

CLINICAL RESEARCH

Homoeopathic medicinal treatment of autism

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Background: Autism Spectrum Disorder (ASD) is a brain cells disabling condition that leads to various abnormal symptoms in infants and children. Autism subjects need specific behavioral and therapeutic interventions. Homoeopathic therapy has been found effective in several neuro-developmental conditions and may have wide scope for autism.

Methodology: Study has been done in 25 autistic children of identified behavioural pattern and homoeopathic treatment was instituted with a follow up of 18 months. ASD patients were divided into two groups according to the number of symptoms and severity of disease i.e. Severe Symptoms and Moderate Symptoms groups. Homoeopathic medicines were given to the subjects according to the severity of symptoms, physical conditions of subjects based on classical and non-classical approach. Improvement in symptoms was monitored on a weekly basis. Physio-clinical measurements and psychological assessments were made before and after homoeopathic medicinal treatment. The results have been evaluated through CARS & IQ/SQ analysis.

Observations: Clinical study found 60% (n=6) improvement in autistic symptoms by classical method of homoeopathic treatment where as non-classical showed 38% (n=3) improvement. However in the remaining 9 participants, 3 showed mild improvement 33% (3/9) with multi-drug Homoeopathic therapeutic regimen. Frequent repetition in some severe conditions was found effective.

Conclusion: Significant positive & curative response with homoeopathic medicines in subjects of ASD was found, suggesting that homoeopathic medicines can provide cure for abnormal behavioral problems in ASD children.

Keywords: autism spectrum disorder; symptomatology; healing; cure; homoeopathy

Introduction

Autism spectrum disorder (ASD) is a complex neuro-developmental illness of infants and young children that leads to behavioral, communication and social skills abnormalities. It generally appears during the first 3 years of life and alters the normal physiological condition of an individual.^{1, 2} There is an alarming increase of ASD in India and it is estimated that more than 60 lakh (six million) children / people in India are affected by this abnormal condition of the brain. One out of 500 Indian infants have some symptom of autism and almost 20,000 new cases of ASD are getting registered every year.³⁻⁵ Generally, it is more common in boys than in girls i.e. 3 to 4 times higher in

male than female.⁶ The reason for this increase in the numbers may be attributed to several factors i.e. modern living styles, family system, food habits, urban stress syndromes, environmental pollutions, modern treatment system, etc.⁷⁻⁹ Common features of autistic children are abnormal physical body behaviours, withdrawal/abnormal responses to social and community activities, delayed and disordered language and limited areas of interest towards surroundings. Several etiological factors have been found to explain the genesis of the disease, viz. genetic mutations due to various factors, prenatal, perinatal and postnatal abuses, due to certain food and nutrients, environmental factors etc.¹⁰⁻¹⁵

Several therapeutic interventions are available for the treatment of autistic symptoms. Medical science generally suggests multi-vitamins, essential fatty acids, melatonin and probiotics.^{17,18} Complementary

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alternative medical therapeutic systems suggest and treat the autistic disorders by mind-body medicine, energy medicine and biologically based manipulative and body-based practices. Also they suggest delay and discontinuation of immunizations / vaccination, chelation, anti-infective treatments and secretin, and recommends suitable appropriate diet and lifestyle regimen and therapeutic medication and cleaning of the digestive tract, etc.^{19,20} Homoeopathic medical system in the treatment of autism treats various morbid symptoms and manifestations of this disease. Several studies showed that homoeopathic medicine can provide relief in brain related abnormalities (autism).²¹⁻²⁴ The magnitude and seriousness of ASD in children, especially its long term related developmental disabilities in the Indian sub continent, provides us an excellent opportunity for the simple and economical management of ASD in children.

Aims and Objectives

The objective of the study was to investigate and evaluate the effectiveness of homoeopathic medicines and to identify the desired potencies in Autism Spectrum Disorder.

Materials and Methods

A total of 25 autistic children of age 4 to 14 years and both sexes were selected on the basis of severity of symptoms, psychological assessment [DSM IV criteria, ACPAA questionnaires (Autistic Children Psychological Analysis Assessment), CARS and IQ/SQ analysis] and other patho-physiological criteria from Tamana Autism Centre-School of Hope (NGO dealing with Autism) Vasant Vihar, New Delhi - 110057.

