

# INFANTILE AUTISM

## What is Autism

Autism develops before 30 mo of age. It is characterized by a qualitative impairment in verbal and nonverbal communication in imaginative activity and in reciprocal social interactions.

## Synonyms

Pervasive Developmental Disorders and Childhood Psychosis

## Introduction

Kanner (1943) described a syndrome characterized by failure to establish communication with others, obsession to continue "sameness," failure of language communication, aloofness, preoccupation with handling small objects, and an inability to anticipate with appropriate body positioning the likelihood of being picked up.

## Incidences

The prevalence is 3-4/10,000 children. The disorder is much more common in males than in females (3-4:1). Autism can be associated with other neurologic disorders, particularly tuberous sclerosis, seizure disorders, and to a lesser extent, fragile X syndrome.

## Causes

- Poorly understood, but probable suggestions are:
- Underlying encephalopathy, as well as brain injury during gestation and the perinatal period.
  - Known to be associated with known hereditary conditions, including tuberous sclerosis and other conditions, such as infantile spasms

The attempts at identifying genetic factors and chromosomal abnormalities that are associated with autism have been relatively unsuccessful

## Clinical Manifestations

The characteristic set of behaviors includes

Qualitative impairment in reciprocal social interaction,

Qualitative impairment of verbal and nonverbal communication and imaginative activity,

Markedly restricted repertoire of activities and interests.

### 9-10 Month of age

Abnormal behaviors in form of diminution in crying, general motor activity, and feeding.

Language development is usually delayed, and children do not respond appropriately to noises.

Motor milestones are often normal.

### 18 to 24 months

Some children appear normal until 18 to 24 months of age when loss of social and language milestones and a relative lack of communication occur.

Children with autism continue to eat, poorly, particularly solid foods. They may become fascinated with particular toys while rejecting others. Before the age of 13 months, stereotypic behavior and gestures are often manifest. Affected children seek repetitive tactile, visual, vestibular, and auditory stimulation. The autistic child may forcefully refuse any tactile interaction with others.

The movements of autistic children are varied, including flapping of the hands and arms, head-banging, rhythmic head movements, rocking from the pelvis while seated, whirling in place, or rapid flicking of the nose or ears. The frequency in intensity of these movements varies. The activities described often are associated with children who have mental retardation, including behavioral abnormalities and repetitive movements.

Autistic children usually have better nonverbal than verbal skills. Delay in development of language skills is one of the most common reasons for parents seeking professional help for their affected child. Children may perseverate or have persistent and dismaying echolalia. In addition to expressive problems, comprehension difficulties may be severe.

Autistic children who learn to read rarely have significant understanding of the meaning of the material. Unfortunately, nonverbal communication also is usually deficient.

Many suffer from seizures

### Mental efficiency

Mental deficiency may be severe, but at the same time approximately 25% to 33% have IQs in the normal range. However, the deficits in language and socialization make it difficult to obtain an accurate estimate of the autistic child's intellectual potential. Occasionally, an autistic child may have an isolated, remarkable talent, analogous to that of the adult savant.

## **Neuropathology**

Pathologic abnormalities have not been conclusive, but in brain increased cell-packing density and reduced neuronal cell size, and an absence of obvious gliosis are suggestive of abnormal development of portions of the limbic system and cerebellar circuits.

Biological studies in cases of autism have revealed decrease in the efficiency of cellular metabolism, especially of brain. It have also been documented by reduced cerebral perfusion of brain.

Autopsy studies have shown cerebellar developmental hypoplasia in many autistic patients

## **Biological studies**

- **Dysfunction of association cortex and decreased brain cellular metabolism have been observed on PET, SPECT, MRI, EEG and evoked potential studies.**
- Aberrant dopamine functioning has been implicated, and abnormalities have been suggested in a number of catecholamine pathways. Increased levels of serotonin have also been noted.

## **Treatment:**

### **1. Treatment of decreased efficiency of brain**

Medication therapy directed at abnormal behavior is frequently unsuccessful. Treatment with a number of neuro active drugs has been reported with varying success. The use of antipsychotic drugs may prove beneficial for some patients. Long-term use of such drugs rarely necessary or advisable.

**A effort have been made by KRASS with a trial of herbal nutritional supplement (annexure 1), which works by improving the cellular metabolism of brain hence giving an improvement in functioning of brain and clinical improvement in these children.**

### **2. Treatment of complications**

Children suffering from epileptic disorders responds well to anticonvulsant therapy. Behavior modification is a major part of the overall treatment for autism. These procedures include enhancement (i.e., rewards emphasizing appropriate choice) and reduction (extinction time-out, punishment).

