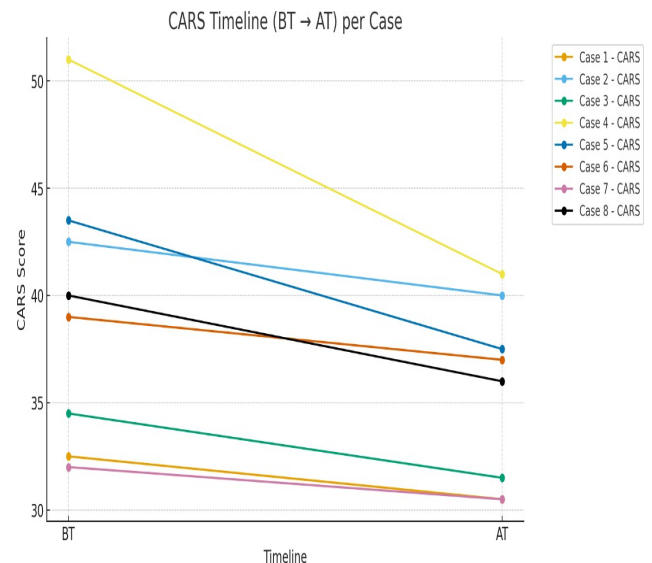
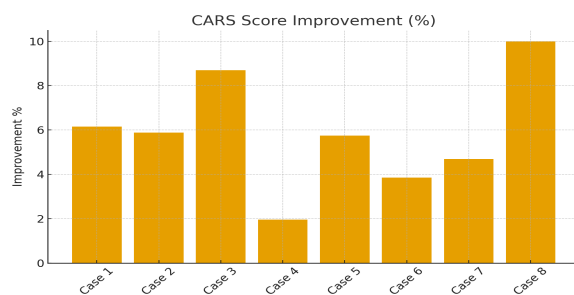


Figure 2: CARS SCORE AT and BT

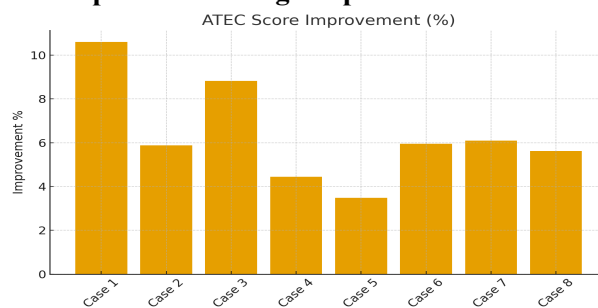


On average, CARS-Scores improved by ~5.87% and ATEC scores by ~6.36% across all eight children, indicating a consistent positive response to the Treatment protocol. Graph 1 & 2

Graph 1: Percentage improvement in CARS.



