

Management of Autism Spectrum Disorders Through Ashtanga Protocol- A Single Case Study

Dr. Shanker Prashanth Moosath¹, Dr. Sumitha L²

¹MD, Ayu, Medical Director, Illom Ayur Heritage, Illom Group

²MD, Ayu, Medical officer, Illom Counseling and child development center, Illom Group

Abstract:

A Six year old known case of Autism Spectrum Disorder (ASD) is being treated with ASHTANGA protocol, an indigenous treatment plan developed by Dr. Shankar Prasanth Moosath, Illom Ayurveda Hospital and Research Centre, Alappuzha, Kerala for managing ASD kids. Patient was taking ABA therapy more than one year with very little improvement in symptoms. ISAA score and symptoms of patient were assessed on 0th day, 21st day and 182th day after 6 months, during first follow up. CARS, VSMS, REELS-ALD scores were assessed on 0th day and 182th day during first follow up after 6 months. Patient had shown significant improvement in social communication, language, eye contact, hyper activeness.

Keywords - Ayurveda, ASHTANGA, Autism Spectrum Disorders, Behavioral disorder, Illom Ayurveda Hospital and Research Centre

Introduction:-

Autism Spectrum Disorder (ASD) is a complex neurodevelopment condition that affects communication, behavior, and social interaction. People with ASD may have difficulty understanding social cues, maintaining eye contact, or engaging in typical conversations, while others may exhibit repetitive behaviors or have focused interests. There is presently no definitive biomarker for ASD, and the presentation of ASD can vary greatly from person to person and during the course of development of a child. Therefore, a detailed examination of the history and direct observation of the child's behavior are necessary for an accurate diagnosis. According to the U.S. Centers for Disease Control and Prevention (CDC), ASD affects 1 in 59 people. There are 4:1 more men than women. Identical twins in particular and siblings in general are more likely to experience it (recurrence rate up to 10%)¹.

Ayurveda understands Autism in two ways: first, biologically, as an illness associated with Koshtha (gastrointestinal disorders, dysbiosis of the stomach) or Dhathu (deregulation of metabolism and manufacturing of neurotoxins), while the other is metaphysical. The correct association of Indriya, Indriyarth, Mana, and Atma results in the knowledge of Gyan. Any derangement in this process leads to the absence of knowledge, so the patient cannot respond to social stimuli, leading to behavioral disorders, also seen in Autism. The pathophysiology of Unmada resembles Autism; in both, there is derangement of Mana, Buddhi, Sangya, Gyan, Smriti, Bhakti, Sheela, Chesta and Aachara².

ASHTANGA protocol is the indigenous advanced integration protocol developed by Dr Shankar

Prasanth Moosath for the effective management of Autism Spectrum disorders. The framework of the protocol is derived from observations and experiences obtained from multiple pilot studies. The word ASHTANGA denote Ahara, Satwik thoughts, Healing hand through nature, Therapy integration, Ayurveda treatment, nadi shudhi by yoga and Pranayama, Gut correction and Art of positive parenting. We hereby report a case of Autism

Assessed by ISAA, CARS, VSMS, REELS, ALD and treated based on the principles of ASHTANGA protocol.

Case Presentation:-

A 6-year-old male child with his mother was presented in OP of Illom Ayurveda hospital, Thannermukkom, Alappuzha, Kerala, with complaints of poor social interaction, poor peer group relationship, poor attention, concentration, hyperactivity, speech delay, poor social smile and eye contact. The child has normal physical development appropriate for his age. He was a full term baby (only child of Non consanguineous parents), born by normal delivery with normal sucking and rooting and had a birth weight of 2.8kg. All his milestones were normal except speech. At the age of 3.5, parents noticed poor attention, concentration, poor social interaction, speech delay and no name call response. For which they consulted a pediatrician and started doing speech therapy. Later at the age of 4, he was diagnosed with Autism spectrum disorder, started taking ABA therapy.

Family history:-

It was a non-consanguineous parentage and neither parent had any health issues. The family is nuclear type and the family is settled in abroad. He is the only child of parents. There is no history of such illnesses in the family.

