Integrative Approach in Managing Autism: A Case Study

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Abstract

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by deficits in social interaction, communication, and restricted or repetitive behaviors. Conventional management primarily involves behavioral interventions, speech therapy, and pharmacological treatment for associated symptoms. However, integrative approaches incorporating traditional medicine systems such as Ayurveda, nutritional modifications, and mind–body therapies are increasingly being explored. This case study presents the journey of a 4-year-old male diagnosed with ASD, managed through an integrative regimen combining conventional therapies, Ayurvedic interventions, and dietary support. Over 6-8 months, the patient demonstrated marked improvements in attention span, social interaction, and adaptive behavior, as evaluated through the Childhood Autism Rating Scale (CARS) and parental reports. The outcome suggests that a personalized integrative approach may offer significant benefits in pediatric autism management.

Keywords: Autism, Ayurveda, Unmada, Neurodevelopmental Disorders, Behavioral Disorders, ASD, Integrative Therapies, Panchkarma.

Introduction

In the Ayurvedic lens, some presentations of autism may resemble *Vataja* or *Kapha-vataja unmada*, given symptoms like impaired speech, social withdrawal, repetitive behavior, and sensory disturbances. Thus, understanding *Unmada* helps in formulating integrative treatment strategies for neurodevelopmental disorders.

Autism Spectrum Disorder (ASD) affects approximately 1 in 100 children globally, with prevalence rates rising over the last two decades [1]. ASD presents heterogeneously, involving impairments in verbal and non-verbal communication, deficits in reciprocal social interaction, and stereotyped behaviors [2]. Its etiology is multifactorial, encompassing genetic, neurobiological, and environmental factors [3].

Conventional management of ASD includes Applied Behavior Analysis (ABA), speech and occupational therapy, and pharmacological management for co-occurring symptoms such as hyperactivity, aggression, or anxiety [4]. However, many families seek complementary and alternative medicine (CAM) interventions to address gaps in conventional care [5]. Ayurveda, the traditional medical system of India, conceptualizes ASD-like presentations under *Unmada* or *Vata-vyadhi*, emphasizing imbalances in *Vata dosha* and digestive disturbances [6]

Integrative medicine blending conventional and traditional approaches offers a holistic model that addresses physical, cognitive, emotional, and behavioral domains. This case report illustrates the use of a multidisciplinary integrative strategy in managing ASD in a pediatric patient.

Case Presentation

Patient profile:

- **Age:** 4 years
- **Gender:** Male
- **Residence:** Urban India
- **Family background:** Middle-class, nuclear family
- **Parental concerns:** No peer relationsPoor eye contact, delayed speech, repetitive behaviors, hyperactivity, difficulty adjusting to school environment.

History of presenting complaints:

The child was noted to have delayed speech milestones (no meaningful words until 3 years), minimal social interaction, and repetitive hand-flapping behaviors. Parents reported frequent temper tantrums, limited food preferences (mainly processed snacks), poor sleep patterns, and constipation.

Birth and developmental history:

- Full-term vaginal delivery, birth weight 3.1 kg
- No perinatal complications
- Motor milestones within normal limits
- Speech delay and poor peer interaction from age 2

Medical history:

No history of seizures or chronic illness
No significant hospitalizations

Family history:

No family history of ASD or intellectual disability
Mother with history of hypothyroidism

Examination:

Height and weight at 45th percentile for age
No dysmorphic features
Neurological examination: normal tone, reflexes intact
Behavioral observation: limited eye contact, echolalia, repetitive motor movements, preference for solitary play.

Investigations:

1. Hearing assessment: normal
2. Thyroid profile: normal
3. Vit. B12- at lower side than normal range.
4. Childhood Autism Rating Scale (CARS) score: 32 (mild–moderate autism)

Intervention

An integrative treatment plan was developed in collaboration between a pediatrician, Ayurvedic physician, occupational therapist, and nutritionist. The management framework was divided into **four components**:

1. Conventional and Behavioral Therapies

Applied Behavior Analysis (ABA): 8 hours/week targeting communication, imitation, and social interaction.
Speech therapy: 3 sessions/week focusing on phonation, articulation, and vocabulary expansion.

Occupational therapy: Sensory integration techniques to improve attention and reduce tactile defensiveness.