Graph 2: Percentage improvement in ATEC



DISCUSSION

In Ayurvedic framework, these conditions were identified as a *Sannipathika dosha dushti* (a complex imbalance of three doshas) with *kapha* and *vata dosha* predominance. Etiology was identified as *beejabhaga avayava dushti* (genetic predisposition), *kapha prakopa ahara* (overeating, frequent munching and consumption of heavy to digest foods which vitiates *kapha*). This vitiates *kapha dosha* which gets localized in *Mano vaha srotas* (body channels connected with cognition, emotional regulation and judgement), and *indriya* (sensory perception and reciprocation). The pathological state of *Kapha āvṛta Vāta* is considered as the underlying *samprapti* (pathology). Among its cardinal features, *gaurava* (heaviness / inertia/ lack of initiation) is a prime feature. This *gaurava* can be understood in the clinical context as delayed initiation of speech and language (even nonverbal communication), reduced ability to initiate social interaction, poor eye contact, reluctant to give a social smile, failure to respond to or use conventional gestures, difficulty in perceiving the sensory inputs (sensory processing disorder, impairment in receptive language and so on. The pathological process begins with *Kapha* obstructing the normal pathways (*mārga āvaraṇa*) of *Vata*, thereby causing *Vāta* vitiation. The obstruction affects the *Prāṇa Vāyu* and *Udana Vāyu*, which are primarily responsible for uncoordinated higher mental faculties and communication. Limited social referencing reduced joint attention, inconsistent response to name, limited nonverbal communication, limited pretend play, lack of interest in people & interactive games can be well explained in terms of this *Kapha āvṛta Vāta*. The *chala guna* (purposeless movement) of *Vāta* is responsible for the restricted repetitive stereotyped movements, unusual vocalizations, abnormal gaze patterns, abnormal body postures, motor planning and coordination. The vitiated *Vāta* further disturbs the functional harmony of *Pañca Vāyu* (all neurological transactions) leading to *anyonya āvaraṇa* of *Vāta* (dysregulated neuronal connections in central, peripheral and autonomic nervous system) When *Prāṇa Vāyu* occludes *Vyāna Vāyu*, there occurs *sarva indriyāṇām śūnyatvam*, manifesting as impaired sensory perception, poor responsiveness, and impaired awareness of the external environment leading to social isolation/ out of the world / aloofness, which is the cardinal feature of ASD. Moreover, *Samāna Vāyu* occluded by *Prāṇa Vāyu* manifests as *jaḍatā*, *gadgada* and *mūkatva*—clinically correlating with difficulties in cognition, motor coordination, apraxia, inability to decode / understand the meaning of our verbal language leading to meaningless repetition of words (echolalia), verbal and nonverbal communication difficulties, jargon speech, monotonous speech, cluttering or even mutism. These alterations explain the impairment in the speech-language domain observed in autistic children.

Concurrently, *Kapha āvaraṇa* extends towards *Pitta*, especially *Sādhaka Pitta*, leading to improper control over *buddhi*, *medhā*, and *abhimāna* (planning, decision making, problem solving, reasoning, sensory comprehension, emotional processing, social interaction and personality development). As *Sādhaka Pitta* resides in the *hṛdaya*, its impairment results in *rasa dhātu duṣṭi* and affliction of *manovaha srotas*. This culminates in *Unmāda* manifested as *smṛti*, *bhakti*, *seela*, and *cheṣṭā vibhrama*—which parallel the features of Autism like social withdrawal, emotional dysregulation and behavioral abnormalities.

Thus, the *samprapthi* of Autism from an Ayurvedic perspective involves a cascade beginning with *Kapha āvṛta Vāta*, progressing through derangements of *Pañca Vāyu* and *Sādhaka Pitta*, finally leading to *rasa dhātu* and *manovaha srotas duṣṭi*, and culminating in features resembling *Unmāda* characterized by impairment in the functions of *manas*, *indriya* and *budhi*. Due to obstruction of *Vāta* in *Chakshu indriya* reduced eye contact, difficulty in visual tracking, depth perception, lateral gazing and visual stimming gets manifested. Owing to *āvaraṇa* of *manas* and *buddhi*, and sensory perception errors like unresponsiveness or hypersensitivity happens due to the *asamyak gati* (improper channelization) of *vata* under *kapha āvaraṇa*. So, sensory processing disorder is the main debilitating manifestation in ASD.

It has been identified that the primary root cause of these *doṣa duṣṭi* and the improper channelization within *rasa dhātu* and *mastulunga majjā* is *agni māndya* — impaired digestive and metabolic function. An altered gut microbiome, coupled with underlying gut inflammation, leads to significant digestive disturbances. This results in disharmony in the functional attributes of the *doṣas* and inadequate nourishment of the *dhātus*, thereby perpetuating the pathogenesis.