Inclusion Criteria

1. Well diagnosed case of ASD with or without minor co-morbid affections like parasitic infections etc.
2. Both sexes between ages 4 to 14 years.

Exclusion Criteria

1. Cases of below 3 years and above 14 years of age.
2. Cases of Mental retardation, Cerebral palsy, Down's syndrome & severely affected epileptics, Tuberosus sclerosis, Rett's syndrome etc.

Case histories of the subjects were recorded and thorough medical examination was done before the homoeopathic intervention following physical, patho-physiological, medical and psychological assessments and was repeated after 18 months of homoeopathic intervention. Ten parameters were taken for assessment of 18 subjects and percentage improvement in these ASD features was drawn (Table-2).

1. Patho-physiological and Medical measurements included: Physical examination (Age, Weight, Height, Body temperature, Measurement of Head Circumference and External pinna length and other apparent physical abnormalities, neck, oral and pharyngeal cavity examination for lymph glands swellings, along with detailed medical and family history were monitored. Routine hematological tests were performed.
2. Medical History Recording included prenatal, perinatal and postnatal history of the mother, Vaccination details, Family environment and inheritance recordings, Food (Vitamins and Minerals intakes).

On the basis of severity of symptoms, patients were divided in two groups, shown in Table 1.

Group A: It included subjects with mild to moderate forms of autism or otherwise called as high functioning group (No. 10) and they were given Classical homoeopathic medicinal treatment.

Group B: It included subjects with severe autistic symptoms or otherwise called as low functioning group (No. 8), and they were given Multi-drug / Frequent repetition of homoeopathic medicine (i.e. more than one drug is used simultaneously or alternately like *Belladonna* was given along with *Kali*

Table 1: Number of subjects according to severity of ASD symptoms

S.No.	Severity of symptoms	No. Subjects
1.	Group – A Mild to moderate	10
2.	Group – B Severe	8

Table 2: Scale of Autistic symptom reduction

SCALE	PARTICULARS
Status quo	No improvement
Upto 50%	Mild
Upto 75%	Moderate
>75%	Significant

phos. or is alternated with *Passiflora* or the drug selected was repeated frequently and regularly, depending on the symptom syndrome).

Following homoeopathic therapeutic regimen was used in the study:

- (1) Homoeopathic medicine (HM) in lower potencies was given initially to the subjects and its effect was monitored weekly.
- (2) If it was found that HM is generating desired effects, the case was followed with placebo and if the status quo was observed, the next higher potency of the medicine was given to the subject for the same disease condition during his subsequent visit as 2nd prescription.
- (3) Hahnemannian principles were followed in terms of individualization of the subject, selection of the remedy, the dosages and its repetition and follow ups in the classical group (high functioning), while frequent repetition or more than one remedy was given in non-classical (low functioning) group.

Homoeopathic medicines and parameters taken for the ASD study

Good quality and certified homoeopathic medicines (Delhi Government. Supply provided to NHMC & Hospital) were given to autistic patients. Following ASD symptoms were selected as parameters for the treatment of autism:

1. Behaviour like anger, biting, pinching, hitting etc.
2. Gestures as special features like flapping, spinning, jumping, hyperactivity
3. Eating/Drinking Dysfunctions
4. Poor Bladder/Bowel control

5. Sensory Issues like Audio-visual/Tactile/Olfactory

6. Immunity
7. Communication & Language skills
8. Abnormal fears
9. Repetition of words or sentences
10. Evading looks or poor eye to eye contact

Outcome Assessment

The results of the homoeopathic intervention were assessed as follows (Table2)

1. Significant Improvement: Reduction in individual autistic features by more than 75%
2. Moderate improvement: Reduction in individual autistic features by more than 50% but less than 75%
3. Mild improvement: Reduction in individual autistic features ranging between 25% to 50%
4. No improvement: Status quo
5. Drop out: The patient withdrawn from the study by the parents

Results

Out of total 25 ASD patients of both sexes ranging between 4-14 years, 18 patients were followed up regularly in the study and their results have been evaluated and studied. 7 patients were dropped out due to loss of follow up (Study Response rate 72.0%). The number of male subjects was 14 while female patients were 4 which shows higher incidence of autism in males. Psychological and Psychometric assessments were done on the basis of symptomatology of autistic children and review of