2. Ayurvedic Interventions

The Ayurvedic diagnosis was made as *Pitta-vata prakriti* imbalance with *manovaha srotas dushti*.
The plan involved:

- **Shamana therapy (palliative):**
  - *Medhya rasayana* herbs for cognitive enhancement—*Brahmi* (*Bacopa monnieri* 250 mg twice daily), *Mandukaparni* (*Centella asiatica* 250 mg twice daily) in syrup form.
  - *Ashwagandha* (*Withania somnifera* 200 mg twice daily) for reducing hyperactivity and improving sleep.
  - *Unmadgajkeshri rasa1/2ta.(125mg)twicw daily after food withhonefor 15 days(4 cycles of 15 days with one week gap in each cycle)*
  - *Vatagajankush rasa1/2 tab.(125mg)twice daily after food with honey.*
- **Panchakarma:**
  - **Basti** – Matrabasti of castor plus til oil 5ml each for 15 days. Repeat the matrabasti cycle of 15 days four times with one week gap.
  - ***Shirodhara*** **-**) shirodhara of one liter til oil plus 200ml brahmi oil, of 40 minutes duration for 40 days.
  - ***Abhyanga*** **(**oil massage) with *Bala taila* for one month to improve neuromuscular tone and relaxation.
  - ***Nasya*** Pratimardsh nasya with *Panchendriye vardhan taila* (2 drops/nostril) daily morning for 21 days in a month, repeated quarterly.
- **Dietary modifications (Pathya):**
  - Warm, freshly cooked meals; inclusion of ghee, milk, green leafy vegetables.
  - **Apathya** -Elimination of processed snacks, refined sugar, and excessive cold foods.

Nutritional Support
Gluten-free, casein-free (GFCF) diet trial for 6 months, gradually reintroducing dairy after tolerance assessment.
Omega-3 fatty acids (EPA/DHA 500 mg/day) to support brain function.
Probiotic supplementation (Lactobacillus and Bifidobacterium strains) to improve gut health.
Mind–Body Interventions

Daily yoga sessions (15–20 min) focusing on simple postures (*Tadasana, Vrikshasana, Bhujangasana*) and breathing exercises (*Anulom-Vilom pranayama*).

Guided storytelling and music therapy for emotional expression.

Outcome and Follow-up

The child was followed for 12 months with periodic assessments at baseline, 3 months, 6 months, 8 months, and 12 months.

At 3 months:

Improved sleep onset and reduced night waking.
Little bit calm, sitting one place for some time
Reduction in constipation episodes.

At 6 months:

Increased vocabulary words.
Reduced frequency of tantrums.
Notable improvement in response to name.

At 12 months:

CARS score reduced from 32 to 28 (borderline to mild autism).
participation in group play at school and no complaints from school.
Reduced stereotypic hand-flapping.
Parental report- improved self-care skills (feeding, dressing).

No adverse effects from Ayurvedic medications or therapies were observed.

Discussion

This case highlights the potential benefits of an integrative management plan for pediatric autism, particularly when Ayurvedic interventions are incorporated alongside conventional and behavioral therapies.

Ayurveda considers neurological and developmental disorders as disturbances in *Vata dosha* and emphasizes *medhya rasayana* herbs to improve intellect, speech, and behavior [7, 8]. In this case, *Brahmi* and *Mandukaparni* were used for their neuroprotective and nootropic properties, supported by studies showing improvements in memory, attention, and learning [9]. *Ashwagandha*'s adaptogenic effects may have contributed to reduced hyperactivity and better sleep [10].

The Panchakarma procedures, especially *Shirodhara* and *Abhyanga*, may exert calming effects via modulation of the hypothalamic–pituitary–adrenal axis [11]. Nasya therapy could aid in nourishing the brain tissues through olfactory absorption pathways [12, 13]

The GFCF diet and probiotics align with emerging evidence linking gut microbiota alterations to autism symptomatology [14]. Mind–body practices like yoga and pranayama have been shown to enhance self-regulation, reduce anxiety, and improve social responsiveness in children with ASD [15, 16].

While the single-case nature of this report limits generalizability, the outcomes suggest that a structured, multi-pronged approach targeting neurodevelopment, digestion, and psychosocial skills may lead to meaningful functional gains in children with autism.

Conclusion

An integrative approach combining conventional therapies, Ayurvedic interventions, targeted nutrition, and mind–body practices resulted in measurable improvements in communication, behavior, and adaptive functioning in a child with ASD. Larger controlled studies are warranted to validate the efficacy and safety of such combined protocols.

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