Prenatal and birth history:-

Maternal age at time of conception was 23 years and she had mild hyper emesis in 1st trimester, attended all antenatal visits regularly. Child was born out of normal delivery at 39 weeks of gestation. At birth the child cried soon after delivery and had a birth weight of 2.8 kg. Breastfeeding was initiated immediately and no other complications were observed.

Growth and development:-

The Child's growth and development were reported to be normal up to the age of 2 year, except speech.

Characteristic features:-

Child is presented with poor social interaction, eye contact and social smile. He conveys his needs by crying and seldom makes any sounds. He always prefers to move around and climb up the furniture and bowel control is not attained. He is not afraid of strangers and is used to be in his world. He prefers alone play most of the time. He does occasional head banging and engages in repetitive play activities. He showed marked hyperactivity with poor attention and concentration.

Diagnosis and assessment:-

Diagnosis was made by Clinical symptoms and assessed the child by tests like Indian Scale for Assessment of Autism (ISAA), Childhood Autism Rating Scale (CARS), Vineland Social

Maturity Scale (VSMS), Receptive- Expressive Emergent Language Scale (REELS) and Aided Language Display (ALD). ISAA Assessed Before treatment, after 21days of treatment and during first follow up after 6 months (182th day).CARS – Assessed before treatment and during first follow up after 6 months (182th day), REELS assessment – before treatment and during first follow up after 6 months (182th day), ALD - before treatment and during first follow up after 6 months (182th day).

Treatments:-

Primary goal of treatment is to improve gut health, the quality of life and functional independence of the child.

Treatments includes –

- Ayurvedic treatments.
- Internal administration of medicines.
- Diet modification.
- Therapy integration at Child development centre (CDC) of the hospital
- Gardening with Infinite sensory walk (Healing hand through nature)
- Parent Counseling

Treatments were carried out in 3 phases- first phase of seven days aimed for gut correction and channel opening. Second phase of 7 days aimed at body cleansing actions. Final 7 days aimed at brain regeneration aspects. Then after discharge, new internal medicines were added and along with a family diet chart. It is to be followed for a period of 90 days.

Table.1 External treatments given:-

Udwarthanam	Udwarthana choornam Eladi thailam – body Uttamanga thailam –head	7 days
Pradhamana nasyam	Rasnadi choornam	7days
Abhyangam	Vathari thailam – body Uttamanga thailam – head	7days
Thalapothicil	Paste prepared out of amalaki powder and mustha powder by adding decoction of amalaki kashayam	7days
Pratimarsha nasyam	Ksheerabala101	7 days
Njavara kizhi	Poshini thailam- body Uttamanga thailam – head	7 days
Siropichu	Uttamanga thailam	7 days
Matravasti	Dhanwantharam mezhukupakam	6 days
Thalam	Rasnadi choornam Nimbamrithadi erandam	+7 days
Gardening + Infinite		14 days

sensory walk		
--------------	--	--

Internal medicines:

1. Vilwadi gulika+Hinguvachadi tablets+ Ashgourd juice-7days
2. Rajanyadi choornam +Medhya tablet + brahmi honey -14 days
3. Special vacharudrakshadi choornam–2.5gm, betel leaf juice +honey (Tongue application)

Diet:-

Gluten free casein free (GFCF) vegetarian diet was followed throughout the treatment.

Therapy integration:

- Pediatric language therapy (PLT)
- Behavioral modification therapy (BMT)
- Sensory integration therapy (SIT)
- Attention enhancement therapy (AET)

Art of Positive Parenting & Satwik Thoughts:-

Prakruthi of the mother is assessed and parent counseling given at CDC.

Advice on discharge:

- Ayurvedic medicines –90 days
- Family diet chart
- 3 month plan of Therapies to be followed after discharge
- First follow up after 6months ,review consultation after3 months

Results:-

Subjective parameters:-

- Command following and Name call response improved
- Eye contact improved
- Social interaction improved comparatively
- Peer group relation improved comparatively
- Sitting tolerance improved comparatively
- Attention span improved comparatively

Table.2.Comparison of subjective parameters:-

Clinical symptoms	0 th day	21 st day	182 th day
Poor Social interaction	5	4	2
Poor Eye Contact	5	4	3
Poor Social Smile	5	4	3
Speech deficit	5	5	4
Alone play	5	4	3

