

# Agastya - A Comprehensive Approach Of Ayurveda Towards The Management Of Autism

**Dr Dinesh K. S.1 Dr Nazeema P. K. 2 Dr Santhi Krishna 3 Dr Swapna Chitra4**

1. Professor and Head, Dept. of Kaumarabhritya, Vaidyaratnam P S Varier Ayurveda College, Kottakkal, Kottakkal.

2. Professor, Dept.t of Kaumarabhritya, Vaidyaratnam P S Varier Ayurveda College, Kottakkal, Kottakkal.

3. Junior Research Fellow, AYUSH Extra Mural Research, Dept.. of Kaumarabhritya, Vaidyaratnam P S Varier Ayurveda College, Kottakkal, Kottakkal

4. Senior Research Fellow, AYUSH Extra Mural Research, Dept.t of Kaumarabhritya, Vaidyaratnam P S Varier Ayurveda College, Kottakkal, Kottakkal

## Introduction

During the last few decades, a dramatic increase in the rates of autism was reported to be 1 in 59 children by CDC's Autism and Developmental Disabilities Monitoring Network [1]. A common reductionist attitude to trace the disease ends up with genetic theory, toxin theory and metabolic theory but unfortunately all these fails to satisfy in terms of its management. Since the epidemic features of ASD create turbulence in the harmony of whole family, a wholistic, non linear, complex dynamic system of biological approach is necessary. This exponential increase in the rate of incidence of autism and dissatisfaction among parents in conventional treatment has laid to the compliance of CAM in current autism management [2]. Since this is a neurobehavioral condition, only few areas of approach like Occupational, Behavioral and Speech Therapy was trying to satisfy in terms of its management so far and this continues to be an ever prevailing stigma to the society where in an active demand for family, society and lifestyle management of Autistic subjects exists. Since Ayurveda [3], Yoga [4] and Naturopathy [5] significantly outstands among Complimentary and Alternative Medical system in India, existing health paraphernalia's present in AYUSH are validated best for managing Autism. Based on these circumstances and since Ayurveda focuses upon personalized management of family, society, time and space, an evidence based Ayurveda treatment protocol was framed and this best suits into the management of Autism. Thus a comprehensive guideline of AGASTYA (Ayurveda Drugs, Gut Therapy, Ayurveda Standards of Living, Training of Parents and Yogic Assistance) Protocol was formulated conferring years of experiences from Department of Kaumarabhritya, AyuCALM and CIMCD and this was initiated in support of Extra Mural Research Grant by Ministry of AYUSH at Vaidyaratnam P.S Varier Ayurveda College, Kottakkal, India.

## Components of AGASTYA

### Ayurvedic Herbal Drugs

**Ayurvedic Herbal Drugs** are prescribed by a trained Ayurveda practitioner through individualized analysis of the status of the child. Drugs for Dysbiosis, Deranged Metabolism, Exogenous and Endogenous Toxins, Brain Pathologies, Sensory Integration and Immunity are chiefly prescribed and this is based on Protocol that was formulated conferring years of experiences from Department of Kaumarabhritya, AyuCALM and CIMCD of Vaidyaratnam P.S Varier Ayurveda College, Kottakkal, India. The medicines are being prescribed for one year with a monthly clinical in person review.

### Gut Therapy Protocol

The relation between gut problems and behavioral disorders in autistic children has been discussed since long. Autism presents with symptoms of *aama* at both GIT and Metabolic level. In autistic Children both *koshthagata* (gut related) and *dhaatugata* (systemic) *aama* symptoms are present and they are abdominal pain (*sula*), diarrhea (*atisaara*), bloating (*aanaaha*), constipation (*vibandha*), lack of appetite (*aruchi*), increased tiredness (*saadam*) [6] and all the biochemical mechanisms happening at the areas of assimilation [7].

Clinical manifestations of Dysbiosis like altered bowel habits, defective food intake, Crankiness and several other abdominal symptoms like colic to emotional instability are very common in Autistic Children. All these symptoms go hand in hand with symptoms of *aama* in *koshta*. Derangement in the body metabolism resulting in the production of neurotoxins like ammonia, pyruvate and lactate are reported in autistic children. The production of these neurotoxins are due to *apakva dhatu parinama* or simply *dhatvagni mandhya janya aama*. The management strategy is focused mainly on warding of these *aama* symptoms and the ideal formulations were prescribed on detailed

assessment of *koshta* or gut status. Thus Gut Therapy Protocol is a judicious combination of parental guidelines and training regarding the food and feeding rules along with an Ayurvedic prescription of herbal drugs after a detailed assessment of *Koshta* [Gut] status. These instructions and prescriptions are advised to be continued for one year of time.

Intervention in Gut Therapy Protocol (GTP) is chiefly aimed at reducing the *aama* from *koshta* and *dhatu* and this consists of oral administration of polyherbal compound drugs and dietetics. The chief formulations like *Rajanyadi Choornam* and *Vilwadi Gutika* from Ayurveda Classics are potent drugs capable of increasing the biological fire as well as in promotion of conversion of biological materials. These *deepana* and *pachana* properties of constituent drugs along with *vishahara* property of *Vilwadi gudika* [8] could contribute well in reducing the *aama* symptoms of children. The prime treatment itself is to tackle the digestive issues and the output was surprisingly promising. Children with Autism when treated for digestive issues were then presented with a highly positive change in their behavioral problems and Psychological issues etc proving that the back bone of Ayurvedic management is nothing other than Agni correction.