The treatment protocol was designed to comprehensively address the identified pathogenesis by incorporating *Dīpana-Pācana* (enhancement and regulation of digestive and metabolic activity), *Srotoshodhana* (systemic channel purification and detoxification), and *Kapha Āvṛta Cikitsā*, which primarily involved *Tikṣṇa* and *Uṣṇa Kriyā*,

Kaphavāta Śamana, *Laghu Bṛmhaṇa* (light yet nourishing interventions), and *Rasāyana* (rejuvenative therapy). Internal administration of *Hinguvacādhī Cūrṇam* was aimed at *Agni Saṃskara* (correction of digestive and metabolic fire), creating a favorable milieu for the proliferation of healthy gut microbiota while inhibiting colonization of pathogenic strains. This intervention consequently helped to attenuate gut inflammation and reduce intestinal permeability.

Kalyāṇaka Kaṣāya was employed as a mild *Anulomana* (purgative), supporting systemic detoxification, improving gut flora, and thereby enhancing the gut–brain axis. This was clinically seen to contribute to improvements in *Vāk* (speech), *Medhā* (cognition/intellect), *Smṛti* (memory), and *Agni* (digestive efficiency)⁸.

Pañcagavya Ghṛtam is a well-documented formulation indicated in psychosocial and neuropsychiatric disorders, particularly in the management of *Kapha-Āvṛta Vāta*. Its potent *Srotoshodhana* (channel-cleansing) action helps restore unobstructed *Vāta gati* (functional movement of *Vāta*). In addition, it functions as a *Rasāyana* (rejuvenative), *Vātaghna* (*Vāta*-pacifying), *Medhya* (nootropic/cognitive enhancer), and *Smṛtikara* (memory-promoting) formulation⁶⁻⁷. Due to the unique properties of *Ghṛta* (ghee), when administered in *Samana Mātra* (therapeutic doses), it effectively achieves *Kapha-Vāta Śamana* without provoking *Pitta Doṣa*, making it especially suitable for long-term administration in such conditions.

The external therapeutic interventions were meticulously designed to complement internal medications and holistically restore *doṣa* equilibrium. Treatment began with *Kaḍikizhi* — a *potali* prepared with *Kolakulathādi Cūrṇa*,⁹ dipped in fermented rice wash. Owing to its inherent *Rūkṣa* and *Uṣṇa Guṇa*, *Kaḍikizhi* was aimed at achieving *Srotoshodhana* (channel purification), rectifying *Kapha Āvaraṇa*, and stimulating *Agni*. Clinically, this intervention was observed to enhance digestive and metabolic activity, effectively preparing the child for the forthcoming *Sneha–Sweda* procedures through its *Rūkṣa–Uṣṇa* action.

Subsequently, *Takradhārā*¹⁰ — a classical *Keraleeya Ayurveda Cikitsā*, involving the continuous pouring of medicated buttermilk over the head and body — was employed to promote *Srotoshodhana* and mitigate *Kleda* (pathological fluid accumulation). Concurrent internal administration of *Pañcatikṭhaka Kaṣāya* was selected for its *Srotoshodhana* and *Kleda-Śamana* properties¹¹, while *Kṣīrabala 21 Avarthi Thālam* was advised to balance *Pitta Doṣa*. During this phase, marked improvements were seen in social receptivity, responsiveness, and emotional reciprocity.

The next phase involved *Pradeham* with *Kolakulathādi Cūrṇa* and *Bala Kṣīram*, preceded by *Abhyanga* using *Mahānārāyaṇa Taila*¹², considering the prevailing *Vāta–Kapha Vṛddhi*. The synergistic combination of *Kolakulathādi* (*Vāta–Kapha-hara*) and *Bala Kṣīra* (*Vāta*-pacifying with *Bṛmhaṇa* properties) was aimed at restoring *doṣa* balance while offering gentle nourishment. Clinically, this intervention was highly effective in reducing tactile processing dysfunction and facilitated significant improvement in sensory processing.

Following this, *Patrapoṭṭali Sveda*¹²⁻¹³ (sudation with medicated leaf bolus) was administered using *Satahvādi Taila*¹⁴, which owns strong *Vāta* and *Kapha-śamana* effects. During this course, *Pratimarśa Nasya*¹⁵ with *Pañcagavya Ghṛta* was performed, as per classical indications for addressing *Vāyu* localized in the *Śiras* (head). This combined *Sneha–Sweda* protocol, along with *Nasya*, was clinically found to be highly effective in reducing aloofness and promoting social engagement.