Table 3: Parameters selected for Psychological Assessment of ASD Children

S.No.	Parameters	Reasons for assessment
1	Socialization	Eye to eye contact, aloofness, escapism
2	Cognitive skills	Intelligence development and thinking
3	Communication skills	Language, gestures, speech
4	Restricted intelligence activities and sensitivities	Socialization, vocational aptitude and interest
5	Sensory sensitivity intelligence probing	Visual
		Auditory
		Tactile
		Gustatory
		Pain
		Temperature
6	Learned probing	Imitation
		Behaviour
		Play
		Fears/ Emotional response
		ADHD
7	Stereotype's	Repetitive actions/ functions

Table 4: Clinical Assessment of ASD Subjects before & after Homoeopathic Treatment

S. No.	Parameter for Clinical Assessment	Total Number of ASD patients (18)		
		No. of ASD Features	Improvement in ASD Features	% Improvement in Features
1	Anger/Biting/Pinching/ Hitting etc.	12	7	58
2	Echolalia	5	3	60
3	Abnormal Fears	4	1	25
4	Eye to Eye contact	11	10	90
5	Eating/Drinking Dysfunction/Deviation	7	5	71
6	Bowel /Bladder control	10	8	80
7	Sensory Issues: Visual, Olfactory, Tactile, Auditory etc.	12	7	58
8	Special Features like Jumping, Spinning, Flapping etc.	6	5	83
9	Speech/Communication	12	5	41
10	Immunity Level: Fever, Cold catching, etc. (Pathological)	12	9	75

psychological methodologies was prepared as mentioned under Material and Methods for the assessment of Psychological Impairment percentage. Seven psychological parameters taken for

assessment are mentioned in Table-3.

Our study found significant reduction in Anger/Biting/Pinching/Hitting behavioural symptoms after following homoeopathic therapeutic regimen.

Also, significant improvement in cognitive behavior and social responses were seen.

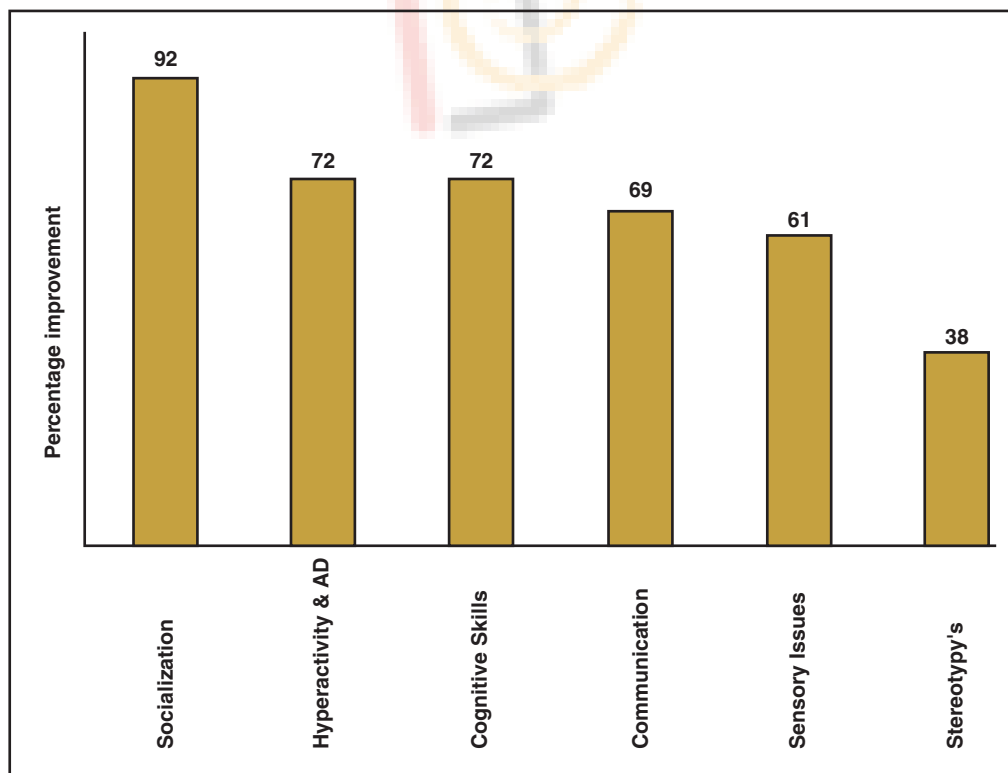
Psychological evaluation and analyses observed