The changes in Dysbiosis and other subjective symptoms are assessed by the quality of Gut microbiome in Autism through 16S rRNA Metagenomic Profiling. The changes observed in gut symptoms and behavioral symptoms before and after GTP were recorded and analysed for possible correlations. Positive changes are observed in subjective questionnaires and substantiating evidences to support these statements were obtained from the 16S rRNA Metagenomic Profiling of stool samples. Relative Abundance of quality microbes like **Genus Bifidobacterium, Bacteroides, Fecalibacterium**, etc were reported whereas a fair reduction of non-beneficial microbes like **Genus Escherichia, Clostridium, Lachnospiraceae, Ruminococcus, Dorea, Klebsiella** are seen on post treatment laboratory analysis.

#### Ayurveda Standards of Living

This includes a detailed workshop and training program for the duration of seven days to parents of the selected children. The workshop and training includes teaching and evaluation of lifestyle guidelines of ayurveda. This includes rules regarding all the activities of the children and family members from bed to bed and during sleep. These are meant for lifetime

practice.

Customizing the Activities of Daily Living through the principles of *Sadvritta*, *Dinacharya* and Yoga Practices for whole family has significant influence in bringing positive changes in children. Few of the lifestyle modifications proposed are

1. Ensure time charts for day to day activities like waking up, bath, toileting, food, exercise and sleep. Regular bath with hot water over body and application of *Rasnadi choorna* after bath is made mandatory.
2. Ensure child's participation in almost all activities of daily living and be pleasant with kids
3. Ensure 8 hrs of sleep during night hours and prevent day sleep except during summer and during exhausted days
4. Never allow to sleep over floor

#### Yogic Assistance

The golden goal of Autism management is so simple to quote and it focuses mainly on tuning family and the child such that the child experiences harmonious living with the family and thereby in and out the society. Thus to complete the circle of Autism management at 360°, two important aspects are to be stressed up on and that is family tuning and to compose a biological harmony. These are the prime steps to start with and the prime focus would be to tame the family hours in such a way that, the activities of daily living in family is customized to make it maximally beneficial for the child in his growing years and correcting the mistuned physical and physiological settings in the body presented either as a co morbid condition or as a cause itself which is usually observed in autistic babies.

Thus the culture of yoga practice is introduced among the family members along with seven days parental training program and gradual incorporation of these practices to children were advised. Few of the lifestyle guidelines and modifications with its major component Yoga, has been instructed to the parents as part of their activities of daily living.

1. Parents are advised to practice yoga daily in a calm and quiet place
2. Parents should ensure the presence of child while doing yoga
3. *Sookshma vyayamas*, sitting *asanas* like *Vajrasana, Padmasana*, standing *asanas* like *Ardhakatichakrasana, Ardhashakrasana* and Supine *asanas* like *Makarasana, Parvatasana* are gradually taught to their children.

## Discussion

Ayurvedic understanding of Autism parallels the evolution of the so called modern culture. Unfortunately, the wake of industrialization and globalization that followed, had imposed a hegemony up on the culture persisted then and there in the world, which resulted in a receptive change round the globe, creating a new world order. As demanded by this cultural hegemony, human development was defined in terms of degree of detachment from nature and the more he is detached, the more he is cultured as per the new definition attributed. A step ahead, even the developmental indices like per capita income, health indices etc, was assessed as a tool to grade the developmental indices of nation [9]. And thus a highly developed nation means a greatly detached culture in general. And if this particular understanding of history is read together with the statistics denoting the increased incidence of Autism in developed countries, the root cause of such a developmental disorder will be crystal clear. Thus a wide range of causes could amount into industrial revolution and resultant toxin accumulation, strong *aatma karma dosha* due to paradigm shift in traditional culture, *Agni* impairment and disturbed rhythmic activities of life contributing to disease.

“*Ahara sambhavam vasthu Roga Aahar Sambhava* [10]” - the core concept of ayurveda that all diseases and human body itself finds its origin from food was the topic of discussion. Autism with number of co morbidities related to digestion is never an exception to this. Ayurveda has thus recently arrived at an AGASTYA protocol which is culture and civilization dependent multi dimensional approach for managing children with Autism and this comprises of an individualized Ayurveda drug based treatments aiming at detoxification and correcting impaired *Agni* and *rasa dhatu*, Gut therapy protocol warding off *aama* from the *koshta*, executing Ayurveda standards of living, Training of parents and Yogic assistance to ensure the synergism of biological rhythms. Also the prime focus of Autism management will be the correction of *Agni* and the presentation is typically related to *Kapha* or *Pitta āvrtha vāta* in general. The primary *dhāthus* involved are *Rasa* and *Raktha dhātu* and *srothases* involved are *Anna vaha*, *Rasa vaha*, *Puresha vaha* and *Moothra vaha srothases* in usual clinical practices. And so the treatment will most suitably in aid with the *Raktaprasadaka dravyas*, *Vishahara dravyas*, *Agnikara dravyas* and *Āma pachana dravyas*.

## Conclusion

The study finds Gut Therapy Protocol effective in the management of children with ASD and highlights

Improved Quality of life, Gut Status of Child and marked improvement in Autistic Features. The Empowerment of chaos of human system, nature and Ayurveda through AGASTYA Protocol might be the underlying mechanism.

According to the Data Safety and Management criteria's, the effective results of the project could only be revealed upon the successful completion of the project. It is also expected that the current study will interestingly lead the forthcoming autism researches underscoring its relevance in critical ways.

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