Peer group relationships	5	4	2
Behavioral issues	3	2	0
Repetitive play activities	4	3	1
Hyperactivity	5	3	1
Poor Attention and Concentration	5	4	2

Score-2 - Sometimes 21-40%

Score-3- Frequently 41-60%

Score 4 - Mostly 61-80%

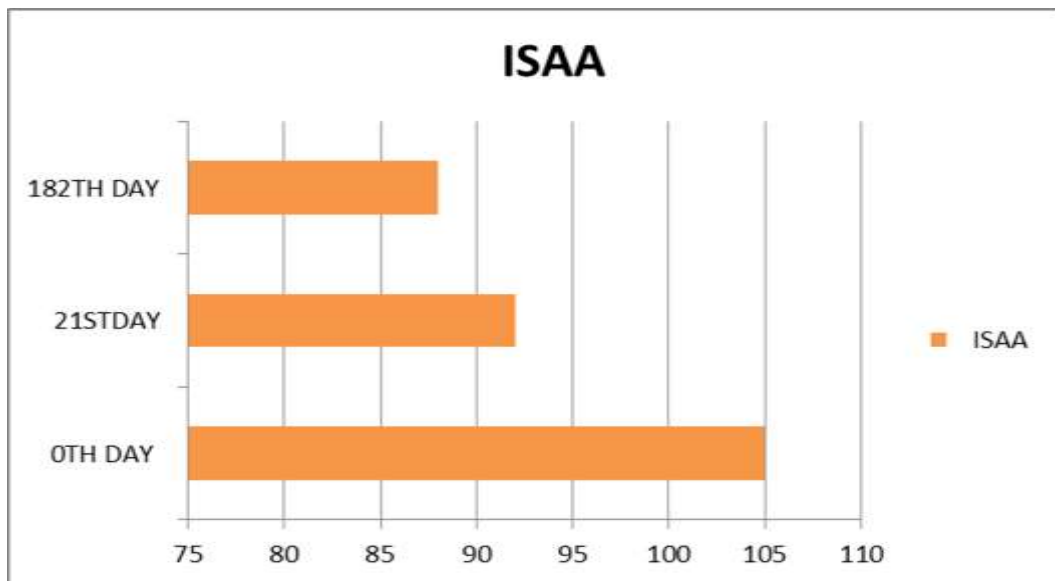
Score 5 – Severe > 80%

Objective parameters:-

1. ISAA:-

Table.3-ISAAscoring

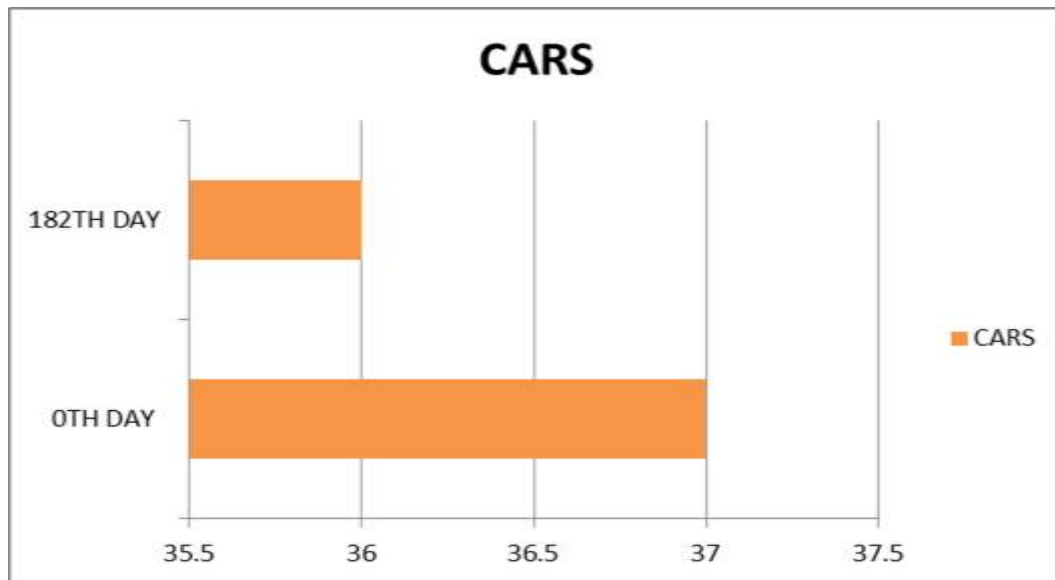
Assessment	BT	AT	AFTER 6 MONTHS
ISAA	105	92	88