remarkable improvement (Table-5 & Fig-1) in autistic children's behavioural, cognitive and communicative disabilities after homoeopathic treatment. Psychological assessment studies observed very high

Table 5: Psychological assessments in ASD Subjects after homoeopathic treatment

S.No.	Psychological assessment areas	Improvement in ASD subjects after homoeopathic treatment (Total No.: 18)	% age Improvement in ASD subjects after homoeopathic treatment
1	Attention Deficiency & Hyperactivity	13	72
2	Socialization	17	92
3	Communication	11	61
4	Cognitive Skills	13	72
5	Sensory Issues	12	66
6	Stereotypy's	7	38

Fig. 1: Percentage psychological improvement observed in ASD children after homoeopathic treatment



reduction in hyperactivity/attention deficit 72% (13/18). Autistic children showed significant improvement in socialization 92% (17/18) while cognitive skills showed 72% (13/18) improvement during psychological testing. Communication and sensory issues also showed improving trends with 61% (11/18) and 66% (12/18) respectively. Study found 38% (7/18) improvement in stereotype's

symptoms only.

Various homoeopathic medicines in varying potencies were used in the entire study of 18 months to manage autistic features of the individual subjects (Table-6). The drug *Belladonna* in 200C and 1M potency was found to be effective in controlling majority of the ASD features like hyperactivity, poor concentration and

Table 6: Identified group of homoeopathic medicines found effective in various symptoms of ASD

S.No	Homoeopathic medicines with potencies	No. of patients in which indicated	No. of patients in which Found effective	ASD symptoms improved
1	Bell. 200	7	5	Hyperactivity & poor concentration, echolalia
	Bell. 1M	3	2	Self injurious behaviour, jumping, biting etc.
2	Hyos. 200	3	1	Eating/ drinking dysfunctions
	Hyos. 1M	2	1	Escaping-running, jumping, foolish laughter
3	Verat. alb. 1M	2	2	Hyperactivity & vague humming sounds
4	Kali brom. 30	3	1	Hyperactivity, short attention span
5	Phos. 200	2	1	Audio-visual sensitivities, unnatural fears esp. dark,
	Phos. 1M	2	2	Desire to be hugged, pressurized, flapping of fingers etc.
6	Silicea 1M	2	1	Pica, post-vaccinal syndrome, eye to eye contact
7	Bufo 200	1	1	Handling of genitals & nervous agitation
8	Sepia 30	3	2	Poor bladder control, bed wetting
9	Calc. phos. 30	2	2	Hyperactive behaviour with stereotypy
	Calc. phos. 200	2	1	Hyperactive behaviour with stereotypy
	Calc phos. 1M	2	1	Hyperactive behaviour with stereotypy
10	Sulph. 200	8	5	Poor bowel control, lack of communication, lethargy, laziness etc.
11	Baryta carb. 200	5	2	Poor socialization, communication & language skills
	Baryta carb.1M	5	3	Poor socialization, communication & language skills
12	Tub. 1M	6	5	Recurrent URI's, bed wetting, body immunity strength
13	Coffea 200	3	2	Sleep dysfunction esp. late sleeping
	Coffea 1M	3	2	Pinching, nervous agitation , sleep deprivation
14	Kali phos. 6x	5	3	Nervous agitation leading to sleep deprivation
15	Thuja 1M	4	2	Post – vaccinal syndromes

agitational state, jumping, self injurious behavior etc. The drug *Hyoscyamus* in 1M was found effective in foolish behavioural pattern like laughing trying to escape etc. The drugs *Tuberculinum* and *Sepia* were found effective in controlling hyperactivity, recurrent URI's and poor bladder control. For delayed or poor sociability and communication skills *Baryta carb.* in higher potencies have been found effective. *Calc. phos.* in 30C was effective in hyperactivity associated with stereotypic behaviours.