### **3. Speech therapy for improve their speech.**

Methods are being developed to help increase spontaneous language usage that maximizes the autistic child's communication. The use of facilitated communication has been disavowed by most professional organizations. Initial findings regarding the use of auditory integration training are hopeful; however full-scale investigations have not been undertaken.

### **4. Training – This includes school training and vocational trainings**

Special educational resources directed at improving social, language, and other interactive skills are most important and require prolonged and skilled efforts.

Treatment is most successful when geared toward the individual's particular needs.

The most successful educational model at present is the program for the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH). The following treatment principles are emphasized; use of objective measures such as the Childhood Autism Rating Scale (CARS); enhancement of skills and acceptance by the environment of autism-related deficits; use of interventions based on cognitive and behavioral theories; use of visual structures for optimal education; and multidisciplinary training for all professionals working with autistic children.

**All these modalities acts in a better way if functioning of the neural cells can be improved simultaneously (KRASS Model).**

## **PROGNOSIS**

This is guarded. Some children, especially those with speech, may grow up to live marginal, self-sufficient, albeit isolated, lives in the community, but for some chronic placement in institutions is the ultimate outcome. A better prognosis is associated with higher intelligence, functional speech, and less bizarre symptoms and behavior. The symptoms often change as children grow older. Seizures and self-injurious behavior become more common with advancing age.

## MODE OF ACTION OF HERBAL NUTRITIONAL SUPPLEMENT IN CASES OF AUTISM

In cases of autism the pathologic abnormalities have not been conclusive, but in brain increased cell-packing density and reduced neuronal cell size, and an absence of obvious gliosis are suggestive of abnormal development of portions of the limbic system and cerebellar circuits. **Dysfunction of association cortex and decreased brain cellular metabolism have been observed on PET, SPECT, MRI, EEG and evoked potential studies.**

### How Herbal nutritional supplement helps in cases of Autism:

The literature indicated that about 50% cases of autism gradually turn out in normal behavioural pattern with due course of time, but it may take long time and the child may be lagging behind with peer age group. In the remaining cases the conventional therapies mainly based on physiotherapy and early intervention therapy is of help with rather slow improvement and that too not in all cases. So far as treatment of these children is not focused on improving the functioning of brain tissue.

**Supplementation of herbal nutritional supplement improves the dysfunction of association cortex and also cerebral perfusion, and hence the functioning of brain in toto and hence clinical improvement in autistic child.**

### What this supplement contains:

It contains the following herbal ingredients. These ingredients are FDA approved (not included in exclusion list of FDA). The toxicity studies conducted as per WHO laid down criteria's revealed it non toxic.

English Names (Hindi names translated in english)	Botanical Names (Latin names)
Baividing	Embalia ribes
Apamarg	Achyranthes aspera
Giloi	Tinospora cordifolia
Saunth	Ginger
Harad	Myrobalans – Terminalia chebula
Satawar	Asparagus racemosus
Shankpushpi	Convolvulus phiricaulis
Brahmi	Bacopa monnieri

### What needs to be understood:

- 100% improvement is not possible
- Best results can be achieved when the supplement starts between the age group of 2-4 years
- It is a long course of treatment. Supplement helps in overall growth as child grows with age
- 100% children do not improves
- This supplement improves the brain functioning. It can not teach or train any thing to any child, hence training and teaching is a part and partial of this treatment.

**Krass India**  
**Case Studies for Herbal Nutritional Supplement for Autistic**

**Child Name:** [REDACTED]

**Location:** Jaipur, Rajasthan, India

**Age at Pre-treatment:** 7 years

**Diagnosis:** Autism (Delayed speech and development)

**Pretreatment evaluation – Dec 13<sup>th</sup>, 1994**

All milestones reached normally as in case of a regular child. The parents came with the problem of slow learner. The problem was first identified by school teacher at the age of four and half years. [REDACTED] had a problem of unknown fear, unable to concentrate on one thing and sit at one place. He does not mix up with peer age group and feels hesitating with them. Poor in school performance. Speech was delayed and defective. Apart from this day to day activity were poorly performed.

A SPECT brain was not carried out because this facility was not available at Jaipur, India at that time.

**Supplementing with herbal nutritional supplement:**

We put his on the Herbal nutritional supplement developed by Krass India, which was administered as per guidelines to his on regular basis. Close monitoring was done to see any adverse reaction to the nutritional supplement. Once he was comfortable with the dose, a training model was developed for his to observe improvements in his regular day-to-day working.

**Post treatment evaluation (April 7<sup>th</sup>, 1998 – 40 months later)**

The supplement was given for 36 months and stopped as the child cured. After completion of 36 months of supplement, we compared [REDACTED] pre-treatment evaluation to current and his parents were very happy with his progress and performance while he was on the herbal Nutritional Supplement. He can do all his day-to-day activities in form of self-help skills (Brushing, eating, dressing, undressing etc.). His place and time orientation have improved to normal for age. He started mixing with peer age group and well adjusted with them. The clarity of speech is now normal. After starting supplement, [REDACTED] have passed his III class with 'A' grade, i.e. his school achievement have come to normal.