2. CARS:-

Table4. CARS scoring:

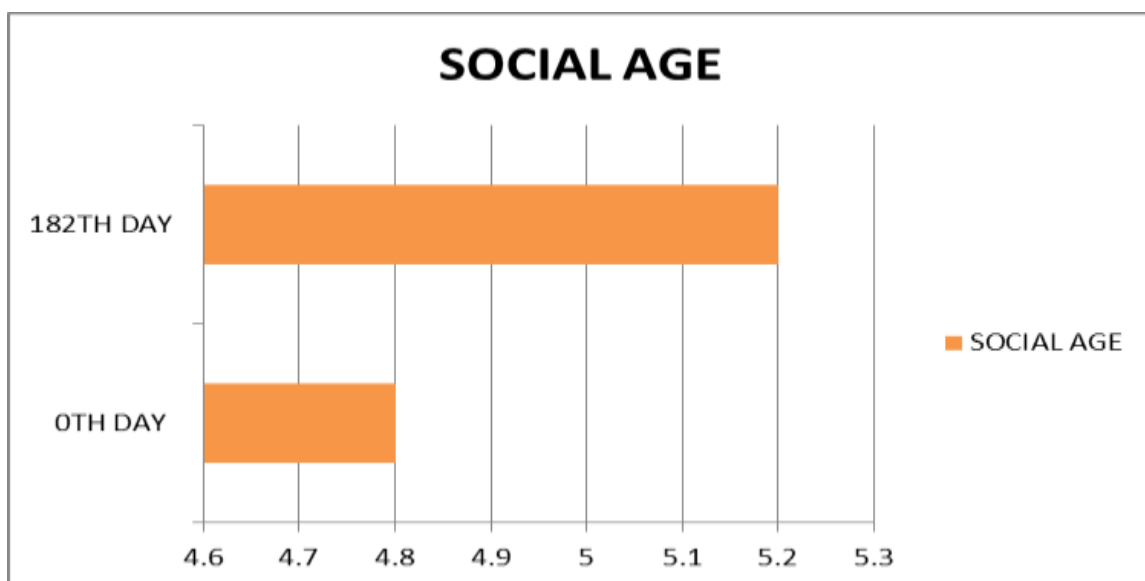
Assessment	BT	AFTER 6 MONTHS
CARS	37	36

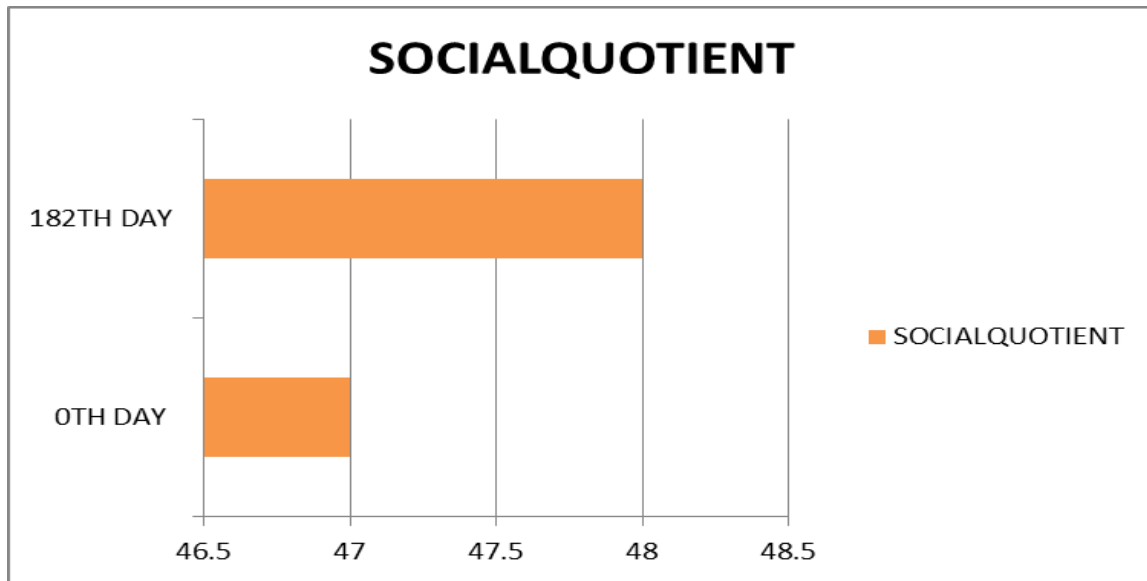


3. VSMS:-

Table5.VSMS Scoring:

VSMS	BT	AFTER 6 MONTHS
S.A	4.8 yr	5.2
S.Q	47	48





4. REELS:-

Table.6-REELS scoring

Assessment	BT	After 6 months
RLA	4.5-5yr	4.5-5 yr
ELA	22-24 months	27-30 months

5. ALD:-

Table.7-ALD scoring

Assessment	BT	AFTER6 MONTHS
RLA	4 - 4.11 yrs	4 - 4.12 yrs
ELA	24-29 months	27-30 months

Discussion:

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by deficits in social communication, presence of restricted interests and repetitive behaviours³. It can be correlated to Unmada in Ayurveda. Impairment of Agni (digestive fire) is a cardinal feature in Autism which is due to abnormal micro biota. Correction of Agni by Deepana, Pachana dravyas (Gut correction) corrects the dysbiosis of micro biota along with the adoption of treatment principles of Unmada can bring about much improvement in the signs and symptoms of Autism⁴.

“ASHTANGA PROTOCOL” is the indigenous protocol developed Dr Shankar Prasanth Moosath for the effective management of ASD. This protocol showcases advanced integration of Ayurvedic principles and Rehabilitation therapies for the management of Autistic symptoms. Ayurvedic treatment mainly aims at Deepana-Pachana (Gut correction), Detoxification (Sodhana/ Srothosudhi) and Medhya janana (Brain degeneration). Therapy integration also done to improve general awareness, social interaction, initiates speech and reduce behavioral issues.

Udvartana (Massage with Dry Powder):-

Rubbing the body with dried roasted and powdered herbs in a rhythmic pattern helps to get better sensory integration and awareness, acts as a detoxification procedure, corrects metabolism and blood

flow, improves the mobility of the joints.⁵

Thalam (Application of medicated paste on the vertex): -

Thalam involves the application of an herbal powder mixed with medicated oil on the vertex of the child's scalp. Thalam help to provide benefits like relaxation, improving and enhancing overall well-being. It improves proper circulation, gives better physical strength, improves vision, regulates sleep pattern.⁵