Results of present study found that homoeopathic treatment does improve autism as a whole and it is a very big accomplishment and proves the efficacy of treatment process. Psychological assessment evaluation observed significant improvement of social and cognitive skills and also showed much reduction of hyperactivity functions and sleep disorders in autistic children. Most remarkable is that autistic children showed constraint and bearable behavior. Eating and drinking (over eating or no eating) and similarly drinking abnormalities showed significant change. Homoeopathic therapeutic regimen could bring profound control and better coordination in the bowel and bladder especially in cases of nocturnal urination. Also, frequent immunological and allergic reactions which were observed in the autistic children before and during study showed very high rate of protection and very less reactions to allergens. High recovery responses were observed for gestures, sensory issues (visual, touch and tactile, pain and temperature etc.), audio visual disorders and echolalia (fear for high noises or sounds) after homoeopathic treatment in our study. Study found significant improvement with respect to communication and language skills (Initial value - 7% and Final psycho-assessment value 61%) in the autistic children. (Fig-1)

Our observation is that vocational and social help can provide better results. Communication and language skills area desires better concentrated efforts since it is a very crucial parameter which requires correction for social and other general normal activities in life.

Discussion

Autistic children were given homoeopathic medicines after evaluating the symptoms and finding out the similimum for each case. Classical and non classical approach were used for homoeopathic treatment i.e. in classical group only one single remedy was given at particular time, however in non classical groups 2 or 3 different homoeopathic medicines were given for

several times a day. The children were reviewed every week and the remedy was either continued or changed depending on the symptom picture. The possible reason for change according to homeopathic principles of remedy is that when one layer of the disease force has been removed, the symptoms would reveal the next layer that will require a different remedy as the previous remedy would have exhausted it's action and will not be effective once the layer changes. The dosage was as per the guidelines for repetition of remedies given in the homoeopathic Organon. Present study found consistent and highly positive results of homoeopathic medicines in autistic children. Results of present study showed that autistic symptoms can be controlled. It is also emphasized that the results were obtained without altering the physiological behavior and functions.

Study observed 60% (6/10) improvement in autistic symptoms by classical method of homoeopathic treatment where as non-classical showed 38% (3/8) improvement. However in remaining 9 participants [classical (4) and non-classical (5)], 3 patients showed mild improvement 33% (3/9) with multi-drug homoeopathic therapeutic regimen and frequent repetitions in some severe conditions and it was found effective. Lamont (1997) studied 43 children with Autism Spectrum Disorder (ASD) and were given homoeopathic treatment in a double blind and partial crossover study to determine the effectiveness of Homoeopathy in autistic disorder. After 10 days children in the placebo group were given homoeopathic medicines. Statistical comparisons were made of ADHD behaviour before and after treatment. Statistically significant results were observed showing that homoeopathic treatment does improves the behavioral pattern of ASD and is superior to placebo treatment for ASD. Our results also prove that homoeopathic medicines can provide relief to the children of autistic disorder. Similar findings were observed by Frei and Thurneysen (2001) in the comparative study of homoeopathic therapy and methylphenidate.

Present study obtained best results with high potencies of homoeopathic medicines (1M, 10 M) where sensory symptoms were prominent, but low and moderate potencies (30C, 200C) of homoeopathic medicines were found very useful and effective where physical symptoms such as fidgety, involuntary soiling of clothes etc. were prominent. Improvement in autistic

symptoms were assessed through clinical examinations and psychological questionnaires for the hyperactivity, eating disorder, echolalia, spinning, inappropriate gestures, span of attention, obeying of the commands, social awareness etc. The assessments were studied on parents/care takers, every six months of homoeopathic treatment. Clinical and psychological questionnaires data analysis results showed 70% improvement in their cognitive and behavioral pattern (Table 3).

Autism symptoms lead to abnormal behavioral, social and uncontrolled body functions. In the present study cognitive functions, hyperactivity, nervous agitation, attention span, obeying of verbal and non-verbal commands and in general and social environmental awareness were mainly treated. High to moderate improvement in all the above mentioned autistic symptoms (Table 3) was observed in this study. The significant improvement in autistic symptoms with homoeopathic therapeutic regimen was confirmed from psycho-physiological assessments.