**Pre Treatment**



**Post treatment**



**For the maintaining the professional secrecy the name and address of the child have not been disclosed**



# S.B.I.O.A.PUBLIC SCHOOL

C-155, Bharat marg, Hanuman Nagar (Vaishali), Jaipur - 302 021. Ph. : (0141) 357282

A Modern English Medium Co-educational Public School

DAY BOARDING OPTIONAL

## PROGRESS CARD

SESSION : 2000 - 2001

SCHOLAR'S NAME : [REDACTED]  
DATE OF BIRTH : 14.01.92  
CLASS : III  
FATHER'S NAME : [REDACTED]  
ADDRESS : [REDACTED]

Jaipur

### PERSONALITY TRAITS

GRADES : A=EXCELLENT, B=AVERAGE, C=SATISFACTORY

	I <sup>st</sup> Term	II <sup>nd</sup> Term
DISCIPLINE	A	A
PUNCTUALITY	A	A
WORK REGULARITY	A	A
ORAL PROFICIENCY	B	B

### RAD NINE POINT (NPS)

A-1 (91-100)	A-2 (81-90)	High Average
B-1 (71-80)	B-2 (61-70)	Above Average
C-1 (55-60)	C-2 (49-54)	Average
D-1 (41-48)	D-2 (36-40)	Satisfactory
E (Below 36)		Failed

Passed & Promoted To Class : IV  
Co-Ordinators's Signature : [Signature]  
Principal's Signature : [Signature]  
Parents's Signature : \_\_\_\_\_

Note : The progress Card duly signed by the Parent/Guardian may please be handed over to the office/class teacher, personally. Thanks.

# PROGRESSIVE ACADEMIC PERFORMANCE

Periodical Tests & Exams.	HALF YEARLY						FINAL						ANNUAL GRAND TOTAL	
	I UNIT	II UNIT	Ist Term	TOTAL		III UNIT	II TERM	TOTAL						
	WRITTEN	WRITTEN	WRITTEN	MARKS	GRADE	WRITTEN	WRITTEN	INTERNAL ASSESS	MARKS	GRADE	MARKS	GRADE		
M. M.	20	20	60	100	(NPS)*	20	70	10	100	(NPS)*	200	(NPS)*		
ENGLISH	15	18	38	71	B-1	10	43	9	62	B-2	133	B-2		
HINDI	16	14	46	76	B-1	19	50	7	76	B-1	152	B-1		
MATHS	16	12	37	65	B-2	11	56	7	74	B-1	139	B-2		
SCIENCE	1.5	09	50	74	B-1	17	54	7	78	B-1	152	B-1		
S. ST/EVS	2.0	15	52	87	A-2	19	50	8	77	B-1	164	A-2		
TOTAL	82	68	223	375	B-1	76	253	38	367		740			

SECONDARY SUBJECTS	M. M.	FIRST TERM				SECOND TERM			
		MARKS		GRADE		MARKS		GRADE	
		MARKS	GRADE	MARKS	GRADE	MARKS	GRADE	MARKS	GRADE
SANSKRIT	50	-	-	-	-	-	-	-	-
COMPUTER	50	20	B-2	31	B-2	31	B-2	31	B-2
GK	50	40	B-1	21	B-1	21	B-1	21	B-1
DRAWING	50	32	B-2	30	B-2	30	B-2	30	B-2

CONSOLIDATED ASSESSMENT	HALF YEARLY	ANNUAL
PERCENTAGE OF MARKS & RANK	75 % 9th	74 % 10th
ATTENDANCE/OUT OF	114 / 116	203 / 207
SIG. & REMARKS (CLASS TEACHER)	Has done well. Keep it up.	Very good! Keep it up. Pass
SIG. & REMARKS (PRINCIPAL)	Very Good. Keep it up.	He is our asset to our institution. Well done. We are proud of you.
PARENTS SIGNATURE		

**Child Name:** [REDACTED]

**Location:** Jaipur, Rajasthan, India

**Age at Pre-treatment:** 7 years

**Diagnosis:** Autism (Delayed speech and development)

## **Progress Report By Parents**

As per our telephone conversation today, please read Paitents(Name Not Display)'s recent progress.

### **SOCIAL DEVELOPMENT**

Paitents(Name Not Display) is a very chatty and happy girl and loves being with people and especially young babies. She loves to go out to parties and visit friends and relations and is not shy to interact with anyone. She is very rarely attached to us when we all go out. She enjoys Indian songs and dancing. She is able to communicate and answer appropriately when spoken to. She does not like staying at home.