Abhyanga (oleation):-

It includes both Sarira and Siro abhyanga. It improves sleep patterns, reduces irritability and stress. It helps in speech stimulation, corrects oral sensory issues, and improves the strength of muscles⁵.

Thalapothilil (Application of medicated paste on head):-

Specific medicinal herbs are made into a paste in buttermilk and applied over the scalp and then the scalp is wrapped with banana leaves and cloth. Found to be highly beneficial in neurotic disorders. Help to improves sleep, attention and memory. Reduces irritability, restlessness and tantrums in ASD kids.⁵

Siropichu (Holding medicated oil on head):-

It involves placing a cotton swab dipped in medicated oil on the vertex of the child's scalp for one hour. It improves sleep pattern and concentration. Reduces irritability and tantrums.⁵

Nasya (Inhalation therapy):-

It stimulates smell and taste, improves vision, cures sleep disorders, improves speech production, and helps in clarity of mind and thought. The brain is connected to the nose through the vascular system, the nerve plexus of olfactory nerve, and the ophthalmic and maxillary branches of the trigeminal nerve. The olfactory nerves are connected with the higher centers of brain like limbic system, consisting mainly of amygdaloidal complex, hypothalamus, epitheliums, and anterior thalamic nuclei parts of basal ganglia. So the medication administered through nose stimulates the higher brain centers which have an effect on the regulation of endocrine and nervous system processes. The limbic system and hypothalamus works together to express emotions such as anger, aggression, pain, pleasure, and behavioral patterns. So medicine given through nasal route help to prevent behavioral issues in ASD kids.⁵

Njavarakizhi:-

Njavara Kizhi is snigdha, rasayana and vatahara. The warmth supplied by pottali of Njavarakizhi dipped in balamoola kwatha with godugdha may enhance the blood circulation. Since it is vatahara, it may help to reduce hyperactivity and improve sleep pattern.⁶

Matravasti :-

It relives gastrointestinal issues like constipation. As it is vata samana, which lead to improvements in core symptoms like irritability, social withdrawal, and hyperactivity⁷.