Homoeopathic medicines were given to autistic children after careful and judicious monitoring and assessments and after exhaustive consultations. These children were given homoeopathic medicines on weekly basis. Autistic children in this study showed high degree of recovery response. Before homoeopathic treatment, autistic children showed very high abnormal hyperactive and uncooperative behaviors (hyperactivities, continuous tantrum and eating dysfunctions and destructive behaviors), but after continuous homoeopathic therapy, they showed calm behavior and followed the verbal commands. Psychological assessment studies observed high reduction in hyperactivity/attention deficit 72% (13/18) which is quite significant improvement in terms of managing Hyperactivity with an alternative mode of therapeutic intervention. Concentration and eye to eye contact after the treatment also showed improvement (Table-2), showed near normal persons responses to others and outsiders, after 18 months of homoeopathic treatment.

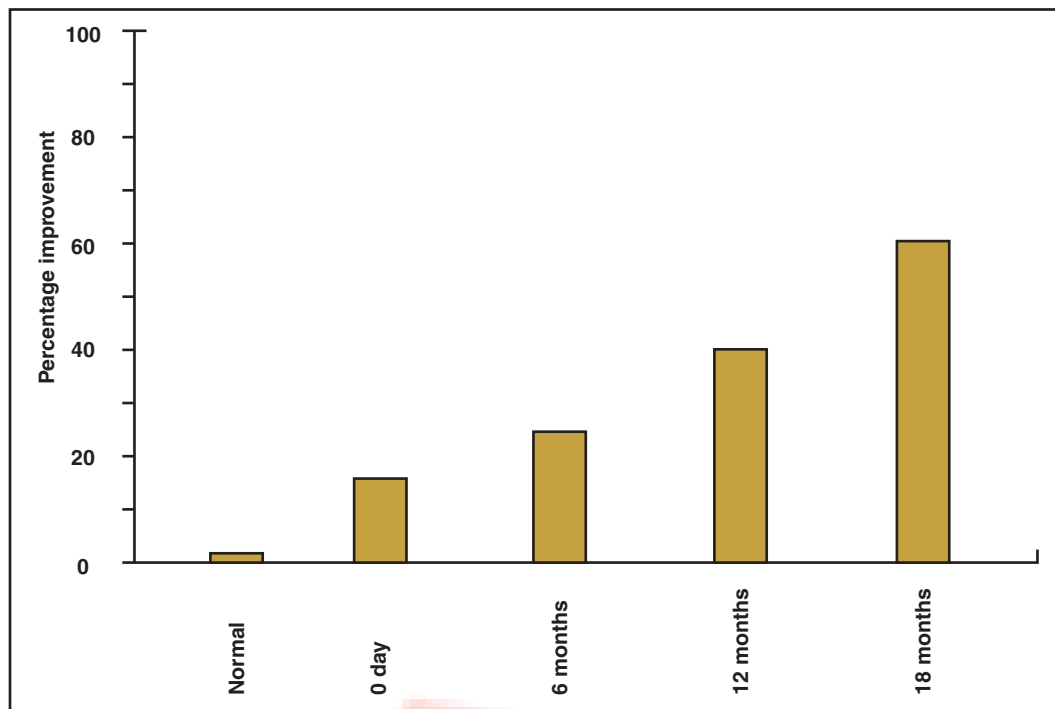
Psychological Analysis Methodology is developed and used for the assessment and improvement of autistic symptoms by homoeopathic medicines in present study. Autistic subjects have been grouped according to symptoms of autism and identified and selected homoeopathic medicines were given to children and progress of effectiveness was monitored. In the first clinical trial, autistic features of milder autism spectrum disorder were used for the psychological assessment of autistic children.

Both classical and non-classical homoeopathic regimens were used for the treatment of autistic children in our clinical trial. Even though there are several homoeopathic medicines that overlap in its symptomatology and treatment regimen, but it is felt that beginning must be made with the specific homoeopathic medicine (specific for the case) for individual symptoms of autism, so effectiveness and efficacy of medicine may be tested and integrated autism therapeutic plan can be launched. Most appropriate homoeopathic medicines have been selected and used for the treatment of individual autism spectrum disorder based on individual symptom syndrome.