### **PHYSICAL DEVELOPMENT**

Paitents(Name Not Display) has learnt to swim independently this is a major milestone for her. She is extremely happy and has become very confident due to this achievement. She was awarded a gold star on stage in front of four hundred children hence is very aware of her achievement.

Paitents(Name Not Display) also takes trampoline lessons which she thoroughly enjoys very much.

She will be also taking Indian dancing lesson shortly. We are at present also trying to get her to ride a 2 wheeler bike as this will again give a big boost to her confidence.

### **SELF HELP SKILLS**

Paitents(Name Not Display) can dress and undress herself independently. She can brush her teeth by herself but needs an adult to overlook. She can now clean herself after toileting. She can shower herself put soap on herself but again she needs constant reminding what part of her body to soap e.g. Paitents(Name Not Display) soap your arms, now soap your legs, now your belly etc. She does not wear zipped and buttoned trousers as she cannot do these by herself. Paitents(Name Not Display) can feed herself but more often to speed things up we have to feed her.

### **LANGUAGE DEVELOPMENT**

Paitents(Name Not Display)'s spoken language has improved dramatically and she is able respond to any conversation very quickly, especially if mum and dad are talking about going out. She understands a good percentage of any conversation. She can retell a story from small story book. Paitents(Name Not Display) can understand when spoken in Hindi or Gujarati. She does not sit idle she keeps herself busy by pretend talking on the phone or playing with her doll or attempting to write or read a story book.

Due her improvement in understanding, Paitents(Name Not Display) has become much happier and calmer and her concentration has improved dramatically. She can concentrate for ten minutes continuously.

## ACADEMIC SKILLS

READING- She reads three letter words which are repetitive and also firm in her memory e.g. cat, mat, sat etc. but with new three letter words she finds it difficult and has to sound out each letter before she can say them. She is trying to read phrases and small sentences however the above is very difficult for her to grasp and needs a lot of encouragement.

COUNTING- recognises up to 20. She can count up to ten objects with help and confidently count five objects without help.

WRITING- She can write her name and a few other letters of the alphabet and some numbers. She needs a lot of help and encouragement.

LOGIC- e.g. puzzles and games. Paitents(Name Not Display) can do puzzles once she has been shown a few times she can play games e.g. snap, musical chairs, statue games, simon says..... and eye spy my little eye.

## EXTRA CURRICULUM ACTIVITY IN SCHOOL AND OUTSIDE

Swimming twice a week

Tennis Lesson once a week

Trampoline lesson once a week

Gymnastics in school twice per week

Various musical instruments in school once per week

Indian dancing starting soon once per week

Computer classes starting soon once per week

## PAITENTS(NAME NOT DISPLAY)'S PRESENT SCHOOL

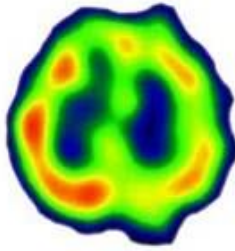
Paitents(Name Not Display) is in special needs school where class size is 7 children per teacher and two helpers. There are plenty of facilities e.g. cookery room, gym room, computer room, play room reading room etc.

We hope this update will assist you in selecting the correct medicine for Paitents(Name Not Display).

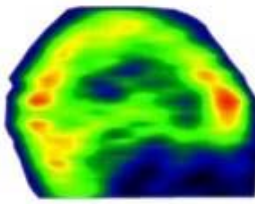
Thank you

# PRE - TREATMENT

Trans Frame 22

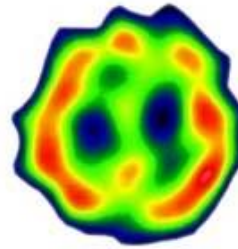


Sagittal

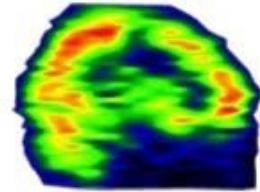


# POST - TREATMENT ( 14 MONTHS)

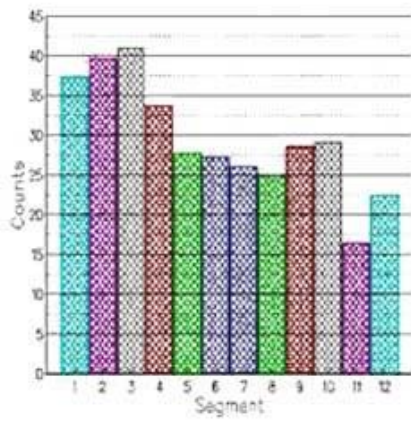
Trans Frame 22



Sagittal



Means BRAIN SPECT - TO - Frame 22



Means BRAIN SPECT - TO - Frame 22