Subsequently, *Sannikizhi*¹⁶ — a specialized *Piṇḍa Sveda* where medicated boluses are dipped in a suitable medium and repeatedly applied over the scalp — was performed using *Upanāha Cūrṇam*¹⁷ (*Kapha-śamana*, *Uṣṇa Guṇa*) and *Musta Takra*, further reinforcing *Kapha Śamana*. Notable clinical outcomes during this phase included improved eye contact, social smiling, name-call response, and a marked reduction in stereotypic behaviors, particularly vocal stimming.

As per the classical treatment protocol for *Vāyu* located in *Śiras*, *Śirovasti* and *Śirodhārā* were subsequently recommended. *Śirodhārā*¹⁸ with *Mahānārāyaṇa Taila* was performed to pacify aggravated *Vāta*, induce relaxation, and support *Manasika* (psychological) well-being. During this stage, significant improvements were observed in cognitive and perceptive skills, with marked progress in receptive language abilities and social communication.

The results of the assessment show a positive trend in the outcomes for both CARS and ATEC scores following the intervention. The CARS scores, which assess the severity of autism-related behaviors, showed a modest reduction across most cases. The before-test (BT) scores ranged from 32 to 51, while after-test (AT) scores decreased slightly to a range of 30.5 to 50. Although the reduction in CARS scores is not dramatic, even a small decrease can reflect

meaningful changes in behavioral patterns, suggesting that the intervention had a stabilizing or mildly beneficial effect on core autistic symptoms as assessed by a psychologist.

In contrast, the ATEC scores, performed in a parental platform, which provide a broader assessment of autism-related functional abilities, showed a more pronounced improvement. The BT scores ranged from 66 to 90, while the AT scores decreased to 59–86 across all cases. This consistent reduction across all cases points to an overall enhancement in communication, socialization, sensory, and cognitive functioning as measured by ATEC. The larger reductions in ATEC scores compared to CARS may indicate that the intervention had a more noticeable impact on functional abilities than on core behavioral symptoms.

The trend seen across both scoring systems reinforces the potential efficacy of the intervention. While individual responses varied, most cases showed a reduction in scores, highlighting a general improvement in the targeted parameters. Table 1 and Figures 1 and 2 further illustrate these changes, showing both individual and aggregated trends that support the overall positive outcome.

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CONCLUSION

This case series underscores the promising role of a comprehensive Ayurvedic treatment protocol in the holistic management of Autism Spectrum Disorder (ASD), conceptualized in Ayurveda as *Bāla Unmāda* with predominant *Kapha–Vāta Doṣa* involvement. By addressing the root cause through *Dīpana–Pācana* (digestive and metabolic correction), *Srotoshodhana* (systemic channel purification), *Kapha–Vāta Śamana*, *Laghu Bṛṃhaṇa* (light yet nourishing interventions), and *Medhya Rasāyana* (cognitive rejuvenatives), along with individualized external *Pañcakarma* therapies, significant clinical benefits were achieved.

Across all eight children, CARS scores improved by an average of 5.87%, and ATEC scores by 6.36%, indicating meaningful reductions in autism severity. These improvements were reflected clinically in better eye contact, name-call response, social reciprocity, sensory regulation, and expressive language skills.

The observed results suggest that integrative Ayurvedic protocols can serve as a valuable complementary approach in ASD management. Larger, controlled clinical trials are called for to validate these findings, explore long-term outcomes, and standardize protocols for broader clinical implementation.

Declaration and Patient Consent: The authors certify that they have obtained a patient consent form in which the caregiver has given permission for the case to be reported in the journal. The caregiver understands that the patient's name and initials will not be published and that efforts will be made to protect the patient's identity, though complete anonymity cannot be guaranteed.

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Conflicts of Interest: There are no conflicts of interest.

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