Deepana and Pachana medicine which corrects the Agni leads to manovaha srothosudhi and thereby corrects the functions of the mind and brain. Improvements in the satwa of the individual by the treatment methods like gardening, Infinite sensory walk and therapy integration at Child development centre under expert professionals along with proper diet restrictions make changes in the mental temperament (reduction of rajas and tamas) of the individual and thereby reduce the chance of disease remission⁸.

Diet:-

Use of gluten free casein free (GFCF) diet for children of ASD and ADHD (attention deficit hyperactivity disorder) are quite popular. Various studies have proved the effectiveness of the GFCF diet in improving communication, stereotyped movements, aggressiveness, language, hyperactivity, and

tantrums in the ASD population.⁹

Conclusion

People with ASD have different treatment needs and distinctive strengths and challenges. The goal of current treatments is to lessen symptoms that affect daily life and quality of life.

Parents of children with ASD are searching for a new alternative in managing ASD. ASHTANGA PROTOCOL logically integrates Ayurvedic treatments with Rehabilitation therapies along with proper diet restrictions to reduce the severity of the symptoms of ASD. The protocol provides a timetable for healthy living and gives support to the parents of ASD kids also.

Declaration and patient consent:

Authors certify that they have obtained a patient consent form, where the caregiver has given consent for reporting the case in the journal. The caregiver understands that his name and initials will not be published, and efforts will be made to cover the identity, but anonymity cannot be guaranteed.

REFERENCES:-

1. Richard E. Behrman, Robert M. Kliegman, Hal B. Jenson, Nelson textbook of Pediatrics; Volume 1; Edition 21; Page no. 294
2. Vyas P & Singhal H & Rai D; A critical appraisal of autism spectrum disorder in terms of Ayurveda; International Journal of Research in Ayurveda and Pharmacy. 14. 2023. 10.7897/2277-4343.1404127.
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, fourth edition text revised. [Washington, DC: American Psychiatric Association; 2013].
4. Dr Ayshath M1, Dr Mini S Muraleedhar2, Dr Shaju M K1, Dr Eldho Paul3. Ayurvedic management of autism - a case report. KERALA JOURNAL OF AYURVEDA. Vol2(2): 26-29 (2023)
5. International Journal of Pharmaceutical Research and Applications Volume 9, Issue 4 July-Aug 2024, pp: 1774-1787
6. Ritu Jyani1*, Mohar1, Keerti Verma2, Reena Dixit3. EFFECT OF SHASHTIKASHALI PINDASWEDA & OTHER AYURVEDIC INTERVENTION IN CEREBRAL PALSY: A CASE REPORT. AYUSH DHARA. ISSN: 2393-9583 (P)/ 2393-9591 (O)
7. Vijay Kumar Pathak, N. Masooda, Arun Kumar Mahapatra, Rajagopala Shrikrishna. Ayurvedic Therapy in Management of Autism Spectrum Disorder. December 2023 [Journal of Ayurveda](#) 17(4):329-336
8. Dr Ayshath M1, Dr Mini S Muraleedhar2, Dr Shaju M K1, Dr Eldho Paul3. Ayurvedic management of autism - a case report. KERALA JOURNAL OF AYURVEDA. Vol2(2): 26-29 (2023)
9. Busra Baspinar, Hulya Yardimci. Gluten-Free Casein-Free Diet for Autism Spectrum Disorders: Can It Be Effective in Solving Behavioural and Gastrointestinal Problems? Eurasian J Med. 2020 Oct; 52(3): 292-297. Pre-published online 2020 Jun 4. doi: 10.5152/eurasianjmed.2020.19230. [PubMed].