Psychological assessment results obtained significant improvement of autistic symptoms after homoeopathic treatment (Table-4). Autistic children showed significant improvement in aggressive activities and calmness and awareness to social / community activities. Results showed improvement in hyperactivity (70%) and concentration / eye to eye contact and span of attention (90%). Results also found a very high degree of improvement in sensory reactions / responses (Visual, Auditory, Tactile and Touch, Gustatory, Pain and Temperature) (85%). Our constant and strict homoeopathic medicinal therapeutic regimen has provided significant decrease / reduction in stereotypic behaviors of autistic children:

- 1) Jumping, spinning, hand flapping etc. has been decreased by 83%

Fig. 2: Showing progressive improvement in ASD subjects



- 2) Bowel/ Bladder control were found to improved by 80%
- 3) Immunity level against environmental and other infectious and contagious diseases improved by 70%

Psychological results were assessed by Clinical Psychologist at regular interval of six months after starting of homoeopathic treatment. Clinical study observed consistent improvement in autistic children (Fig. 2).

The six Autistic symptoms amongst 18 subjects evaluated for the improvement of ASD disorder were Attention deficit / Hyperactivity, Socialization, Sensory issues, Communication, Cognitive skills and Stereotypy.

Several homoeopathic clinical studies showed that homoeopathic therapeutic system has cured and treated the clinical ASD symptoms.^{17, 22, 23, 24} Reference findings of present study also found that homoeopathic medicine works very well to manage autism and can be used effectively for the treatment of autism. Homoeopathic remedies have been found to provide relief to several psychiatric dysfunctions in autistic subjects e.g. in hyperactive body behaviors (gestures), lack of emotional expression and voluntary eye contact, motor and skeletal coordination,

communication and language problems, stereotypy, repetitive and ritualistic patterns of behavior and body movements, restlessness, grimaces, spinning and swinging, aggression, self injury, aversion to any change. Children with autism can lead independent life, if they are provided with intensive and in time management and therapeutic treatments.

However Homoeopathy treatments have been found to produce deep curative effects in autistic children within one or two months of drug therapy. The autistic features were video graphed and the changes have been monitored and compared on the autistic subjects after every six months and objective comparison was drawn of these cases.

This study results definitely show that homoeopathic therapeutic regimen can be used in for the treatment of autistic children, if the disease condition is diagnosed at early stages of development i.e. within 2 to 3 years. We found that three subjects did not show any improvement by homoeopathic therapy, we searched the reasons for no effect and it was found that parents of these children did not follow the mode of homoeopathic regimen properly and regularly.

It was observed that the autistic children who were showing liking for certain types of food, there was a change in their food habits and consumption. Also, significant improvement in eating habit has been

found in all the patients. Two children were eating leaves, lipsticks and creams etc. showed complete reversal of eating habit towards normal. Autistic children who were showing continuous movement of hands and other functions (spinning of hand, flapping, opening and closing both ear lobes, continuous manipulation of genital etc.) before homoeopathic treatment, showed improvement in these abnormal symptoms.

The limitation of the study was that of small sample size for the evaluation. Secondly the parents were skeptical about the homoeopathic intervention initially and many of them did not come for the follow ups and the feedbacks. The weekly assessments were done on objective findings and the feedback given by the teachers. A few subjects could not get their blood tests done because of the hyperactive behaviour and some other limitations of their behavioural pattern. However a study with bigger sample size in respect to various sensitive investigative markers (like EEG, GABA, Serotonin & other neurotransmitter levels) can be taken into account to further validate the outcome

Conclusion

Present clinical homoeopathic trial study showed that homoeopathic therapeutic system can treat autistic children and can produce significant improvement of autistic symptoms on the basis of individual subject's symptomatology and allied factors. Also homoeopathic system is an economical, less cumbersome and safe medical therapeutic system and generally never causes any ill effects or toxicity. Also, homoeopathic therapeutic system can be used along with other complementary therapies without having any problem and does not interfere in effectiveness and curative properties.

For further confirmation of above findings, a large sample size study with definitive qualitative and quantitative outcome parameters is proposed.

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